PUBLIC HEALTH

NURSING PROTOCOL

Tennessee Department of Health
Community Health Services
Patient Care Services

PREFACE

The Public Health Nursing (PHN) protocol represents a detailed written set of instructions to guide medical management of our patients, thereby establishing a standard of care for the Public Health Nurse's practice. The PHN Protocol was developed, and is maintained, by the Public Health Nursing Practice Committee. These Protocols represent an enormous amount of work from a variety of nurses, physicians and other staff throughout the State. They have been reviewed by the State Medical Director, State Nursing Director, Nursing Leadership Team, Medical Leadership Team, and specific individuals that are involved in developing program guidelines that impact nursing practice.

The manual is divided into seven distinct sections. **Section I** includes those protocols related to **Emergency Management**. **Section II** includes those protocols related to **Family Planning. Section III** is the **General section** which addresses treatments for various conditions that are not included in the other distinct sections. This section also includes recommended periodicity schedules for maintenance of child health. **Section IV** includes the **Immunization** protocols. **Section V** includes those protocols related to **Sexually Transmitted Diseases. Section VI** includes protocols related to **Disaster Preparedness and Bioterrorism.** Finally, an **Appendix** section **(section VII)**, includes additional program specific information and the **List of Standard Abbreviations.**

As always, we welcome your comments and suggestions with regards to additions, revisions, format changes etc. It is our goal to maintain an accurate, viable, and user friendly document.

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PUBLIC HEALTH NURSING PROTOCOL AGREEMENT

Region _____

County/Site _____

This protocol has been jointly prepared by public health nurses and physicians and is approved for use by all licensed nurses. The health providers whose names are signed below agree that this protocol establishes the standard for public health nursing practice for those conditions included in the protocol. Two protocols within this manual (2.010 and 3.025) are deemed to be outside of the scope of practice for Licensed Practical Nurses and therefore may be performed by the RN only

This protocol expires one year from the date of signatures. It shall be renewed, or revised, and signed annually and more frequently as deemed necessary.

Name	Date		
_____		_____	
		Regional Medical Director	Date
_____			
_____		_____	
		Regional Nursing Director	Date
_____			
_____		_____	
		County Health Officer	Date
_____			
_____		_____	
		County Nursing Supervisor	Date
_____			
_____		_____	
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EMERGENCY MANAGEMENT

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ACUTE ASTHMA ATTACK

SUBJECTIVE

History of:

- Current/past medications and efficacy
- Recent contact with irritant
- Previous asthma attack
- Acute or chronic infection

Symptoms may include:

- Severe wheezing, difficulty breathing, chest tightness, coughing
- Anxiety, apprehension and breathlessness

OBJECTIVE

Use of the neck, chest, or abdominal muscles in breathing
Rapid pulse and respiration
Systolic blood pressure usually rises
Heavy perspiration
Prolonged expiration with expiratory and occasionally inspiratory wheezes
During severe distress, wheezing may be absent and breath sounds may be diminished and lip and fingernail cyanosis may be present

ASSESSMENT

Acute asthmatic attack

PLAN

Call 911
Assure adequate airway - administer CPR if indicated
Question regarding most recent weight, medication use and allergies. Avoid Inhaler overuse.
Locate and use Emergency Kit
Keep patient's head/chest elevated
Administer aqueous epinephrine 1:1000, **INTRAMUSCULARLY** according to Emergency Drug Chart; may repeat epinephrine dosage in 15-20 minutes if necessary
Observe closely for signs of Status Asthmaticus (cyanosis, confusion, and lethargy)
Reassure and calm patient
Administer oxygen, 4-6 liters per minute by nasal catheter or cannula, or 6-12 liters by mask
Transfer to hospital as soon as possible and send report of care given to receiving providers.
After transfer, document actions in patient record.

Reference

Simons, F., MD, FRCPC. Anaphylaxis: Rapid Recognition and Treatment. In: UpToDate, Feldweg, A., (Ed), UpToDate, Waltham, MA, 2016

ACUTE POISONING

SUBJECTIVE

History suggests:
Ingestion of non-food substance
Accidental or intentional ingestion of toxic amounts of a medication
Ingestion was witnessed, or empty container found
What, how much, and when swallowed?

OBJECTIVE

Symptoms may be absent if discovered soon after poisoning occurs
Abnormal odor to breath or clothes
Presence of burns on lips/tongue
Pain with, or difficulty in, swallowing
Central nervous system changes (e.g., convulsion, coma, dilated or pinpoint pupils)
Respiratory distress

ASSESSMENT

Poisoning or overdose

PLAN

Immediately contact physician or Poison Control Center
National Poison Control Hotline: 1-800-222-1222
Follow guidelines for emergency treatment as given per physician or Poison Control Center
Transfer patient to nearest medical provider or emergency care facility

Health Teaching:

Keep all potential poisons, household products, and medicines locked and out of reach of children
Keep medicines in child-resistant containers, and always replace cap after each use
Keep Poison Control Center and physician's phone numbers beside telephone Do not store non-drinkable/non-edible substances in drink/food containers Label all containers with contents

Referral Indicators:

All poisonings and overdoses

Follow-Up:

As suggested by consultant

ANAPHYLAXIS

SUBJECTIVE

History of:

Ingestion of medication or recent injection, often within minutes
Recent insect bite or sting
Food consumption
Previous allergic reaction

Symptoms may include:

Headache
Anxiety/feeling of impending doom
Difficult breathing/tightness in throat and chest, wheezing
Feeling faint
Localized or generalized pruritis
Swelling of hands, feet, face and tongue

OBJECTIVE

Weak, irregular, and rapid pulse (above 100 beats per minute)
Rapid and shallow respirations
Fall in blood pressure
Patient apprehensive and perspiring heavily
Lips, tongue, and eyelids are frequently swollen
Hives, rash, erythema present on the upper chest and face
Cyanosis of the lips and nail beds
Labored breathing and wheezing (wheezes are heard throughout chest)

ASSESSMENT

Anaphylactic reaction

PLAN

There are **NO** absolute contraindications to epinephrine use in anaphylaxis:

Initiate emergency response system
Assure adequate airway - administer CPR if indicated
Question regarding most recent weigh
Administer aqueous epinephrine 1:1000 **INTRAMUSCULAR** according to Emergency Drug chart
May repeat epinephrine dosage every 5-15 minutes, if necessary
Administer Benadryl IM according to Emergency Drug Chart
Observe closely for signs of continuing shock, airway obstruction, convulsions, and coma
Administer oxygen, 4-6 liters per minute by nasal catheter or cannula, or 6-12 liters by mask
Transport via ambulance as soon as possible and send report of care given

ANAPHYLAXIS EMERGENCY DRUG CHART

Epinephrine Dose

Recommended dose is 0.01 mg/kg body weight up to 0.5 mg maximum dose.
May be repeated every 5–15 minutes for a total of 3 doses.

Age group	Range of weight (kg)*	Range of weight (lb)	1 mg/mL injectable (1:1000 dilution); Intramuscular Minimum dose: 0.05 mL
1–6 months	4–8.5 kg	9–19 lb	0.05 mL (or mg)
7–36 months	9–14.5 kg	20–32 lb	0.1 mL (or mg)
37–59 months	15–17.5 kg	33–39 lb	0.15 mL (or mg)
5–7 years	18–25.5 kg	40–56 lb	0.2–0.25 mL (or mg)
8–10 years	26–34.5 kg	57–76 lb	0.25–0.3 mL (or mg)
11–12 years	35–45 kg	77–99 lb	0.35–0.4 mL (or mg)
13 years & older	46+ kg	100+ lb	0.5 mL (or mg) – max.

NOTE: If body weight is known, then dosing by weight is preferred.
If weight is not known or not readily available, dosing by age is appropriate.
Rounded weight at the 50th percentile

Diphenhydramine (commonly known as Benadryl)

Recommended dose is 1–2 mg/kg body weight every 4–6 hrs

Age group	Range of weight (kg)*	Range of weight (lb)
7–36 months	9–14.5 kg	20–32 lb
37–59 months	15–17.5 kg	33–39 lb
5–7 years	18–25.5 kg	40–56 lb
8–12 years	26–45 kg	57–99 lb
13 years & older	46+ kg	100+ lb

NOTE: If body weight is known, then dosing by weight is preferred.
If weight is not known or not readily available, dosing by age is appropriate.
†According to AAP's *Red Book*, for children age ≥12 years, the diphenhydramine maximum single dose is 100 mg.**nt: Epinephrine**

WEIGHT CONVERSION:
1 kg = 2.2 lbs
1 lb = 0.45 kg

References

Community Health Services Policy #3.4A

Simons, F., MD, FRCPC. Anaphylaxis: Rapid Recognition and Treatment. In: UpToDate, Feldweg, A., (Ed), UpToDate, Waltham, MA, 2016

ANIMAL BITES
(EXCLUDING SNAKEBITES)

SUBJECTIVE

Bitten or attacked by animal, often owned by victim
History to include:
- Species of biting animal; date and time of contact; circumstances of biting accident; whether provoked or not
- Location of affected area(s)
- Immunization history of patient; vaccination history of animal

OBJECTIVE

Puncture wounds, lacerations, contusions, avulsions (torn skin)
Teeth bites that result in broken skin
Open scratches, cuts, or torn skin

ASSESSMENT

Animal bite (with or without possible exposure to rabies or other diseases spread through animal bites/scratches which include rat bite fever, tetanus, and cat scratch fever)

PLAN

Wash the wound thoroughly with soap and water
Control bleeding
Apply antiseptic cream or ointment
Apply sterile dressing as needed
Assess need for tetanus prophylaxis and measures to control bacterial infection (refer to Tetanus Prophylaxis in Wound Management)
Consider exposure risk for rabies and need for immunoprophylaxis (refer to Rabies Vaccine, post-Exposure)
Advise confinement of animal until potential rabies exposure can be evaluated

Health Teaching:

Stress importance of maintaining annual rabies vaccination for all family cats/dogs
Avoid contact with certain wild animals, especially skunks, raccoons and bats
Warn that the practice of capturing stray or wild animals and keeping as pets without a special permit from the Tennessee Wildlife Resource Agency is against the law.

Referral Indicators:

All snake bites
Severe bites, bites over joints

Immunocompromized persons
Severe diabetic
Swelling, red streaks, redness, pus or severe pain in bite site

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

BURN - FIRST DEGREE

SUBJECTIVE

Burn or contact with fire, steam, hot liquid, ultraviolet rays of sun, tanning bed or chemicals

Painful affected area

Assess for date and time of injury; location of affected area(s) and tetanus vaccine status

OBJECTIVE

1st Degree - Erythema only

2nd Degree - Erythema with blister formation; peeling and weeping may or may not be present

3rd Degree - Areas that have charred or whitish appearance usually surrounded by erythema; areas of anesthesia may be present

4th Degree - Damage extends through subcutaneous tissue

ASSESSMENT

Burn - first degree

PLAN

Assess vital signs, especially respiration

Determine extent of injury

Refer all 2nd degree, 3rd degree and 4th degree burns, or if there is face or neck burns, singed nasal hairs, darkened sputum, burn or carbon marks on the oral or nasal membranes, or if the burn occurred in an enclosed space

FIRST DEGREE BURN:

If on an upper extremity, remove jewelry

Immerse burn area in clean cold water or if unable to immerse burn site, cover with a clean cloth and soak with cold water or normal saline for 15-20 minutes

Cover with sterile gauze dressing

For pain relief:

Children - Acetaminophen, dosage according to weight

Adults - Ibuprofen 600 mg po every 6 hours PRN

Increase fluid intake

Treat sunburns with OTC aloe vera type lotion or cream; teach gradual sun exposure and use of sun screen for prevention

Teach signs and symptoms of infection

Can use silver sulfadiazine cream as first aid if not allergic

Provide record of last tetanus immunization for other than first degree burn

Advise and/or administer tetanus prophylaxis

Prophylactic Antibiotics for first degree burns not recommended

Referral Indicators:

Burns over large body area Second,
third, fourth degree burns Suspected
child abuse or neglect Eye involvement
Chemical or electrical burns of uncertain severity

Follow-up:

Patient/parent will be asked to contact health provider if condition persists or worsens

References:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

CARDIAC EMERGENCIES

SUBJECTIVE

Symptoms may include:

Chest pain (may or may not radiate to the left arm, neck, back or jaw), pressure in chest and/or shortness of breath
Apprehension
History of coronary artery disease
Currently taking cardiac medicines

OBJECTIVE

Weak, irregular, rapid pulse, or no pulse
Cyanosis (nail beds, lips, etc)
Cold clammy skin
Fall in blood pressure, or no pressure
Labored respirations
May or may not have distended neck veins when patient is at 45° angle

ASSESSMENT

Coronary Artery Disease/Angina

PLAN

Initiate emergency response system
Check vital signs
Administer CPR if indicated
Use automatic external defibrillator (AED) if available and indicated
Give oxygen 4-6 liters/minute via mask, or nasal cannula
After determining that patient is not allergic to aspirin, give 325 mg non-enteric coated aspirin, crushing tablet and adding to water. **DO NOT ADMINISTER UNLESS PATIENT IS FULLY CONSCIOUS**
Observe closely for signs of continued decrease in blood pressure, arrhythmias, tachycardia or bradycardia
If patient has nitroglycerin medication, instruct to take prescribed dosage sublingually; one tablet q 5 minutes x 3; hold if systolic blood pressure is less than 100
Transport via ambulance as soon as possible and send report of care give

References:

GIVING EMERGENCY CARE COMPETENTLY, Nursing Skills Books
"Cardiac arrest: When minutes count," Romaine Hart, RN
"Myocardial Infarction: How to alleviate pain and anxiety: Catherine C. Manzi, RN
TDH, Division of Emergency Medical Services, PARAMEDICAL PROTOCOL, "Symptomatic Chest Pain", H. Lynn Massingale, M.D., Oct. 1, 1991
Conn's Current Therapy, Edited by Robert E. Rakel, MD. W.B. Sanders Co., Philadelphia 1999. "Acute Myocardial Infarction" pp 324-329
American Heart Association Guidelines CPR ECC, 2010, September 2011
http://www.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm_317350.pdf

EMERGENCY CHILDBIRTH

SUBJECTIVE

Urge to push, bear down, or have a bowel movement
Warns that “baby coming”
Reports "water broke"

OBJECTIVE

Contractions 2 minutes apart or less
Bulging perineum or crowning
Straining and pushing down with contractions

ASSESSMENT

Imminent birth

PLAN

Call for help and instruct someone to call 911 for ambulance
Reassure mother, provide for privacy, keep her informed of progress
Obtain pertinent medical and obstetrical history
Secure "Emergency Delivery Kit"

Allow delivery to progress spontaneously. Assist as follows:

Instruct mother to push with contractions and breathe between contractions

Support baby's head and body as delivery proceeds. Do not pull on baby. Suction baby's airway, both nose and mouth, with bulb syringe as soon as head is clear of birth canal (bulb should be in squeezed position before inserting).

Check for cord around neck. If present, gently bring the cord over the head or, if there is adequate slack in the cord, the cord may be pushed back over the shoulders. A tight cord around the neck will require clamping and cutting before the birth can be completed.

After the baby is born, hold infant with head in dependent position while suctioning oral pharynx again.

Immediately wipe the baby dry. Minimize heat loss. Wrap in dry blanket as soon as possible. Cover head.

While baby is the same level as the mother's vagina, after cord stops pulsating, clamp or tie umbilical cord approximately 6 inches from baby, place second clamp or tie approximately 2 inches closer to mother, and cut between clamps or ties. Work quickly. Have the baby wrapped in dry blanket(s) as soon as possible.

Stimulate cry by tapping soles of feet; if no spontaneous cry, begin resuscitation.

Assess Apgar score at 60 seconds and 5 minutes post-birth (see Apgar Scoring System chart on page 9A) Scores of 0-3 indicate need for immediate resuscitation. Scores of 4-6 indicate need for some resuscitative measures.

Again, wrap baby in dry blanket as quickly as possible, make sure head is covered to avoid excessive heat loss.

Allow baby to root or nurse at the breast/nipple. This will stimulate uterine contractions. Uterine contractions will encourage the delivery of the placenta and decrease blood loss.

Do not pull on the cord to force the delivery of the placenta. Let the placenta deliver spontaneously. The mother and infant may be transported with placenta undelivered. If placenta delivers prior to transport, massage fundus carefully as required for postpartum patients. Fundal massage produces a firm contracted uterus that minimizes blood loss. Place pad over vaginal opening, and take placenta to hospital.

Arrange transfer of mother and baby to hospital as quickly as possible.

Check and record mother's vital signs, condition of uterine fundus, and amount/quality of lochia every 15 minutes until EMS arrives.

Record time and date of delivery, baby's Apgar score, and any other pertinent information.

Notify County or Regional Health Officer as appropriate.

References

APGAR SCORING SYSTEM

Points Given According to Status

Clinical Signs	**0 Points**	**1 point**	**2 points**	**1 min.**	**5 min.**
HEART RATE	Absent	Below 100	Over 100	_____	_____
RESPIRATORY EFFORT	Absent	Slow, irregular	Strong and regular with good cry	_____	_____
MUSCLE TONE	Flaccid	Some flexion of extremities	Active motion	_____	
REFLEX IRRITABILITY (tap sole of foot)	No response	Grimace	Vigorous cry Or active withdrawal of foot	_____	_____
COLOR	Blue pale	Body pink Limbs blue	Completely pink	_____	_____
			TOTAL APGAR SCORE	_____	_____

HEMORRHAGE/HEMORRHAGIC SHOCK

GENERAL INFORMATION

Hemorrhage refers to a significant loss of blood volume. Etiologies include trauma, ruptured aneurysm, gastrointestinal bleeding, injury to internal organs such as liver or spleen, or any vascular injury. Reproductive etiologies include ruptured ectopic pregnancy, postpartum hemorrhage, miscarriage, abruptio placenta, and placenta previa. Vaginal bleeding unrelated to pregnancy can be seen with coagulopathies, cervical infection, dysfunctional uterine bleeding, bleeding due to leiomyomata (fibroids), polyps endometrial hyperplasia or cancer, but rarely rises to the level of hemorrhage and shock. In cases of bleeding secondary to genital trauma, rape and/or abuse must be considered.

As blood loss increases shock may ensue due to loss of effective circulating blood volume and inadequate organ perfusion. Initially the body compensates for the loss. Decompensated shock occurs when there is a loss of circulating volume that overcomes the patient's physiologic percentage reserve. At this point, vital signs are altered.

SUBJECTIVE

Symptoms may include:

Thirst - DO NOT GIVE FOOD; sips of water may be given if person able to converse
Confusion, restlessness, anxiety
Possibly nauseated
Low abdominal pain or cramping and bleeding
Rape
Gather as much historical information as possible from patient, friends, or family

OBJECTIVE

Overt or occult bleeding
Decreasing level of consciousness
Decreasing blood pressure
Pulse becoming rapid, weak

ASSESSMENT

Hemorrhage, at risk for hemorrhagic shock

PLAN

Initiate emergency response system (Call EMT/ 911)
Monitor vital signs
Control a bleeding wound by direct pressure, pressure point pressure, or pressure bandage
Keep patient calm and in comfortable position
If supine and no fracture or spinal trauma, elevate legs
Prevent heat loss (cover with a blanket)

Provide high flow oxygen
Give report to EMT team upon arrival
Document the event per health department protocol

References

Rosen and Barkin's 5-Minute Emergency Medical Consult
Tennessee Pre-hospital Protocols and Standing Orders, TN Emergency Medical Services, 2004

INSECT (NON SPIDER) BITES

SUBJECTIVE

Skin that itches
Lump(s) on back of neck or other lymph node areas
Exposure to insects
Assess date and time of contact and location of affected area(s)

OBJECTIVE

Assess respiration to rule out hoarseness or wheezing
Solitary, multiple, or profuse lesions; if numerous, may cause adenopathy
Limited, localized swelling and/or redness
Lesions appear as erythematous wheel if recent exposure

ASSESSMENT

Insect bite

PLAN

Cool water compress to affected area(s)
Application of calamine lotion or a paste of baking soda and water
Application of topical OTC corticosteroid for control of persistent pruritis, 2-4 times daily
Recommend OTC oral antihistamine, such as diphenhydramine (Benadryl) if itching is extreme (according to package insert); warn regarding drowsiness effect of antihistamine therapy
Teach routine hygiene measures to prevent secondary infection, i.e., cut fingernails, keep hands and nails clean; keep the area clean and dry
Modify environment to prevent further exposure if applicable; consider use of insect repellents relative to level of risk
Observe for signs and symptoms of secondary infection, i.e., redness, drainage, fever, pain, spread of lesions
Educate regarding seasonal illness such as West Nile Virus

Referral Indicators:

Headache, confusion, light sensitivity
Severe inflammatory or systemic allergic (including respiratory difficulty) response (refer to emergency protocol)
Secondary infection with fever, lymphatic involvement
Necrosis of tissue
Suspected or known contact with poisonous insect or spider
Immunocompromised persons

Follow-up:

Patient/parent will be asked to contact health provider if condition persists or worsens
In severe reactions, desensitization and/or "emergency epinephrine" (epipen injector) availability can be advised

Reference

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

LACERATION

SUBJECTIVE

Cut, tear, scratch, scrape of skin surface
Pain
Assess date, time, and circumstances of injury; date of last tetanus vaccine

OBJECTIVE

Open, torn wound in which only a few layers of tissue may be involved
Bleeding, edema, erythema

ASSESSMENT

Small superficial laceration

PLAN

Control excessive bleeding by applying direct pressure over wound
Clean thoroughly with soap and warm water
Look for foreign body
Apply sterile dressing or Band-Aid if needed; apply antibiotic ointment
Give tetanus prophylaxis if indicated (refer to Tetanus Prophylaxis in Wound Management)

Health Teaching:

Discuss prevention of accidents and/or injuries
Advise regarding importance of infection prevention, i.e., keep wound clean and dry; antibiotic ointment, dressing changes as indicated; observe for redness, purulent drainage, fever, pain, significant/increasing soreness, and increased warmth
Discuss avoiding prolong use of iodine or peroxide as these may delay healing
Explain need for adequate tetanus prophylaxis
Discuss importance of adequate protein and vitamin C to promote wound healing

Referral Indicators:

Unable to control bleeding
Laceration of face
Wound extending into subcutaneous tissue and/or requiring sutures
Signs of infection
Foreign material or object embedded in wound Gross
contamination of object causing wound Functional loss
resulting from injury

Follow-up:

Patient/parent will be asked to contact health provider if wound does not heal, or signs of infection develop

Reference

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

PUNCTURE WOUND

SUBJECTIVE
History of recent injury
Assess the following:
- When and where the injury occurred
- Circumstances of injury (if animal- see Animal Bites)
- Description of the penetrating object
- Date of last tetanus vaccine
- Depth of penetration
- Footwear at the time of injury (if plantar wound)

OBJECTIVE
- Determination if a retained foreign body is present
- Medical history of the patient (especially diabetes mellitus, neuropathy, or vascular disease)
- Presence or absence of pain, bleeding, discharge, edema and/or inflammation
- Clean or dirty wound

ASSESSMENT
- Puncture wound

PLAN
- Cleanse with iodophor, other antiseptic solution, or use antibacterial soap and water.
- Use tweezers to remove splinter/foreign body if easily accessible; if deep, do not attempt removal. **DO NOT** attempt to remove splinter/foreign body in, or around, eye
- Apply thin layer of antibiotic ointment and sterile dressing
- Teach signs and symptoms of infection (redness, heat, swelling)
- Refer to PHN Protocol 4.280, Tetanus Prophylaxis in Wound Management, for administration of tetanus prophylaxis.

Referral Indicators:
Consult with health department physician or APN for:
- Removal of foreign body
- Signs or symptoms of infection are present
- All eye injuries

Follow-up:
As recommended by provider
Return to clinic PRN

Reference
Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
http://www.uptodate.com/contents/overview-of-puncture-wounds

RESPIRATORY EMERGENCY

SUBJECTIVE

Symptoms may include:
Difficulty breathing due to choking
Difficulty breathing with history of asthma
Difficulty breathing with unknown cause

History to establish cause:
Gather as much information as possible from patient, family/friends(s), or bystanders
Signs and symptoms Allergies Medications
Past medical history
Last meal
Events prior to episode

OBJECTIVE

Possible objective findings may include the following:
Wheezing
Stridor
Rhonchi and/or rales on auscultation
Difficulty speaking
Decreasing level of consciousness (alert to anxious to confused to lethargic to unconsciousness)
Cyanosis
Diaphoresis
Orthopnea
Respiratory rate >25/minute

ASSESSMENT

Respiratory distress of unknown cause
Respiratory distress due to foreign body obstruction
Respiratory distress due to a:
CV event as seen with, but not limited to, congestive heart failure, pulmonary embolus, dysrythmia, etc.
Pulmonary event as seen with, but not limited to, asthma, pneumonia, COPD, etc. Neuromuscular event as seen with, but not limited to, Guillain-Barre syndrome
Toxic event as seen with, but not limited to, poisoning or drug overdose, anaphylactic or septic shock
Psychogenic event as seen in, but not limited to, anxiety disorders

PLAN

Initiate emergency response system (call EMS/911)
For foreign body obstruction ONLY, begin abdominal thrusts
Assure airway, breathing, circulation
Monitor vital signs
Observe mental status, level of distress, work of breathing, skin color

Allow conscious patient to assume a position of comfort for breathing (most likely sitting)
Give high flow oxygen
Rescue breathing if apnea ensues
CPR if needed
May administer aqueous epinephrine 1:1000 INTRAMUSCULAR according to Emergency Drug Chart
Give report to EMT team upon arrival
Document event per health department protocol

References

Simons, F., MD, FRCPC. Anaphylaxis: Rapid Recognition and Treatment. In: UpToDate, Feldweg, A., (Ed), UpToDate, Waltham, MA, 2016

SEIZURES

SUBJECTIVE

History of:

Previous seizures or "fits" or positive family history
Ingestion of drugs or poisons
Previous head trauma
High fever - infections
CNS congenital abnormalities or neonatal insult
Recent alcohol cessation

Symptoms may include:

Sensory or motor disturbances, “Aura” Nausea

OBJECTIVE

Localized or generalized rhythmic muscle jerking, clenched jaws
Confusion, drowsiness (postictal state), unconsciousness;
Eyes rolled upward or to one side
Cyanosis of lips and nailbeds
Urinary and fecal incontinence, vomiting

ASSESSMENT

Seizure

PLAN

During Seizure:

Call 911
Maintain an open airway by turning patient on side with head low; DO NOT try to pry clenched jaws apart; loosen clothing around neck
Use oxygen if needed
Place patient in a position to prevent injury; avoid physical restraint unless absolutely necessary to protect patient
Note and record length of seizure and activity

After Seizure:

Reorient patient and examine for associated injuries
Refer to medical facility for evaluation and further treatment as appropriate

Reference

Ferri’s Clinical Advisor 2008

SHOCK

SUBJECTIVE

Symptoms may include:

Anxious
Sense of impending doom
Possibly difficulty breathing (seen with anaphylaxis) Possibly itching (seen with anaphylaxis)
Possibly chest pain (seen with cardiogenic event)

History to establish cause:

An anaphylaxis or cardiogenic event is most likely cause in clinic setting
Hemorrhagic shock could be seen in clinic in women who are pregnant or postpartum (as might be seen with ruptured ectopic pregnancy, spontaneous incomplete miscarriage, abrupto placenta, placenta previa, or postpartum hemorrhage **(See Hemorrhage Protocol)**
Septic, neurogenic, and other hypovolemic shock are less likely to be a walk-in event in the health department setting though not impossible

Gather as much information as possible from patient, family/friend(s), or bystanders
Signs and symptoms Allergies Medications
Past medical history
Last meal
Events or treatments prior to episode

OBJECTIVE

Decreasing BP (systolic drops below 80-90 mm Hg or 20-30 mm Hg below normal baseline) Pulse pressure narrows (systolic pressure minus diastolic is less than 30 mm Hg)
Rapid weak pulse
Altered level of consciousness Cool, mottled extremities Diaphoresis
Weak or absent peripheral pulses
Stridor, wheezing with anaphylaxis

ASSESSMENT

Shock (cardiac, hemorrhage, septic, unknown origin

PLAN

Initiate emergency response system (call EMT/911)
Assure airway, breathing, and circulation
Monitor vital signs
Patient should lie down or if conscious and there are breathing difficulties, assume the position most comfortable for breathing (usually sitting)
Elevate feet if client is supine
Give high flow oxygen
Begin CPR if needed
Give report to EMT team upon arrival

REFERENCES

Rosen and Barkin's 5-Minute Emergency Medicine Consult, 2003
Tennessee Pre-hospital Protocols and Standing Orders, TN Emergency Medical Services, 2004

SUSPECTED OPIOID OVERDOSE

Background Information
Naloxone is a proven tool in the battle against drug abuse and overdose death. Overdose death can occur when too much of an opioid medication is taken resulting in a dangerously low respiratory rate. Naloxone is an opioid antagonist reversing the effects of the drug including respiratory depression and sedation by competing with the opiate receptors in the CNS. Naloxone ONLY works if a person has opioids in their system; it is not effective against respiratory depression due to non-opioid drugs. Naloxone does not produce tolerance to the opioid antagonist effect or physical dependence.

SUBJECTIVE

History of:

Known or suspected opioid use
Report by family or friends of recent opioid use
Unknown patient history should not prevent medical management of suspected opioid overdose

Symptoms:

Loss of consciousness
Choking sounds, or a snore-like gurgling noise
Body is very limp
Face is very pale or clammy
Fingernails and lips turn blue or purplish black

OBJECTIVE

Unresponsive to outside stimulus
Breathing is very slow and shallow, erratic, or has stopped
(The best predictor of opioid poisoning is a respiratory rate <12)
Pulse (heartbeat) is slow, erratic, or not there at all
Pinpoint pupils

ASSESSMENT

Possible opioid overdose

PLAN

- Attempt to awake with sternal rub
- Activate emergency response system
- Perform rescue breathing if necessary

Dosing for adults and children weighing ≥ 8 pounds

- Administer naloxone 0.4mg/mL 1cc INTRAMUSCULARLY in the deltoid or anterolateral thigh (always administer in the anterolateral thigh if <1 year old)
- If there is no response or inadequate response (respiratory rate remains below 12 breaths per minute AND patient is still unresponsive) after 2 – 3 minutes, administer a second Naloxone 0.4 mg IM dose.

Dosing for children weighing < 8 lbs

Administer initial Naloxone dose of 0.1 mg/kg IM in the anterolateral thigh muscle

Infant weight	Naloxone Dose	Amount to administer based on 0.4 g/ml Naloxone stock vial
6-8 lbs	0.3 mg	0.75 ml
4-5 lbs	0.2 mg	0.5 ml
< 3 lbs	0.1 mg	0.25 ml

The goal of naloxone administration is **NOT** a normal level of consciousness, but adequate ventilation.

- If desired response is not achieved, repeat dosing every 2 to 3 minutes as needed until emergency medical assistance arrives or until Naloxone supply is depleted
- If normal breathing resumes, place in rescue position and administer oxygen
- Remain with patient until EMS arrives
- If not breathing adequately, resume rescue breathing
- Naloxone will wear off within 1-2 hours so encourage patient to go to ER

There are no medical contraindications to administering Naloxone to prevent opioid overdose death. This includes administering to pregnant women.

Precautions

Administration of naloxone may precipitate symptoms of acute withdrawal which may include pain, tachycardia, hypertension, fever, sweating, abdominal cramps, diarrhea, nausea, vomiting, AGITATION, AND IRRITABILITY. This typically occurs with IV administration due to the rapid onset of action.

REFERENCES

Coffin, P., Prevention of Lethal Opioid Overdose in the Community. In: UpToDate, Saxon, AJ (Ed), UpToDate, Waltham, MA, 2016

Naloxone: Drug information**.** In UpToDate, Waltham, MA, accessed January 21, 2016

Stolbach, A., Hoffman, R., Acute Opioid Intoxication in Adults. In: UpToDate, Traub, S.(Ed), UpToDate, Waltham, MA 2016

TDH Naloxone webpage http://tn.gov/health/topic/information-for-naloxone

Yin, S., Opioid Intoxication in Children and Adolescents. In: UpToDate, Burns, M., (Ed), UpToDate, Waltham, MA 2016

SYNCOPE/VASOVAGAL REACTION/COMMON FAINT

GENERAL INFORMATION

Syncope is a transient loss of consciousness and postural tone due to inadequate cerebral blood flow with prompt recovery that does not require resuscitation.

Vasovagal reactions (referred to as common fainting) are autonomic nervous system responses to stressful, painful, fearful, or claustrophobic experiences.

Syncope may also be caused by cardiac disorders, cerebrovascular disorders, orthostatic hypotension, hypovolemia secondary to hemorrhage or dehydration, chronic diseases such as diabetes-related hypoglycemia or fasting for tests, and neurologic disorders such as transient ischemic attacks (TIAs).

SUBJECTIVE

Symptoms may include:

Nausea
Lightheadedness
Roaring in ears sensation
Dimming vision

History to establish cause:

Gather as much information as possible from patient, family/friend(s), or bystanders
What was the person doing prior to the episode?
What were the prodromal symptoms (i.e., nausea, lightheadedness etc.)?
Are there any predisoposing factors (i.e., age, chronic disease, fasting, IUD insertion etc.)? Are there any precipitating factors (i.e., a painful or fearful procedure)?
What did the passersby witness? Were there any signs of seizure?

OBJECTIVE

Diaphoresis
Loss of color (pale/ashen)
Loss of consciousness and postural tone

ASSESSMENT

Syncope – Possible Vasovagal Reaction

PLAN

Assure airway, breathing, circulation
Remove any inciting stimuli (stress, pain, fear etc.) Elevate legs, loosen tight clothing such as a tie or belt
Monitor vital signs

When there is immediate recovery, review history and refer patients with any significant findings to a primary care provider
Give high flow oxygen if recovery is not immediate
Initiate emergency response (call EMT/911) if recovery is not complete within minutes
Continue to check vitals signs, assure airway, breathing, and circulation until EMT arrives
Give report to EMT team

References

Current Medical Diagnosis and Treatment, 2000
Handbook of Signs and Symptoms, 2006
Rosen and Barkin's 5-Minute Emergency Medicine Consult, 2003
Tennessee Pre-hospital Protocols and Standing Orders, TN Emergency Medical Services, 2004

TICK BITE

SUBJECTIVE

History of tick bite
Recent outdoor exposure to tick-infected areas, note geographical site and time of year exposure occurred
Document age of victim; location of affected area(s) and date and time of bite if known
History of systemic response (i.e., fever >100°; rash, headache, neck stiffness, confusion)

OBJECTIVE

Tick embedded in skin
May present with rash, fever, swollen lymph nodes, conjunctival injection (red eyes)
May complain of headache, nausea, vomiting, abdominal pain, muscle pain, lack of appetite

ASSESSMENT

Embedded tick or recent history of tick removal

PLAN

Tick removal:

Grasp tick with fine-tipped tweezers (or fingers, protected with gloves or tissue paper) as close to skins surface as possible
Gently pull straight out without twisting motions.
Wash tick down drain
Wash hands and tick attachment site with soap and water
Advise use of OTC antibiotic ointment at site of attachment

Avoid folklore remedies such as "painting" the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin.

HEALTH TEACHING

- Avoidance of tick infected areas such as wooded and bushy areas with high grass and leaf litter.
- Wear light colored clothes that cover the arms, legs, and other exposed areas. Pants should be tucked into boots or socks and long sleeved shirts should be buttoned at the cuff.
- Use repellents that contain 20% or more DEET (N, N-diethyl-m-toluamide) on the exposed skin for protection that lasts up to several hours. Always follow product instructions.
- Insect repellents containing DEET should not be used on children under 2 months of age. Oil of lemon eucalyptus products should not be used on children under 3 years of age.
- When applying insect repellents to children, avoid their hands, around the eyes, and cut or irritated skin. Do not allow children to handle insect repellents. When using on

children, apply to your own hands and then put it on the child. After returning indoors, wash your child's treated skin or bathe the child. Clothes exposed to insect repellants should be washed with soap and water.

- Use products that contain permethrin to treat clothing and gear, such as boots, pants, socks and tents. It remains protective through several washings.

Find and Remove Ticks from Your Body

- Bathe or shower as soon as possible after coming indoors (preferably within two hours) to wash off and more easily find ticks that are crawling on you.
- Conduct a full body tick check upon return from tick-infested areas Inspect children's bodies and clothing also. Special attention should be given to the exposed hairy regions of the body where ticks often attach. Parents should check their children for ticks, paying close attention to under the arms, in and around the ears, inside the belly button, behind the knees, between the legs, around the waist, and especially in their hair.
- Examine gear and pets. Ticks can ride into the home on clothing and pets, then attach to a person later, so carefully examine pets, coats, and day packs. Tumble clothes in a dryer on high heat for an hour to kill remaining ticks.

REFERRAL INDICATORS
Unable to remove tick

Seek medical attention promptly if symptoms of Rocky Mountain Spotted Fever (RMSF), Lyme disease or Ehrlichiosis occur. For information purposes, the incubation period and symptoms for these diseases are listed below:

Rocky Mountain Spotted Fever (RMSF)
***Incubation*:** Approximately 1week (range, 2-14 days)
***Symptoms*:** typically begin 2-14 days after the bite of an infected tick and commonly include: sudden onset of fever and headache; nausea; vomiting; abdominal pain; muscle pain; lack of appetite; conjunctival injection (red eyes) and rash

About 90% of patients develop some type of rash about 2-5 days after fever.but sometimes not until late in the disease process. Approximately 10% of patients never develop a rash.

The classic rash may first appear 2-5 days after the onset of fever and present as small, flat, pink, non-itchy spots (macules) on the wrists, forearms, and ankles and spread to include the trunk and sometimes the palms and soles. Some people will have a rash that varies from this description and people who fail to develop a rash, or develop an atypical rash, are at increased risk of being misdiagnosed.

The red to purple, spotted (petechial) rash is usually not seen until the sixth day or later after onset of symptoms and occurs in 35-60% of patients with the infection and is indicative of progression to severe disease

Lyme Disease

***Incubation*:** 1-32 days with a median, 11 days

***Symptoms*:** Divided into 3 stages:

Stage One: Early localized stage (3-30 days post-tick bite)

Fatigue, chills, fever, headache, muscle and joint aches, and swollen lymph nodes

Red, expanding rash called erythema migrans (EM) or "bull's-eye" rash occurs in approximately 70-80% of infected persons. It begins at the site of a tick bite on average about 7 days after the bite. Rash gradually expands over a period of several days, and can reach up to 12 inches (30 cm) across. Parts of the rash may clear as it enlarges, resulting in a "bull's-eye" appearance. Rash usually feels warm to the touch but is rarely itchy or painful.

EM lesions may appear on any area of the body.

Some people may get these general symptoms in addition to an EM rash, but in others, these general symptoms may be the only evidence of infection.

Stage 2: Early disseminated stage (days to weeks post-tick bite)

Untreated, the infection may spread from the site of the bite to other parts of the body, producing an array of specific symptoms that may come and go, including:

Additional EM lesions in other areas of the body

Facial or Bell's palsy (loss of muscle tone on one or both sides of the face)

Severe headaches and neck stiffness due to meningitis (inflammation of the spinal cord)

Pain and swelling in the large joints (such as knees)

Shooting pains that may interfere with sleep

Heart palpitations and dizziness due to changes in heartbeat

Many of these symptoms will resolve over a period of weeks to months, even without treatment[2].However, lack of treatment can result in additional complications, described below.

Stage 3: Late disseminated stage (months-to-years post-tick bite)

Approximately 60% of patients with untreated infection may begin to have intermittent bouts of arthritis, with severe joint pain and swelling. Large joints are most often affected, particularly the knees[3]. Arthritis caused by Lyme disease manifests differently than other causes of arthritis and must be distinguished from arthralgias (pain, but not swelling, in joints).

Up to 5% of untreated patients may develop chronic neurological complaints months to years after infection[4]. These include shooting pains, numbness or tingling in the hands or feet, and problems with short-term memory.

Ehrlichiosis
***Incubation*:** 5 to 10 days after a tick bite, median, 9 days
Symptoms: Commonly occur 1-2 weeks following a tick bite; fever, headache, chills, malaise, muscle pain, nausea/vomiting/diarrhea, confusion, conjunctival injection (red eyes), rash (in up to 60% of children, less than 30% of adults
It is important to note that the combination of symptoms varies greatly from person to person.
Erythroderma is a type of rash that resembles a sunburn and consists of widespread reddening of the skin that may peel after several days. Some patients may develop a rash that resembles the rash of Rocky Mountain spotted fever making these two diseases difficult to differentiate on the basis of clinical signs alone.

REFERENCES

2012 Red Book: Report of the Committee on Infectious Diseases, 29th Edition, Larry K. Pickering, MD, FAAP, Editor

http://www.fda.gov/Drugs/EmergencyPreparedness/ucm085277.htm

http://www.cdc.gov/lyme/signs_symptoms/index.html

http://www.cdc.gov/rmsf/symptoms/index.html

Information about insect repellents can be found at the following sites:

The Environmental Protection Agency (EPA) regulates all pesticides and provides extensive information about insect repellents:
Environmental Protection Agency Home Page
How to Use Insect Repellents Safely

The Centers for Disease Control and Prevention (CDC) offers information about mosquito repellents:
Insect Repellent Use and Safety
Updated Information Regarding Insect Repellents

The American Academy of Pediatrics (AAP) has information about the use of mosquito repellents in children:
Follow Safety Precautions When Using DEET on Children
DEET Alternatives Considered to be Effective Mosquito Repellents
Insect Repellents

Community Located Vaccination Clinics

The Emergency Protocols below for Anaphylaxis and Syncope are to be used during community located vaccination clinics

ANAPHYLAXIS

SUBJECTIVE

History of:

Recent injection, often within minutes
Previous allergic reaction

Symptoms may include:

Headache
Anxiety/feeling of impending doom
Difficult breathing/tightness in throat and chest, wheezing
Feeling faint
Localized or generalized pruritus
Swelling of hands, feet, face and tongue

OBJECTIVE

Weak, irregular, and rapid pulse (above 100 beats per minute)
Rapid and shallow respirations
Fall in blood pressure
Patient apprehensive and perspiring heavily, may be confused
Lips, tongue, and eyelids are frequently swollen
Hives, rash, erythema
Cyanosis of the lips and nail beds
Labored breathing and wheezing (wheezes are heard throughout chest)
Nasal discharge, nasal congestion, change in voice quality, sensation of throat closure or choking, shortness of breath

ASSESSMENT

Anaphylactic reaction

PLAN

There are **NO** absolute contraindications to epinephrine use in anaphylaxis:

Initiate emergency response system
Place patient in supine position
Assure adequate airway - administer CPR if indicated
Question regarding most recent weight

Administer aqueous epinephrine 1:1000 INTRAMUSCULAR according to Emergency Drug Chart A
May repeat epinephrine dosage every 5-15 minutes, if necessary

EMERGENCY DRUG CHART

Aqueous Epinephrine (Adrenaline) = 0.01 ml./kg. IM

Epinephrine Dose
Recommended dose is 0.01 mg/kg body weight up to 0.5 mg maximum dose.
May be repeated every 5–15 minutes for a total of 3 doses.

Age group	**Range of weight (kg)***	**Range of weight (lb)**	**1 mg/mL injectable (1:1000 dilution); INTRAMUSCULAR Minimum dose: 0.05 mL**
1–6 months	4–8.5 kg	9–19 lb	0.05 mL (or mg)
7–36 months	9–14.5 kg	20–32 lb	0.1 mL (or mg)
37–59 months	15–17.5 kg	33–39 lb	0.15 mL (or mg)
5–7 years	18–25.5 kg	40–56 lb	0.2–0.25 mL (or mg)
8–10 years	26–34.5 kg	57–76 lb	0.25–0.3 mL (or mg)
11–12 years	35–45 kg	77–99 lb	0.35–0.4 mL (or mg)
13 years & older	46+ kg	100+ lb	0.5 mL (or mg) – max.

NOTE: Dosing by weight is preferred. If weight is not known or not readily available, dosing by age is appropriate.

SYNCOPE/VASOVAGAL REACTION/COMMON FAINT

SUBJECTIVE

Symptoms may include:
Nausea
Lightheadedness
Roaring in ears sensation
Dimming vision

History to establish cause:
Gather as much information as possible from patient, family/friend(s), or bystanders

- What was the person doing prior to the injection?
- What were the prodromal symptoms (i.e., nausea, lightheadedness etc.)?

- Are there any predisposing factors (i.e., age, chronic disease, fasting?)
- Are there any precipitating factors (i.e., a painful or fearful procedure)?
- What did others witness?
- Were there any signs of seizure?

OBJECTIVE

Diaphoresis
Loss of color (pale/ashen)
Loss of consciousness and postural tone

ASSESSMENT

Syncope – Possible Vasovagal Reaction

PLAN

Assure airway, breathing, and circulation
Remove any inciting stimuli (stress, pain, fear, etc.)
Elevate legs, loosen tight clothing such as a tie or belt
Monitor vital signs
When there is immediate recovery, review history and refer patients with any significant findings to a primary care provider
Initiate emergency response (call EMT/911) if recovery is not complete within minutes
Continue to check vital signs, assure airway, breathing, and circulation until EMT arrives
Give report to EMT team

REFERENCES

Community Health Services Policy #3.4A

http://www.mayoclinic.org/diseases-conditions/vasovagal-syncope/diagnosis-treatment/treatment/txc-20184861, accessed May 17, 2016.

Simons, F., MD, FRCPC. Anaphylaxis: Rapid Recognition and Treatment. In: UpToDate, Feldweg, A., (Ed), UpToDate, Waltham, MA, 2016

SECTION II:
FAMILY PLANNING

2.010 – 2.170

ALL METHODS, FAMILY PLANNING
QUICK START
PROVIDED BY RNS ONLY

GENERAL INFORMATION
The preferred choice for initiation of a contraceptive method is the Quick Start or Same Day Start Method as long as it is reasonably certain that the woman is not pregnant.

SUBJECTIVE
Medical history
Date of LMP
Date of last sexual contact
Client has no symptoms of pregnancy
Client has been using reliable contraception consistently and correctly

OBJECTIVE
Blood pressure (required for combined hormonal methods)
Obtain height, weight & BMI (optional)
Pregnancy test (if indicated)

ASSESSMENT
A current medical history should be taken for each client. The history must be negative for U.S. Medical Eligibility Criteria categories 3 and 4 to issue without an exam.

Refer to the Summary Chart of U. S. Medical Eligibility Criteria for Contraceptive Use in Family Planning Reference section 2.170.

PLAN
Refer to appropriate PHN protocol for chosen method. Follow the Quick Start Algorithm for Oral Contraceptive Pills, Patch, Ring or Injectable

- Issue up to a 6 (six) month supply of the preferred/desired method
- PHN must consult with health department APN/MD and obtain an order to continue chosen method beyond 6 months.
- Provide necessary health teaching to use method correctly and consistently.
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually

- Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - ✓ Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection

- Offer condoms for improved STI protection
- Offer ECP as indicated
- Advise client when to return to the clinic for visit with provider

Preventative Health Recommendations

Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening and testing.

Females:

Cervical Cytology (pap smear) refer to PHN Protocol 2.020 for screening guidelines
Genital exam should accompany cervical cancer screening
Clinical Breast Examination:
ACOG recommends annual CBE for women ages 19 and older.
Mammography:
USPSTF recommends screening mammography for women ages 50-74 every other year.

Males:

Examination of the genitals of adolescent **males** should be conducted to document normal growth and development; exam should include palpation of inguinal nodes, scrotal contents, penis and peri-anal region as well as inspection of skin & hair

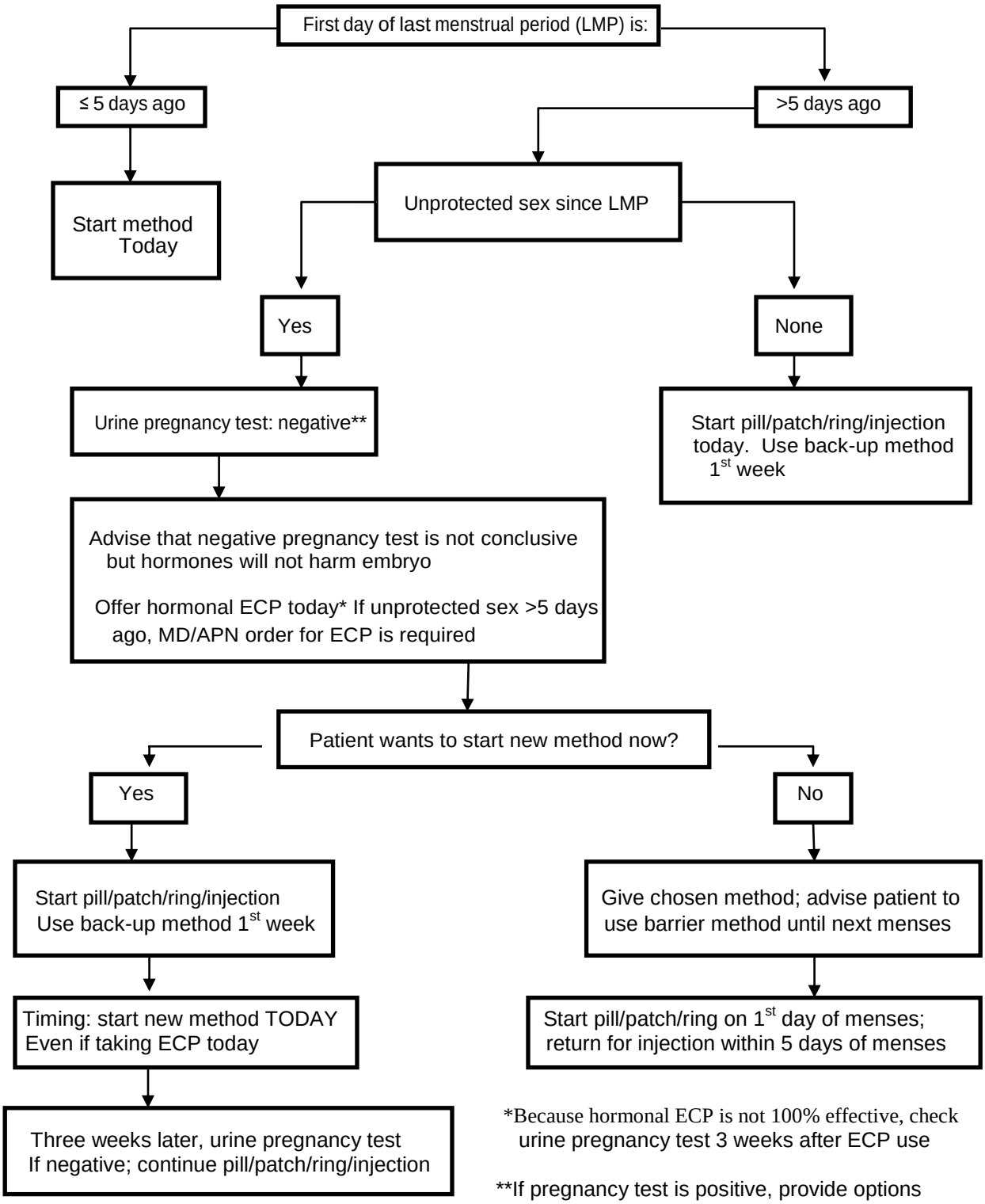
REFERENCES

Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition. New York: Ardent Media 2011.

A Pocket Guide to Managing Contraception, Hatcher, R.A., Nelson, A.L., Zieman, M. et. al., Tiger, Georgia: Bridging the Gap Foundation, 2015.

Providing Quality Family Planning Services Recommendations of CDC and the U.S. Office of Population Affairs MMWR/ Vol. 63 / No. 4 April 25, 2014

Quick Start



*Because hormonal ECP is not 100% effective, check urine pregnancy test 3 weeks after ECP use

**If pregnancy test is positive, provide options counseling

BASIC INFERTILITY SERVICES

GENERAL INFORMATION

Infertility is defined as the failure of a couple to achieve a pregnancy after 12 months or longer of regular unprotected intercourse **OR** after 6 months for women:

- over age 35
- with oligomenorrhea (infrequent or very light menstruation)
- history of known/suspected uterine/tubal disease or endometriosis
- with a partner known to be subfertile (the condition of being less than normally fertile though still capable of effecting fertilization)

Both partners should be evaluated concurrently (recommendation of American Society for Reproductive Medicine, ASRM)

SUBJECTIVE

- Reproductive life plan
- Sexual health assessment
- Complete medical history
  - Medical conditions associated with reproductive failure such as:
    - ✓ thyroid disorders or other endocrine disorders
    - ✓ PCOS
    - ✓ Hirsuitism
  - Pelvic/abdominal pain
  - Dyspareunia
  - Galactorrhea
- Childhood disorders
- Family history of infertility
- Reproductive history
  - Review menstrual history
  - How long has client been trying to achieve pregnancy?
  - Coital frequency/timing
  - Fertility awareness
  - Previous evaluations/treatments
  - Gonadal toxin exposure including heat (men)

OBJECTIVE

Height, weight, BMI (optional)

ASSESSMENT

Infertility/sub-fertility

PLAN

Refer patient to health department or private physician or APN for a complete infertility based physical exam

Health Teaching

Educate about "peak" fertility days (refer to Fertility Awareness protocol 2.090)

- Clear, stretchy cervical mucus
- Vaginal intercourse every 1-2 days following end of menses
- Discourage ETOH, recreational drugs, smoking
- Encourage weight loss if obese

Preventative Health Recommendations

Advise client of the importance of recommended related family planning preventative health screening and testing.

Females:

- Cervical Cytology (pap smear) refer to PHN Protocol 2.020 for screening guidelines
- Genital exam should accompany cervical cancer screening
- Clinical Breast Examination:
  ACOG recommends annual CBE for women ages 19 and older.
- Mammography:
- USPSTF recommends screening mammography for women ages 50-74 every other year.

Males:

Examination of the genitals of adolescent **males** should be conducted to document normal growth and development; exam should include palpation of inguinal nodes, scrotal contents, penis and peri-anal region as well as inspection of skin & hair

REFERENCES:

Centers for Disease Control and Prevention. Providing Quality Family Planning Services. Recommendations of CDC and the U.S. Office of Population Affairs. MMWR. April 25, 2014.

Curtis, M. et al. (2014) Glass' Office Gynecology. Seventh Edition. Philadelphia: Wolters Kluwer Health.

CERVICAL CANCER SCREENING
PROCEDURE

The Tennessee Department of Health has several programs such as Family Planning, Breast and Cervical Cancer Screening and Women's Health that offer cervical cancer screening beginning at age 21.

Clients should be prepared for cervical cancer screening by being given the following information prior to the day of pap smear:

- Avoid douching for 2 days before the examination
- Avoid putting **ANYTHING** into the vagina for 2 days before the exam (optimal)
- Make appointment for Pap test 1-2 weeks after the end of menses (optimal)
- Whenever possible, have abnormal vaginal secretions treated before a Pap test is scheduled

SUBJECTIVE
The client reports to a program or service within the health department that could include cervical cancer screening.

OBJECTIVE
The client meets the screening criteria established according to ASCCP (American Society for Colposcopy and Cervical Pathology) guidelines .

ASSESSMENT
The client is appropriate for cervical cancer screening. The timing of her screening test is based upon her age and/or history and/or the results of her last Pap test.

PLAN
- Review the Pap history in the chart.
- Based on history, prepare the necessary materials for a Pap test. If a pap test is not done, document reason in the chart.
- Explain to the client how she will receive her Pap results. Provide Reproductive Health Teaching (see below).
- Schedule for next appointment
- Complete follow-up for the Pap results as directed. (see written order of provider and Family Planning Guidelines)

HEALTH TEACHING

- Explain that nearly all sexually active individuals will be exposed to HPV sometime in their lifetime; 80% by age 50. Most women will have a natural immune response and clear the HPV on their own. Only a few at risk individuals will eventually develop cervical cancer from HPV exposure. This process takes many years. Therefore, cervical cancer screening must continue throughout a woman's life.
- Assess client's current immunization status including HPV vaccine. Offer vaccine(s) based on current vaccine guidelines.
- Provide an overview of all sexually transmitted infections.

- Promote and instruct in the correct use of condoms.
- Review the risks associated with the following high-risk sexual behaviors:
  - Unprotected intercourse, including oral and anal sex
  - Early onset of sexual intercourse (i.e., first sexual intercourse before the age of 18) including increased likelihood of exposure to STDs and the increased risk of teen pregnancy and unintended pregnancy. Both teen pregnancy and unintended pregnancy are associated with infant mortality and morbidity.
  - Multiple sexual partners.
  - Having a sexual partner who has multiple partners.
  - Numerous sexual partners in a lifetime (serial monogamy).
- Review the increased risk of cervical cancer in women who smoke cigarettes.
- Review the risk to daughters of women who took the hormone diethylstilbestrol (DES) during their pregnancies (for clients born before 1970, DES was used primarily to prevent repeat miscarriages). These daughters are at greater risk for developing vaginal and cervical cancers.

FAMILY PLANNING GUIDELINES GENERAL INFORMATION

How Do We Screen For Cervical Cancer?

The Tennessee Department of Health screens women for cervical cancer using liquid-based cytology (Pap) testing. A benefit of liquid-based testing is to allow for triage of atypical squamous cells of undetermined significance (ASCUS) for presence of HPV without having to bring the client back in to collect another sample.

What is HPV Testing?

Human papilloma virus (HPV) testing refers to the identification of high–risk (oncogenic) HPV strains that can become precursors to cervical cancer. HPV testing is a tool used to determine the need for a colposcopy in women with atypical squamous cells, undetermined significance (ASC-US) results and is referred to as reflex testing. HPV testing is also used in women aged 30-65 as an adjunct to cytology for cervical cancer screening to lengthen the screening interval (if both test are negative); this is referred to as co-testing.

Indications for HPV testing include the following:

- Reflex testing – to determine the need for colposcopy in women with ASC-US cytology result.
- Co-testing – use as an adjunct to cytology for cervical cancer screening in women aged 30 years and older.

Who and When Do We Screen For Cervical Cancer?

Cervical cancer screenings should begin at 21 years old. While a pap test may not be necessary at all Family Planning Program visits, an annual physical exam including but not limited to breast exam and pelvic (visual and bimanual) exam is still recommended. Counsel regarding the importance of preventative services including pap testing.

Summary of Cervical Cancer Screening Guidelines

Population	Recommended Screening Method
Age under 21	Do not screen
Age 21-29	Cytology (Pap smear) every 3 years. Reflex HPV for pap result of ASCUS
Age 30-64	Cytology every 3 years with reflex HPV for ASCUS results or Co-testing (cytology & HPV) every 5 years **Note: Clients must be offered both options and allowed to choose based on their preference.**
Age 65 and up	Discontinue screening if, since age 55, patient has had 2 consecutive negative HPV tests or 3 consecutive negative cytology results
Hysterectomy with removal of cervix	Screening indicated ONLY for women with a history of either: 1) CIN2+ in the past 20 years, or 2) a history of cervical cancer ever.
Vaccinated against HPV	Follow age-specific recommendations (same as unvaccinated women)

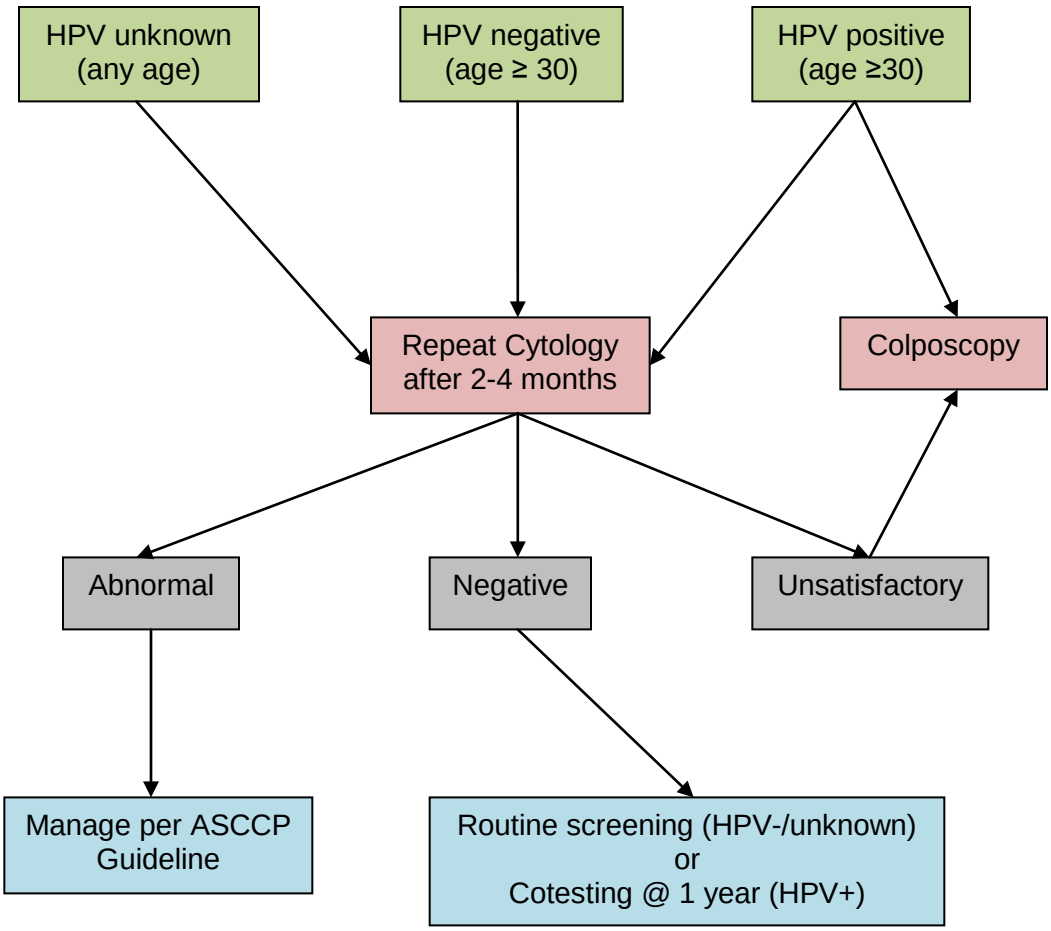
Please note these guidelines do not apply to the following high-risk populations:

- HIV positive: CDC recommends that women with HIV have cervical cytology screening twice in the first year after diagnosis and annually thereafter. Screening should be initiated at the age when diagnosed with HIV <u>even</u> if younger than 21 years old.
- Immunosuppressed: ACOG recommends annual cytology screening starting at age 21, No recommendation exist from the ASCCP.
- Exposure to diethylstilbestrol (DES) in utero: No recommendation exists from ACOG or ASCCP
- Previous treatment for CIN2 or higher: Continue routine age-based screening for 20 years after the initial post treatment surveillance period, even if screening continues past age 65.

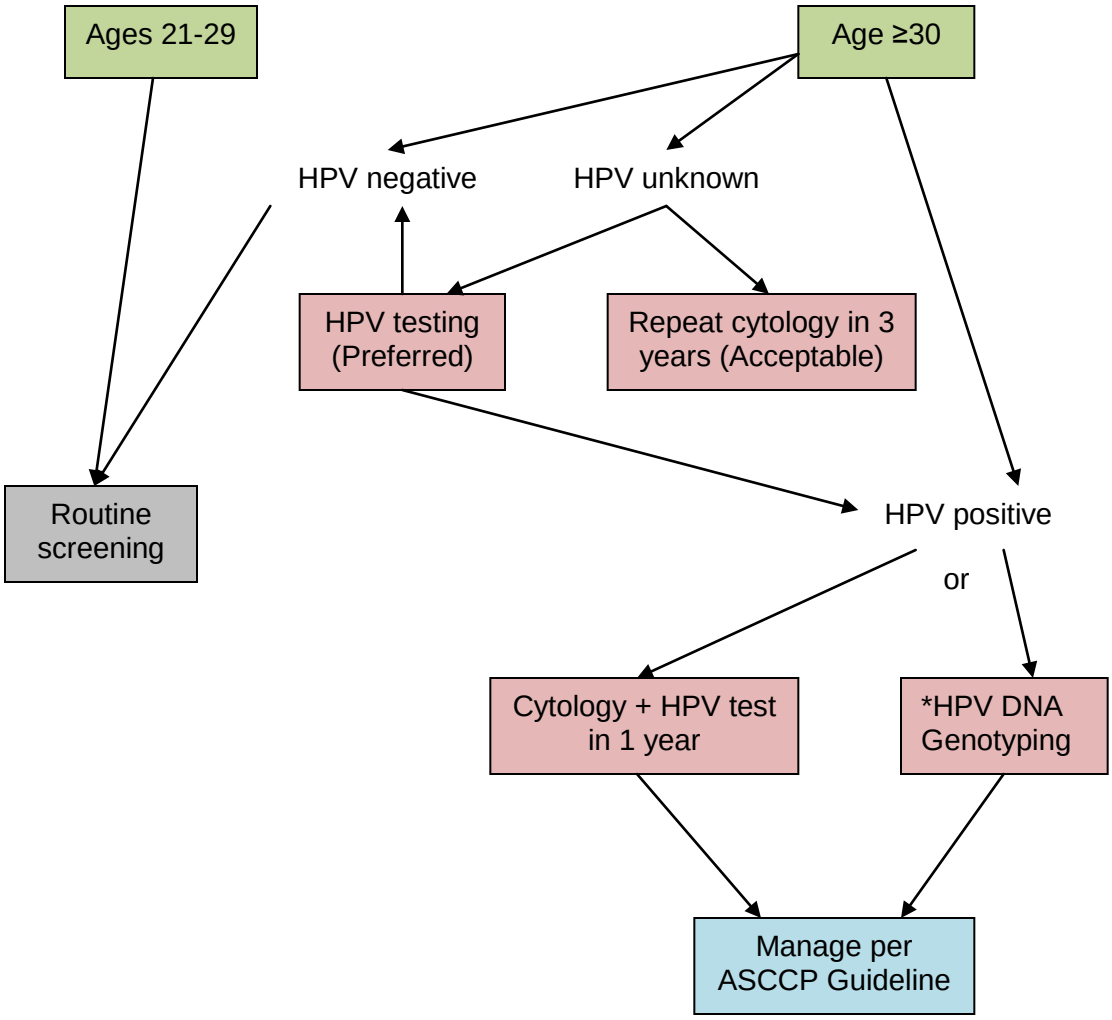
Refer to the following algorithms from American Society for Colposcopy and Cervical Pathology (ASCCP). Full details of these guidelines may be reviewed at ASCCP's

website http://www.asccp.org/ConsensusGuidelines/UpdatedConsensusGuidelinesAlgorithms/tabid/14410/Default.aspx

Unsatisfactory Cytology

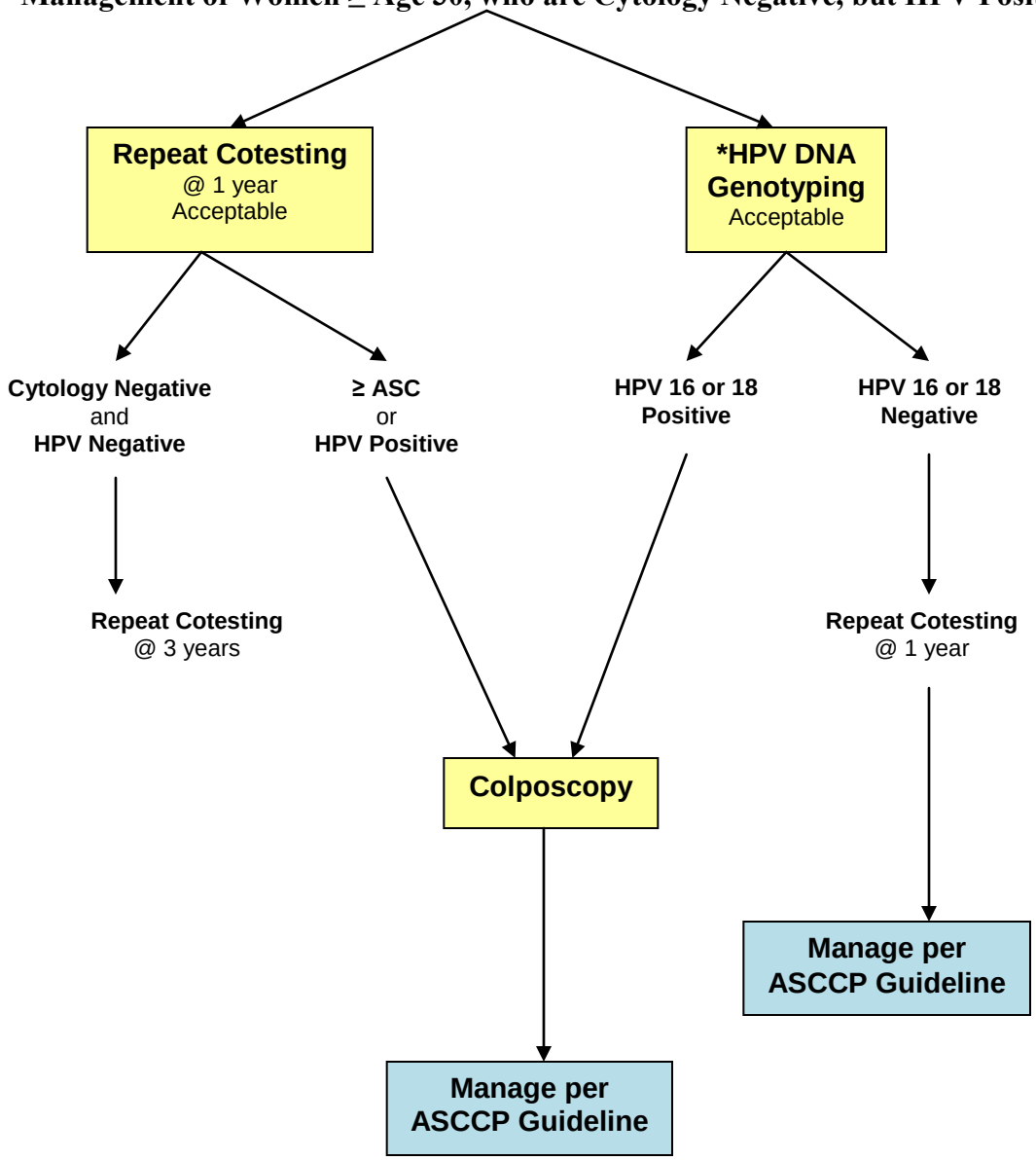


Cytology Negative for Intraepithelial Lesion or Malignancy (NILM) but Endocervical/Transformation (EC/TZ) Absent/Insufficient



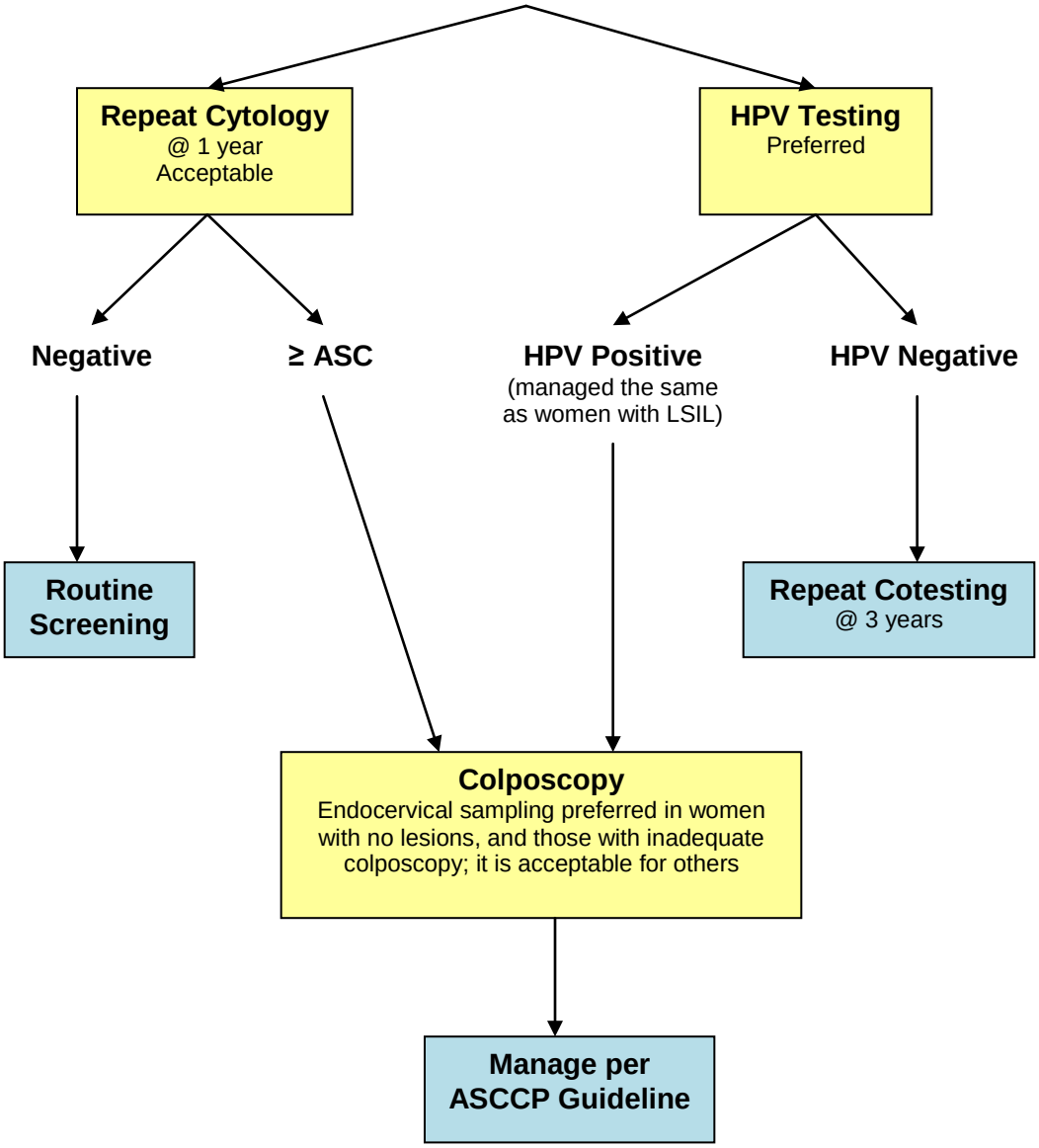
***Family Planning and Breast and Cervical Screening Programs do not currently pay for HPV DNA Genotyping.**

Management of Women ≥ Age 30, who are Cytology Negative, but HPV Positive

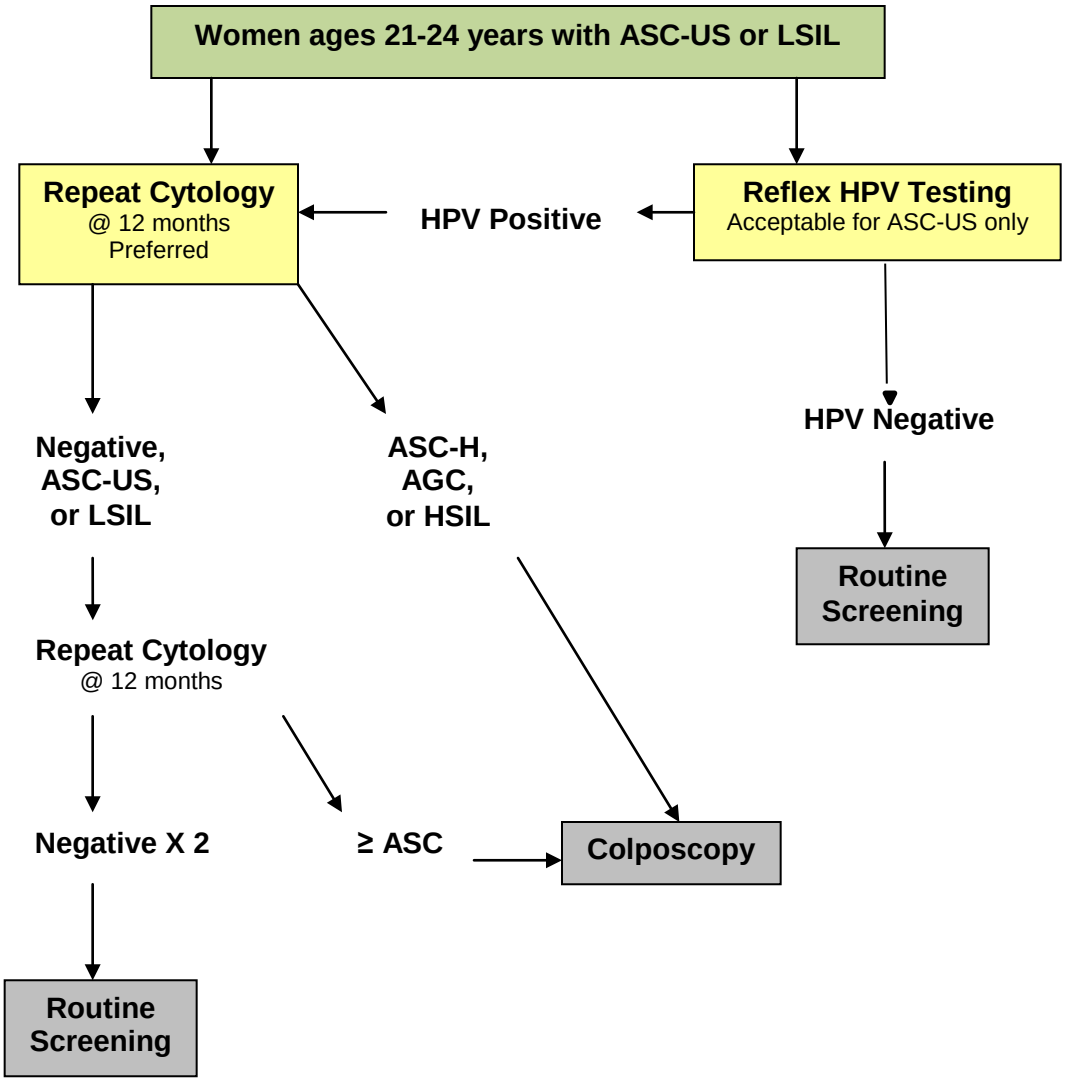


***Family Planning and Breast and Cervical Screening Programs do not currently pay for HPV DNA Genotyping.**

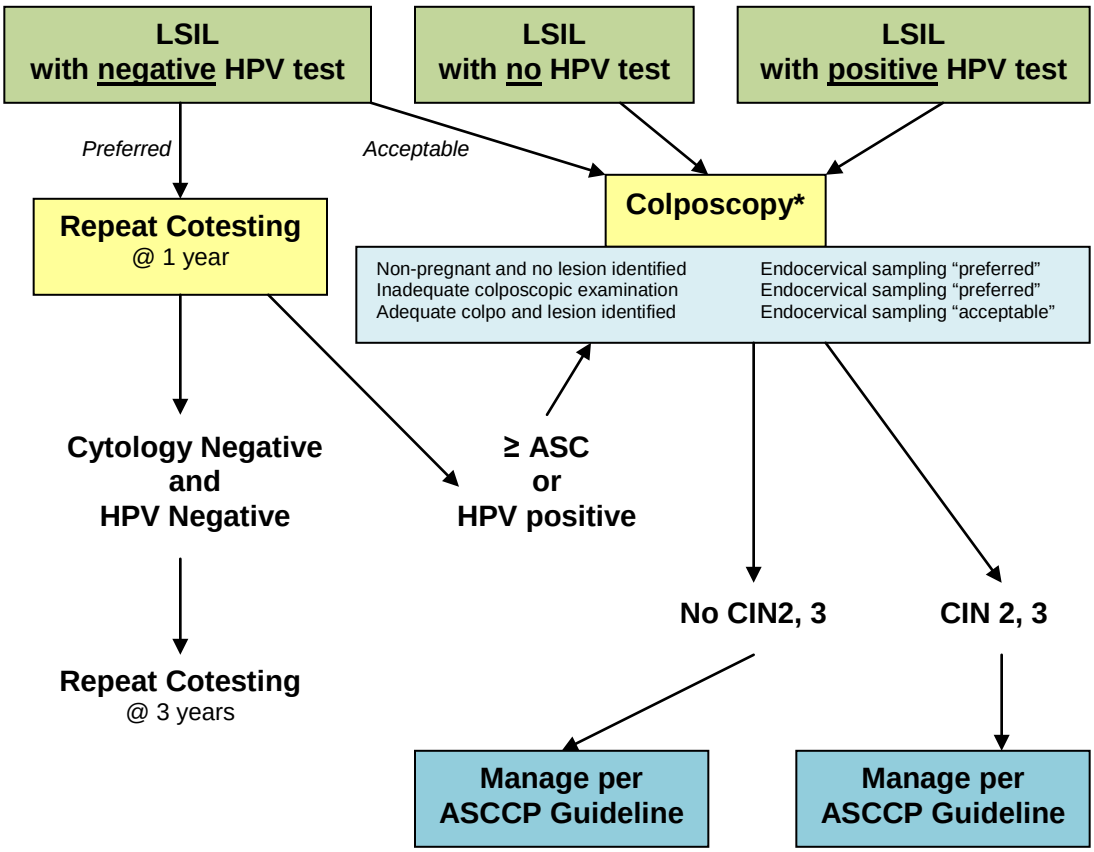
Management of Women > 25 years with Atypical Squamous Cells of Undetermined Significance (ASC-US) on Cytology
(For women between 21-24 years, see following algorithm.)



Management of Women Ages 21-24 years with either Atypical Squamous Cells of Undetermined Significance (ASC-US) or Low-grade Squamous Intraepithelial Lesion (LSIL)

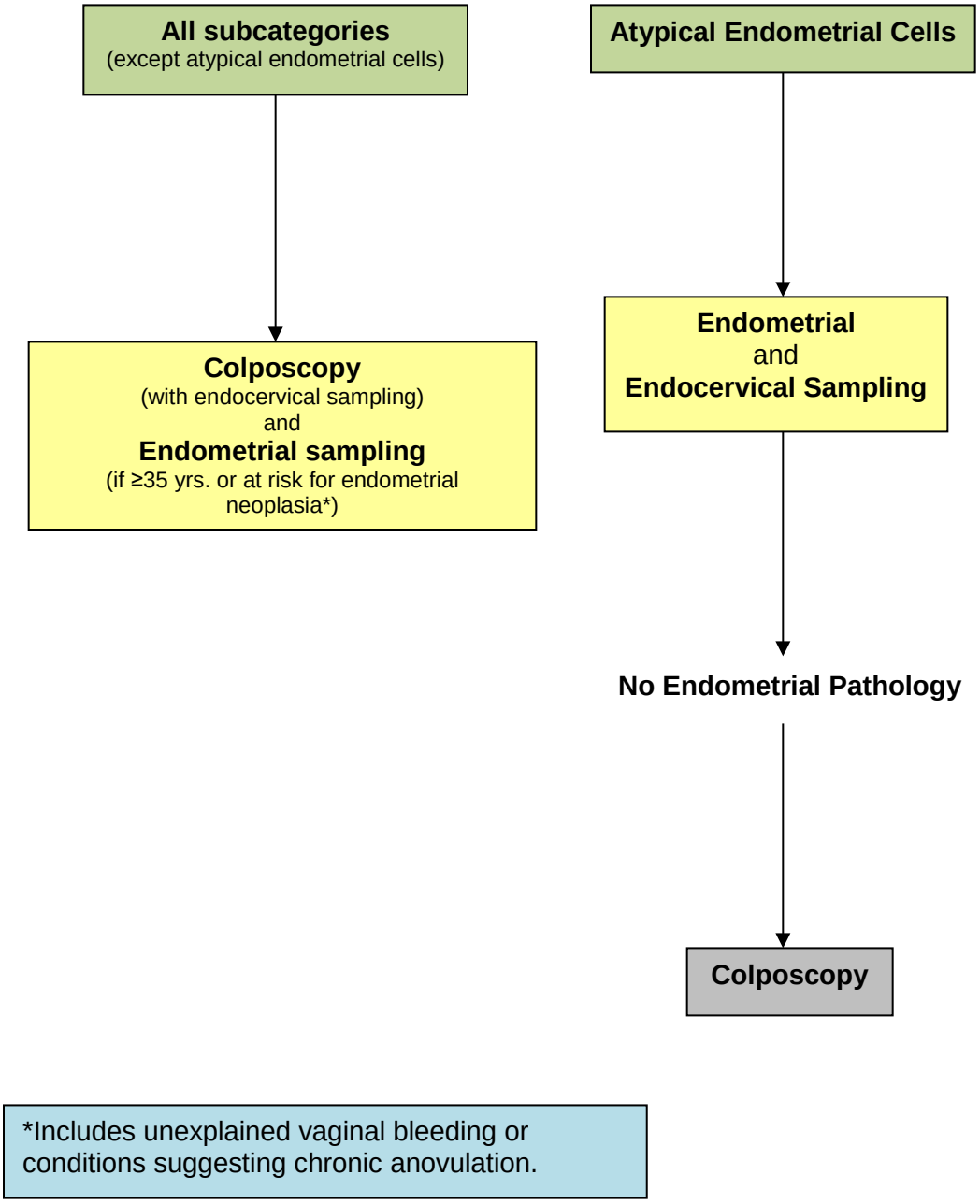


Management of Women >25 years with Low-grade Squamous Intraepithelial Lesions (LSIL)
(For women between 21-24 years, see previous algorithm.)



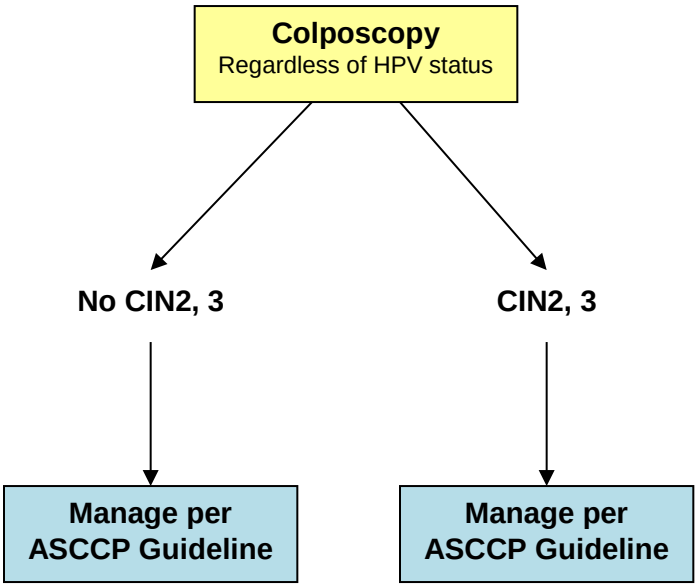
***After colposcopy, management is directed by the colposcopist. Refer to the ASCCP algorithm booklet April 2013 for further guidelines.**

Initial Workup of Women with Atypical Glandular Cells (AGC)

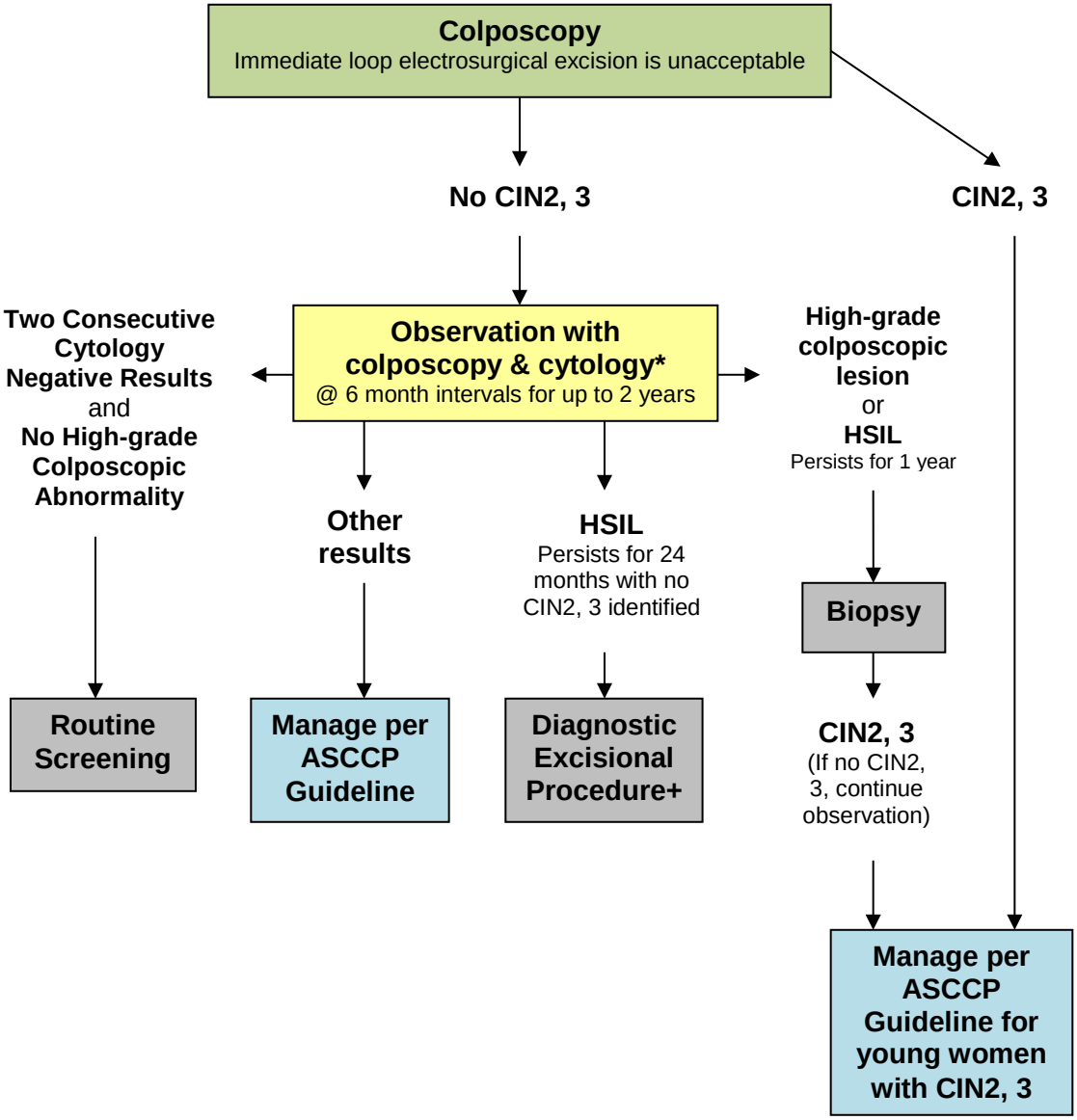


After colposcopy, management is directed by the colposcopist. Refer to the ASCCP algorithm booklet April 2013 for further guidelines.

Management of Women with Atypical Squamous Cells:
Cannot Exclude High-grade SIL (ASC-H)
(For women between 21-24 years, see following algorithm.)



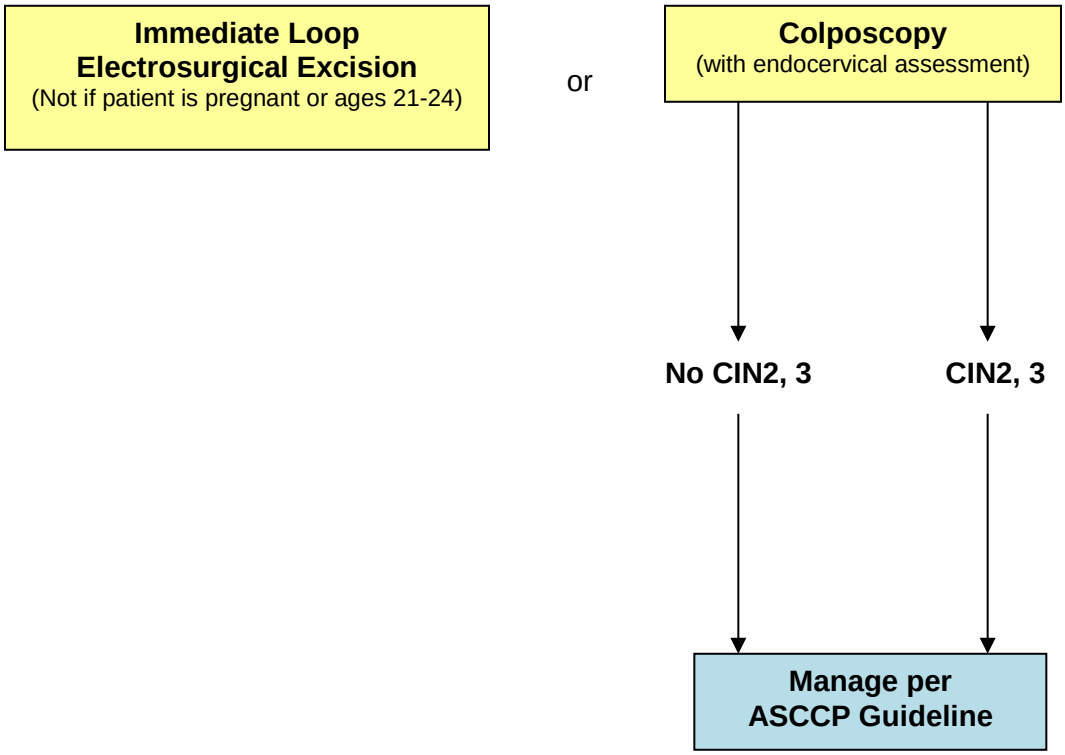
Management of Women Ages 21-24 years with Atypical Squamous Cells, Cannot Rule Out High-grade SIL (ASC-H) and High-grade Squamous Intraepithelial Lesion



*If colposcopy is adequate and endocervical sampling is negative. Otherwise a diagnostic excisional procedure is indicated.

+Not if client is pregnant.

Management of Women with High-grade Squamous Intraepithelial Lesions (HSIL)



*Management options may vary if the woman is pregnant, postmenopausal, or ages 21-24.

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1. American College of Obstetricians and Gynecologists. (2012). Screening for Cervical Cancer. Practice Bulletin, No. 131. *Obstet Gynecol*,120(5), 1222-1238.

2. American College of Obstetricians and Gynecologists. (2012). Well-woman visit. Committee Opinion No. 534. *Obstet Gynecol* , 120, 421-424.

3. American Society for Colposcopy and Cervical Pathology. (2013). Algorithms updated consensus guideline for managing abnormal cervical cancer screening tests and cancer precursors.

4. Massad, L. S., Einstein, M. H., Huh, W. K., Katki, H. A., Kinney, W. K., Schiffman, M., …for the 2012 ASCCP Consensus Guidelines Conference. (2013). 2012 updated consensus guidelines for the management of abnormal cervical cancer screening tests and cancer precursors. *J Low Genit Tract Dis*, 17(5), S1-S27.

5. Moyer, V. A. on behalf of the U.S. Preventive Services Task Force. (2012). Screening for cervical cancer: U.S. Preventive Services Task Force recommendation statement. *Annals of Internal Medicine*, 156 (12), 880-891.

6. Saslow, D., Solomon, D., Lawson, H. W., Killackey, M., Kulasingam, S. L., Cain, J., . . . the ACS-ASCCP-ASCP Cervical Cancer Guideline Committee. (2012). American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology screening guidelines for the prevention and early detection of cervical cancer. *J Low Genit Tract Dis*, 16 (3), 175-204.

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8. U.S. Department of Health and Human Services, Office of Public Health and Science, Office of Population Affairs, Office of Family Planning, *Program Guidelines for Project Grants for Family Planning Services*, January 2001.

COMBINED HORMONAL CONTRACEPTION (PILLS, PATCH, RING)

GENERAL INFORMATION

A physical exam is not necessary to begin combined hormonal contraception.

SUBJECTIVE

Screening components for contraceptive services include:

- Reproductive life plan
- Medical history
- Sexual health assessment
- Tobacco use (for clients age 35 and older)

OBJECTIVE

- Blood pressure
- Height, weight, BMI (optional)
- Pregnancy test (if clinically indicated)

ASSESSMENT

A current medical history should be taken for each client. The history must be negative for U.S. Medical Eligibility Criteria categories 3 and 4 to issue combined hormonal contraception.

Refer to the Summary Chart of U. S. Medical Eligibility Criteria for Contraceptive Use in Family Planning Reference section 2.170.

PLAN

PHN follows the ongoing plan of care written by the examiner or RN initiates combine hormonal contraception via Quick Start Protocol.

- Document name, dosage, route, and frequency of the method
- Document number of cycles given
- PHN must consult with health department APN/MD and obtain an order to continue chosen method beyond 6 months.
- Provide necessary health teaching to use method correctly and consistently.
- Provide client with method specific instructions. Resources are available at http://fpntc.org/training-and-resources/contraceptive-fact-sheets. A Spanish version is available at http://www.cardeaservices.org/resourcecenter/contraceptive-fact-sheets-Spanish. You may also use previously approved instructions.
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Health teaching regarding emergency warning signs:
  - **A** Abdominal pain – severe (as might be seen with liver disease, gallbladder disease, ectopic pregnancy)
  - **C** Chest pain - severe, (cough, shortness of breath or sharp pain on inhalation as might be seen with heart attack or pulmonary embolism)

H Headache - severe, dizziness, weakness, or numbness, especially if one-sided (as might be seen with migraine or stroke especially with numbness or muscle weakness)

E Eye disturbances vision loss or blurring, also speech problems (as might be seen with retinopathy or stroke)

S Severe leg pain in calf or thigh (as might be seen with thrombophlebitis)

- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection
- Offer condoms for improved STI protection.
- Offer condoms and/or contraceptive foam or film for use as back-up protection against unintended pregnancy.
- Offer ECP as indicated
- Advise client when to return to the clinic for a visit with provider
- Consult APN or physician for complications and warning signs or for side effects that have not responded to standard treatments

Preventative Health Recommendations

Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening[1] and testing for women including:

Cervical Cytology (pap smear). Refer to PHN Protocol 2.020 for screening guidelines
Genital exam should accompany cervical cancer screening

Clinical Breast Examination:
ACOG recommends annual CBE for women ages 19 and older.

Mammography:
USPSTF recommends screening mammography for women ages 50-74 every other year.

[1]If a TennCare child (under the age of 21) receives the major components of a Child Health/EPSDT exam through the health department's family planning clinic, she should also receive developmental screening and vision and hearing risk assessment/screening in order to complete the recommended AAP standards for preventive health care.

REFERENCES

Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition. New York: Ardent Media 2011.

A Pocket Guide to Managing Contraception, Hatcher, R.A., Nelson, A.L., Zieman, M. et. al., Tiger, Georgia: Bridging the Gap Foundation, 2015.

Center for Disease Prevention. "U.S. Medical Eligibility Criteria for Contraceptive Use." MMWWR, Vol. 59, June 18, 2010.

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CONDOMS, SPONGE, AND SPERMICIDAL AGENTS

GENERAL INFORMATION

Male Condoms
There are three types of male condoms:

- Latex condom – a barrier to sperm and sexually transmitted infections
- Polyurethane condom – also a barrier to sperm and sexually transmitted infection
- Natural skin condom – a barrier to sperm ONLY

Female Condoms
There is one style of female condom sold under the trade name, FC2 Female Condom® by the Female Health Company (FHC). It is approved for both contraception and STI prevention.

Contraceptive Sponge
The Today Sponge® is the brand name of the contraceptive sponge currently available in the United States. The contraceptive sponge provides a spermicide and a polyurethane physical barrier to cover the cervix. The preservative in the Today Sponge® is metabisulfite. Persons with known allergy to sulfa drugs should not use the Today Sponge®.

Spermicides
Spermicides are also available over the counter and come in different formulations such as foam, gel, cream, film, suppository, or tablet. All are placed inside the vagina prior to sexual intercourse. Nonoxynol-9 is the active ingredient found in spermicides sold in the United States. Spermicides have been associated with vaginal irritation and microscopic ulceration that lead to easier transmission of HIV. **Clients at risk of HIV infection should never use a spermicide**.

SUBJECTIVE
If the client is participating in a visit with a nurse, collect a medical history.
Screening components for contraceptive services include:

Reproductive life plan
Medical history
Sexual health assessment

OBJECTIVE
Male and female clients may receive a supply of male or female condoms and/or spermicide and/or contraceptive sponge without a physical examination or laboratory testing.

ASSESSMENT
Appropriate for condom and/or spermicide use

Contraindications
Male and female clients may receive a supply of condoms and/or spermicide without collecting or reviewing the medical history. However, when possible:

- Inquire about latex, polyurethane or spermicide allergy with condom or spermicide users.
- Sulfa allergy with sponge users.
- History of toxic shock syndrome for sponge users.
- Inquire and counsel about sexual behaviors that increase STI/HIV risks such as multiple partners either consecutively or concurrently, partners who are strangers to the client, a client who has a partner known to have other partners, or a client whose partner has sex with men.

Caution
Nonprescriptive methods of contraception containing the spermicide nonoxynol-9 can increase the risk of HIV acquisition.

PLAN

- Provide health teaching either face to face or in writing.
- Provide client with method specific instructions. Resources are available at http://fpntc.org/training-and-resources/contraceptive-fact-sheets. A Spanish version is available at http://www.cardeaservices.org/resourcecenter/contraceptive-fact-sheets-Spanish. You may also use previously approved instructions.
- Provide requested method in adequate amount and include instruction for use and care.
- Re-supply visits are based on the client's request.
- Discuss, and if possible, provide emergency contraception with non-prescriptive barrier methods.
- Encourage consideration of a highly effective method of contraception.
- Discuss the benefits of planned pregnancy and the risks of unintended pregnancy.
- When applicable, document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - ✓ Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection

Preventative Health Recommendations
Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening and testing.

Females:
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Genital exam should accompany cervical cancer screening
Clinical Breast Examination:

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Mammography:

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Males:

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Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition, New York: Ardent Media. 2014.

Zieman M., Hatcher R. A., Allen A. Z.*Managing Contraception 2015-2016,*Tiger, Georgia; Bridging the Gap Foundation, 2015.

DIAPHRAGM

GENERAL INFORMATION

A diaphragm cannot be supplied by deferred exam because a fitting is required.

SUBJECTIVE

Screening components for contraceptive services include:

- Reproductive life plan
- Medical history
- Sexual health assessment

Assess for allergy to spermicides

OBJECTIVE

Height, Weight, BMI (Optional)

ASSESSMENT

Patient request diaphragm for birth control

PLAN

The ongoing plan of care written by the examiner must be reviewed and followed by the PHN at each visit. For re-supply visits, consult APN or physician for complications and warning signs. Also consult for side effects that have not responded to standard treatments**.**

- Provide necessary health teaching to use method correctly and consistently
- Provide client with method specific instructions. Resources are available at http://fpntc.org/training-and-resources/contraceptive-fact-sheets. A Spanish version is available at http://www.cardeaservices.org/resourcecenter/contraceptive-fact-sheets-Spanish. You may also use previously approved instructions.
- Refer to APN or MD for bimanual examination, cervical inspection and fitting.
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection
- Offer condoms for improved STI protection.
- Offer ECP as indicated

- Advise client when to return to the clinic for visit with provider

Preventative Health Recommendations
Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening and testing.

Females:
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REFERENCES

Centers for Disease Control and Prevention. Providing Quality Family Planning Services. Recommendations of CDC and the U.S. Office of Population Affairs. MMWR. April 25, 2014

Zieman M., Hatcher R. A., Allen A. Z., *Managing Contraception 2015-2016*, Tiger, Georgia; Bridging the Gap Foundation, 2015.

Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition. New York: Ardent Media 2011.

DYSMENORRHEA

GENERAL INFORMATION

Primary dysmenorrhea is defined as painful menstruation that begins with or shortly after menarche. It is physiologic in nature due to either excessive secretion of prostaglandin by the endometrium or structural abnormality of the uterus. Studies of uterine contractions with primary dysmenorrhea reveal uterine pressures that are similar to those found during the second stage of labor.

Secondary dysmenorrhea begins later in life and is the result of having developed other physical factors. Endometriosis is an example of secondary dysmenorrhea. Both primary and secondary dysmenorrhea can be debilitating.

SUBJECTIVE

The client complains of one or more of the following symptoms just before and/or as her menstrual period begins:

Lower abdominal cramping pain with onset of menstrual flow
Pain radiating to the lower back or down inner thigh
Nausea, vomiting, urinary frequency, and/or diarrhea during first 48 hours of menses
Headache, dizziness, chills
Weakness or fainting (symptoms of vasomotor instability)

OBJECTIVE

Normal blood pressure
Normal temperature
Normal Hgb or Hct
The client is, typically, within 1-2 years of having started her menstrual cycles (menarche).

ASSESSMENT

Primary Dysmenorrhea

PLAN

1. At the earliest sign or symptom of menstruation or 1-2 days before the onset of menses begin the following:

    - IBUPROFEN (MOTRIN) **OR** NAPROXEN SODIUM (ALEVE)
      Per manufacturer's instructions

2. Discuss oral contraceptive use with the client and consult with the health department APN or MD if the client would like to begin COC to treat her primary dysmenorrhea. DMPA and the levonorgestrel-releasing IUD also decrease menstrual pain and menstrual flow. A consult would be necessary for these as well.

3. Other comfort measures:
   Apply a warm heating pad to lower abdomen
   Avoid constipation
   Exercise regularly between menstrual cycles

Health Teaching:

Review the signs and symptoms of toxic shock syndrome for tampon users.

Young women who are menstruating are of reproductive age and will benefit from information regarding reproductive health and human sexuality. These can be offered at time convenient for the client and the staff.

Referral Indicators:

Severe cramping unrelieved by OTC analgesics that persists beyond the first 2 days and/or increases in severity throughout menses.

Dysmenorrhea with fever.

Tampon users who develop sudden onset of high fever, chills, sunburn-like rash, hypertension, vomiting, and diarrhea should immediately remove the tampon and be referred for emergency medical treatment.

Dysmenorrhea that begins later in life (years after menarche).

Follow-up:

Patient will be asked to contact a health provider if no improvement in 48 hours.

REFERENCES

Hatcher, R. et al, Contraceptive Technology, Twentieth Revised Edition, New York: Ardent Media. 2011.

Kelsey, B. & Nagtalon-Ramos, J. Midwifery & Women's Health Nurse Practitioner Certification Review Guide. Burlington, MA: Jones & Bartlett. 2016

EMERGENCY CONTRACEPTIVE PILLS (ECPs)

GENERAL INFORMATION

All clinics must have plans in place to provide ECPs on site to clients who request them. All clinics must have plans in place to educate clients regarding the availability of ECPs.

The package label for ECPs *recommends* starting treatment within 72 hours of unprotected sexual intercourse, but they may be effective for up to 120 hours.

ECPs following rape and sexual abuse

If a victim of rape or sexual abuse is underage, refer to Community Health Services (CHS) Policy 3.06 for direction regarding child abuse reporting. All citizens of Tennessee, including health care professionals, are required to report any suspicion of child abuse, including child sexual abuse. The Department of Children's Services (DCS) has established a central intake number: 1-877-237-0004 for reporting **SUSPECTED** child abuse or child sexual abuse. Tennessee citizens are required to report if they **suspect** child abuse or child sexual abuse. Refer to the DCS website: at www.tennessee.gov/youth for further information on the process for reporting suspected child abuse or child sexual abuse is described. The Child Protective Services section of the website provides the required reporting information. Clinics are discouraged from deciphering what is or is not child abuse or child sexual abuse. It is the responsibility of DCS to decide whether or not the reported suspicion warrants investigation under Tennessee's child abuse/child sexual abuse laws.

SUBJECTIVE

Client reports unprotected sexual intercourse sometime within the previous 120 hours (5 days). Record last menstrual period if known.

Contraindications:

- A known established pregnancy (not that it is dangerous for the woman or the pregnancy, but because ECPs cannot prevent an established pregnancy)
- Undiagnosed abnormal vaginal bleeding
- Allergy to the product

OBJECTIVE

Client is already late for her menstrual period; advise a pregnancy test
Client is not late for her menstrual period; no pregnancy test needed ***UNLESS***
If issuing or prescribing Ella, a pregnancy test is required

ASSESSMENT

Client requests ECPs and has no contraindications

PLAN

- Physical examination is not required
- Provide ECPs and document in chart.
- Consult health department physician or APN before providing ECPs if unprotected sexual intercourse greater than 120 hours prior to visit.
- Because hormonal ECP is not 100% effective, check urine pregnancy test 3 weeks after ECP use.
- Offer Family Planning clinic services on same day or offer an appointment.
- Provide literature and counseling on contraceptive methods and the benefits of consistent use of a regular contraceptive method. Most methods can be supplied at time of ECP visit. Refer to Quick Start Protocol 2.010
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.

Provide ECPs from one of the following regimens:

Dedicated Emergency Contraception products

Ella®	One tablet as soon as possible	Ulipristal acetate 30 mg	• **REQUIRES NEGATIVE PREGNANCY TEST** • **Recommended for clients over 170 lbs**
Next Choice®	Both tablets taken at once as soon as possible	Levonorgestrel 0.75mg each tablet	
Plan B One-step® Or Opicon One-Step	One tablet as soon as possible	Levonorgestrel 1.5 mg	

Caution:
Instruct client to watch for **DANGER SIGNS** ("ACHES") during the two weeks following the administration of ECPs:

A Abdominal pain – severe (as might be seen with liver disease, gallbladder disease, ectopic pregnancy)

C Chest pain - severe, (cough, shortness of breath or sharp pain on inhalation as might be seen with heart attack or pulmonary embolism)

H Headache - severe, dizziness, weakness, or numbness, especially if one-sided (as might be seen with migraine or stroke especially with numbness or muscle weakness)

E Eye disturbances vision loss or blurring, speech problems (as might be seen with retinopathy or stroke)

S Severe leg pain in calf or thigh (as might be seen with thrombophlebitis)

REFERENCES:

American College of Obstetricians and Gynecologists (ACOG), "Emergency Contraception", ACOG Technical Bulletin, 69, December 2005.

Hatcher, RA, Trussell, J, Nelson al, et al. Contraceptive Technology. Twentieth edition. New York: Ardent Media 2011.

Center for Disease Control and Prevention. "U.S. Medical Eligibility Criteria for Contraceptive Use." MMWR, Vol. 59, June 18, 2010.

Zieman M., Hatcher R. A., Allen A. Z.*Managing Contraception 2015-2016,*Tiger, Georgia; Bridging the Gap Foundation, 2015

FERTILITY AWARENESS-BASED METHODS (FAM)

GENERAL INFORMATION

Fertility awareness-based methods can be provided by deferred exam.
There are five different types of fertility awareness-based methods. Couples may elect to use more than one of these at a time. The methods are:

Fertility Awareness-based Method	Synopsis
Calendar Method	The calendar rhythm method requires that a woman keep a record of the length of 6-12 menstrual cycles. Find the longest and shortest of your past menstrual cycles. Subtract 18 from the number of days in the shortest cycle to find the first fertile day. Subtract 11 from the number of days in the longest cycle to find the last fertile day. To prevent pregnancy, avoid unprotected intercourse from the first through the last days identified as fertile.
Standard Days Method	The standard days method is only for women whose menstrual cycles are 26 to 32 days long. On days 8 to 19, avoid unprotected intercourse. To simplify this method, the client may use a specially designed, color-coded string of beads, brand name CycleBeads®.
Two Day Method	Until a woman can say, "I do not have vaginal secretions today and I did not have secretions yesterday", she must consider herself fertile.
Billings Ovulation Method	This ovulation method relies on assessment of the cervical mucus by look, touch, and by the feeling of wetness at the vulva.
Symptothermal Method	The symptothermal method is a method that combines observation of cervical mucous with basal body temperature (BBT).

SUBJECTIVE

Collect and review medical history including obstetric and gynecologic history with emphasis on the menstrual cycle preferable for the previous 6-12 months.

Screening components for contraceptive services include:

- Medical history
- Reproductive life plan
- Sexual health assessment

OBJECTIVE

- Pregnancy test (if clinically indicated)
- Height, Weight, BMI (optional)

PLAN

- Provide necessary health teaching to use method correctly and consistently
- Provide client with method specific instructions. Resources are available at http://fpntc.org/training-and-resources/contraceptive-fact-sheets. A Spanish version is available at http://www.cardeaservices.org/resourcecenter/contraceptive-fact-sheets-Spanish. You may also use previously approved instructions.
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection
- Offer condoms for improved STI protection
- Offer ECP as indicated
- Advise client when to return to the clinic for visit with provider

Preventative Health Recommendations

Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening and testing.

Females:

Cervical Cytology (pap smear) refer to PHN Protocol 2.020 for screening guidelines
Genital exam should accompany cervical cancer screening
Clinical Breast Examination:
ACOG recommends annual CBE for women ages 19 and older.
Mammography:
USPSTF recommends screening mammography for women ages 50-74 every other year.

Males:

Examination of the genitals of adolescent **males** should be conducted to document normal growth and development; exam should include palpation of inguinal nodes, scrotal contents, penis and peri-anal region as well as inspection of skin & hair

REFERENCES

Contraceptive Technology, Robert A. Hatcher, M.D., et al., Twentieth Revised Edition, 2011.
"Family Planning Clinical Guidelines" Tennessee Department of Health, January 2011
A Pocket Guide to Managing Contraception, Hatcher, R.A., Nelson, A.L., Zieman, M. et. al., Tiger, Georgia: Bridging the Gap Foundation, 2010.
www.cyclebeads.com
Providing Quality Family Planning Services Recommendations of CDC and the U.S. Office of Population Affairs MMWR/ Vol. 63 / No. 4 April 25, 2014

INTRAUTERINE CONTRACEPTIVES (IUC)

GENERAL INFORMATION

IUC's include the Copper T-380A (Paragard), the Levonorgestrel IUS (Mirena and Skyla). IUC's are not abortifacients. Paragard is indicated for contraception for up to 10 years while Mirena is reliable for up to 5 years and Skyla up to 3 years. Paragard and Mirena are being investigated for extended use.
Each device has a unique insertion procedure and must be placed by a clinician who has been trained regarding the nuances of insertion of the specific IUC.

All PHNs must be able to discuss the intrauterine contraceptives (IUC) option with clients, provide the client with written information on the safety and effectiveness of IUCs, and answer any questions the client may have. Refer client to APN/MD for consultation.

SUBJECTIVE

Medical history
Reproductive life plan
Sexual health assessment

OBJECTIVE

Pregnancy test is **required** day of insertion

ASSESSMENT

An IUC can be inserted under any of the following circumstances:

Ideally, at time of menses
When pregnancy can be ruled out
Within 48 hours after delivery (vaginal or C/S)
Immediately following first/second trimester abortion

A current medical history should be taken for each client. The <u>history must be negative for U.S. Medical Eligibility Criteria categories 3 and 4 to issue without an exam</u>.

Refer to the Summary Chart of U. S. Medical Eligibility Criteria for Contraceptive Use in Family Planning Reference section 2.170.

Contraindications for IUCs:

- Active pelvic infection (PID, endometritis, mucopurulent cervicitis)
- Known or suspected pregnancy
- Cervical or endometrial cancer
- Severe cervical stenosis
- Abnormal vaginal bleeding that has not been evaluated
- Severe uterine distortion (bicornuate uterus, fibroids)

- Gestational trophoblastic neoplasia
- Wilson's disease or copper allergy (Paragard only)

PLAN

- Perform pregnancy test
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during <u>each</u> family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection
- Offer condoms for improved STI protection
- Advise client when to return to the clinic for visit with provider

Teach IUC Warning Signs

- ✓ All IUC clients must be counseled to report the signs of pelvic infection. These include:

  Malodorous vaginal discharge
  Fever (101 F or more without obvious cause)
  Sudden severe abdominal or suprapubic pain
  Dyspareunia

- ✓ Other **WARNING SIGNS** that IUC clients must be instructed to report immediately include:

  Abdominal or pelvic pain (ectopic pregnancy)
  Prolonged or heavy bleeding/discharge/odor (infection)
  Painful sexual intercourse
  Fever or chills (infection)
  Any signs of pregnancy
  Known exposure to gonorrhea/chlamydia
  Cannot feel strings or can feel plastic (expelled/perforated IUC)
  Missed period or abnormal spotting or bleeding (infection or ectopic pregnancy)
  Flu-like illness (infection)

- ✓ The following is a useful acronym for remember the IUC warning signs:

  P Period late (pregnancy), abnormal spotting or bleeding
  A Abdominal pain, pain with intercourse
  I Infection exposure (any STI), abnormal discharge
  N Not feeling well, fever, chills
  S String missing, shorter or longer

Preventative Health Recommendations
Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening and testing.

Females:
Cervical Cytology (pap smear) refer to PHN Protocol 2.020 for screening guidelines
Genital exam should accompany cervical cancer screening
Clinical Breast Examination:
ACOG recommends annual CBE for women ages 19 and older.
Mammography:
USPSTF recommends screening mammography for women ages 50-74 every other year.

REFERENCES

Kelsey, B. & Nagtalon-Ramos, J. Midwifery & Women's Health Nurse Practitioner Certification Review Guide. Burlington, MA: Jones & Bartlett. 2016

Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition. New York: Ardent Media 2011.

Center for Disease Control and Prevention, U.S Medical Eligibility Criteria for Contraceptive Use, 2010, MMWR, Volume 59, June 18, 2010.

ParaGard T 380A, Intrauterine Copper Contraceptive, Prescribing Information, Duramed Pharmaceuticals, Inc., May 2006.

Mirena Intrauterine System, Prescribing Information, Bayer HealthCare Pharmaceuticals, July 2008.

A Pocket Guide to Managing Contraception, Hatcher, R. A., Nelson, A. L., Zieman, A., et al, . Tiger, Georgia: Bridging the Gap Foundation, 2010-2012.

PRECONCEPTION HEALTH SERVICES

GENERAL INFORMATION

Preconception describes any time that a woman of reproductive potential is at risk of becoming pregnant or when a man is at risk for impregnating his female partner. Preconception health-care services aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcomes through prevention and management.

SUBJECTIVE

Medical history

Female client	Male client	Female and Male
- history of poor birth outcomes - preterm or cesarean delivery - miscarriage and stillbirth - medicines that are known teratogens	- medical/surgical history that might impair reproductive health - history of reproductive failures - conditions that can reduce sperm quality (i.e.obesity, diabetes,varicocele)	- Reproductive life plan - Sexual health assessment - Environmental exposures, hazard and toxins - Genetic conditions - Immunization history - Depression - Intimate partner violence

OBJECTIVE

Height, weight, BMI (optional)
Blood pressure
For female and male clients with a sustained BP > 135/80 (treated or untreated), refer client to primary care physician for diabetes screen

ASSESSMENT

Preconception care/counseling

PLAN

For women: Folic acid 0.4 to 0.8 mg daily
Management/referral as indicated for:
- Hypertension
- Diabetes
- Depression
- Intimate partner violence
- Tobacco/ETOH/drug use
- Immunizations

REFERENCES:

Center for Disease Prevention. "U.S. Medical Eligibility Criteria for Contraceptive Use." MMWWR, Vol. 59, June 18, 2010.
MMWR, Providing Quality Family Planning Services, Recommendations of CDC and the U.S. Office of Population Affairs, April 25, 2014/63(04)

PREGNANCY TEST

GENERAL INFORMATION

Patients requesting pregnancy tests at the Health Department should be tested on that day and only deferred if absolutely necessary.

SUBJECTIVE

Screening components for pregnancy testing and counseling includes:

- Appropriate history
- Date of LMP
- History of unprotected coitus since LMP
- Symptoms of pregnancy and date symptoms appeared:
  - Breast tenderness
  - Fatigue
  - Nausea
  - Urinary frequency

OBJECTIVE

Positive or negative urine pregnancy test

ASSESSMENT

Pregnancy test positive, pregnancy intended
Pregnancy test positive, pregnancy unintended
Pregnancy test negative, pregnancy desired
Pregnancy test negative, pregnancy not desired

PLAN

- Discuss test results clearly and objectively.
- Refer to health department APN or MD for pelvic exam as indicated
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection

If pregnancy test is positive and pregnancy is desired

- Provide an estimation of gestational age
- Inform client about normal signs/symptoms of pregnancy
- Provide initial prenatal counseling including
  - Importance of early prenatal care
  - Importance of nutrition, prenatal vitamins, and folic acid
- Stress importance of good dental care during pregnancy and refer if applicable
- Discuss appropriate vaccinations and offer if available

- Enroll or refer eligible clients to WIC, HUGS, and Presumptive TennCare
- If patient is not eligible for Presumptive TennCare, refer patient to other prenatal care resources
- Advise patient to discuss prescription and OTC medication use with the prescribing physician or OB.
- Advise patient to avoid
    - Smoking including e-cigarettes
    - Alcohol and substance use
    - Fish containing high mercury (shark, swordfish, king mackerel, or tilefish)
- Discuss impact of STI on pregnancy, offer STI screening including HIV
- Review signs/symptoms of ectopic pregnancy or threatened abortion including bleeding, spotting, or acute lower abdominal pain
- Provide infant care information/counseling
    - ✓ Discuss prevention of sleep related deaths and SIDS. Discuss and provide "ABC's of Safe Sleep" handout included at the end of this protocol. Encourage parents to share ABC's with all other caregivers of the newborn.

If the pregnancy test is positive and the pregnancy is <u>not</u> desired:

- Provide factual non-biased counseling and referral for the following patient requested options
    - Parenting
    - Adoption
    - Termination
- Provide a list of area and community resources for those options requested by the patient.
- Discuss the timetable for decision-making (obtaining pregnancy termination during the first trimester).
- Consider whether or not a mental health referral is needed.

If pregnancy test is **negative** and pregnancy is **<u>not</u> desired**

- Offer contraceptive services/counseling

If pregnancy test is **negative** and pregnancy **is desired**:

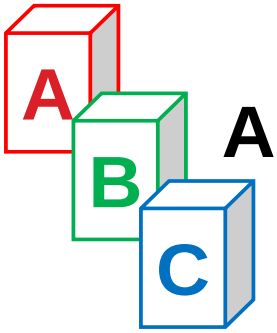
- Discuss reproductive life plan
- Refer to preconception health services protocol 2.105
- Offer basic infertility services (if indicated)

REFERENCES

U.S. Department of Health and Human Services, Public Health Service, Health Service Administration, Bureau of Community Health Services Program, *Program Guidelines For Project Grants For Family Planning*, 2001.

U.S. Department of Health and Human Services, Public Health Service, Standards of Compliance for Abortion-Related Services in Family Planning Service Projects, *Federal Register*58(23), February 5, 1993.

Centers for Disease Control and Prevention. MMWR. Providing Quality Family Planning Services. Vol. 63, No. 4. April 25, 2014.



ABC's of Safe Sleep

Babies should sleep…

Alone

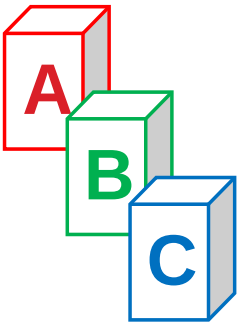
- Not with an adult, another child, or pets
- Not with pillows or stuffed toys
- Not with crib bumpers
- Room-sharing* is recommended

On their Back

- Not on their side
- Not on their stomach

In a Crib

- Not in an adult bed
- Not on a couch or sofa
- Not in a chair



El ABC del sueño seguro

Los bebés deben dormir...

A solas

•No con un adulto, ni con otro niño, ni con una mascota
•Sin cojines ni muñecos de peluche
•Sin protectores en la cuna
•Se recomienda compartir la habitación*

Boca arriba

•No de lado
•No boca abajo

En una Cuna

•No en la cama de un adulto
•No en un diván, ni en un sofá
•No en una silla

PROGESTIN-ONLY IMPLANT(S)

GENERAL INFORMATION

Nexplanon® is a subdermal progestin only implants placed in the non-dominant upper arm that provide up to 3 years of highly reliable contraception. Nexplanon® does not contain silicone or latex and can only be inserted/removed by a trained provider.

PHNs must be able to discuss progestin-only implant(s) option with clients, provide the client with written information on the safety and effectiveness of implants, and answer any questions the client may have. Refer client to APN/MD for consultation.

Candidates for implant contraceptives include, but are not limited to:

- Women who want a 3 year contraceptive effect
- Women who are accepting of irregular menstruation
- Women who have no contraindications to the method

SUBJECTIVE

Medical history
Reproductive life plan
Sexual health assessment

OBJECTIVE

Pregnancy test day of insertion
Height, Weight, BMI (optional)

ASSESSMENT

A current medical history should be taken for each client. The <u>history must be negative for U.S. Medical Eligibility Criteria categories 3 and 4 to dispense without an exam</u>

Refer to the Summary Chart of U. S. Medical Eligibiilty Criteria for Contraceptive Use in Family Planning Reference section 2.170.

PLAN

- Provide necessary health teaching to use method correctly and consistently
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during <u>each</u> family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection
- Implants do not protect against STI's and HIV. Advise clients to use latex or polyurethane condoms to decrease the risks of STIs.

- Also counsel the client to avoid high risk sexual behaviors including multiple partners and having a sexual partner with multiple partners.
- Offer condoms for improved STI protection
- Advise client when to return to the clinic for visit with provider

Document necessary health teaching regarding the following emergency warning signs:
Warning signs: The following are NOT NORMAL and should be reported to the clinic or hospital at once:

- ✓ Heavy vaginal bleeding
- ✓ Severe painful headaches, vomiting, dizziness or fainting, numbness in arm or leg (possible stroke)
- ✓ Blurred, double, or loss of vision (clot in eye)
- ✓ Coughing up blood, chest pain, shortness of breath (possible clot in lung)
- ✓ Severe crushing chest pain (possible heart attack),
- ✓ Severe abdominal pain (possible ectopic pregnancy, ovarian cyst, gallbladder disease, or liver problems)
- ✓ Severe and persistent leg pain (possible clot in leg)
- ✓ Jaundice
- ✓ Breast lump
- ✓ Sadness, tiredness, lack of energy, weakness, difficulty sleeping (possible severe depression)
- ✓ Pregnancy symptoms
- ✓ Allergic reaction (rare)
- ✓ Severe depression
- ✓ Pain, pus, or bleeding at insertion site

Preventative Health Recommendations
Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening[1] and testing.

Females:
Cervical Cytology (pap smear) refer to PHN Protocol 2.020 for screening guidelines
Genital exam should accompany cervical cancer screening
Clinical Breast Examination:
ACOG recommends annual CBE for women ages 19 and older.
Mammography:
USPSTF recommends screening mammography for women ages 50-74 every other year.

[1] If a TennCare child (under the age of 21) receives the major components of a Child Health/EPSDT exam through the health department's family planning clinic, she should also receive developmental screening and vision and hearing risk assessment/screening in order to complete the recommended AAP standards for preventive health care.

REFERENCES

Nexplanon® Physician and Patient Package insert, 2011

Hatcher, R. et al. Contraceptive Technology Twentieth Revised Edition, 2011, New York,: Ardent Media

Pocket Guide To Managing Contraception, Hatcher, R. A., Nelson, A. L., Zieman, M., et. al., Tiger, Georgia: Bridging the Gap Foundation, 2010-2012.

Center for Disease Control and Prevention, US Medical Eligibility Criteria for Contraceptive Use, MMWR early release, Vol. 59, May 28, 2010.

Contraceptive Technology Update, "Bulletin: Single-rod contraceptive Implant Implanon gets Food & Drug Administration's OK", Vol. 27, No. 9, September 2006.
www.nexplanon-usa.com

PROGESTIN-ONLY INJECTABLE CONTRACEPTION

GENERAL INFORMATION
Depo-medroxyprogesterone (DMPA) is an injectable contraceptive.

SUBJECTIVE
Screening components for contraceptive services include:
- Reproductive life plan
- Medical history
- Sexual health assessment

OBJECTIVE
- Blood Pressure
- Pregnancy test (if clinically indicated)
- Height, Weight, BMI (optional)

ASSESSMENT
A current medical history should be taken for each client. The history must be negative for U.S. Medical Eligibility Criteria categories 3 and 4 to dispense without an exam.

Refer to the Summary Chart of U. S. Medical Eligibility Criteria for Contraceptive Use in Family Planning Reference section 2.170.

Appropriate to begin or continue progestin-only injectable contraception

PLAN
PHN follows the ongoing plan of care written by the examiner or RN initiates combine hormonal contraception via Quick Start Protocol.

Administration of DMPA:
DMPA product must be shaken vigorously immediately prior to administration or the crystals will leave suspension and clump in the needle. Also the nurse and client must **not** rub the injection site after administration as this will disrupt the crystals and can lead to method failure (pregnancy). Note the package insert instructions for the particular progestin-only injectable product.

Administer progestin-only injectable contraception according to the following guidelines:

Initial injection
Follow Quick Start Protocol 2.010

Subsequent injection

The package insert for Depo Provera 150 IM® advises repeating injections every 11-13 weeks.

It is not harmful to a client to receive a re-injection as early as 10 weeks. However, some third party health insurance payors have restrictions regarding early re-injections. Therefore, clients who need early re-injection and who have third party payors, need to find out what their health insurance plan requires by asking at their pharmacy. Early re-injection is not harmful, but it is not cost effective.

If greater than the 13-week interval, assess the client regarding unprotected intercourse. If the client has had unprotected intercourse, perform a pregnancy test. Refer to Quick Start Protocol 2.010

A two week wait and a second pregnancy test is **NOT** the preferred approach UNLESS the client so chooses.

- Document anatomical location of injection
- PHN must consult with health department APN/MD and obtain an order to continue chosen method beyond 6 months
- Provide necessary health teaching to use method correctly and consistently
- Provide client with method specific instructions. Resources are available at http://fpntc.org/training-and-resources/contraceptive-fact-sheets. A Spanish version is available at http://www.cardeaservices.org/resourcecenter/contraceptive-fact-sheets-Spanish. You may also use previously approved instructions.
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.
    - Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection
- Offer condoms for improved STI protection.
- Offer condoms and/or contraceptive foam or film for use as back-up protection against unintended pregnancy.
- Offer ECP as indicated
- Advise client when to return to the clinic for next injection and/or visit with provider
- Consult APN or physician for complications and warning signs and for side effects that have not responded to standard treatments
- Instruct on calcium supplementation as a precaution against osteoporosis (adolescents and young adults, 1200-1500 mg day; adults aged 25-50, 1000 mg day; post menopausal women, 1000-1500 mg day)
- Instruct on importance of folic acid supplementation (400 mcg daily)

- Provide client health teaching regarding emergency warning signs:
  - **A** Abdominal pain – severe (as might be seen with liver disease, gallbladder disease, ectopic pregnancy)
  - **C** Chest pain - severe, (cough, shortness of breath or sharp pain on inhalation as might be seen with heart attack or pulmonary embolism)
  - **H** Headache - severe, dizziness, weakness, or numbness, especially if one sided (as might be seen with migraine or stroke especially with numbness or muscle weakness)
  - **E** Eye disturbances vision loss or blurring, also speech problem (as might be seen with retinopathy or stroke)
  - **S** Severe leg pain in calf or thigh (as might be seen with thrombophlebitis)

Preventative Health Recommendations

Clients are no longer required to have an examination to receive most contraceptive methods. However, the client must be advised of the importance of the recommended related family planning preventative health screening and testing.

Females:

Cervical Cytology (pap smear) refer to PHN Protocol 2.020 for screening guidelines
Genital exam should accompany cervical cancer screening
Clinical Breast Examination:
ACOG recommends annual CBE for women ages 19 and older.
Mammography:
USPSTF recommends screening mammography for women ages 50-74 every other year.

REFERENCES

Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition. New York: Ardent Media 2011.

Depo-Provera package Insert, Pfizer Pharmaceutical Company

Pocket Guide To Managing Contraception, Hatcher, R. A., Nelson, A. L., Zieman, M., et. al., Tiger, Georgia: Bridging the Gap Foundation, 2015.

Center for Disease Control and Prevention, US Medical Eligibility Criteria for Contraceptive Use, MMWR Vol. 59, June 18, 2010.

Centers for Disease Control and Prevention. Providing Quality Family Planning Services. Recommendations of CDC and the U.S. Office of Population Affairs. MMWR. April 25, 2014.

PROGESTIN-ONLY PILLS

GENERAL INFORMATION
Progestin only pills are taken daily without a pill/hormone free interval.

SUBJECT
Medical history
Reproductive life plan
Sexual health assessment

OBJECTIVE
Pregnancy test (if clinically indicated)
Height, weight, BMI (optional)

ASSESSMENT
A current medical history should be taken for each client. The history must be negative for U.S. Medical Eligibility Criteria categories 3 and 4 to dispense without an exam.

Refer to the Summary Chart of U. S. Medical Eligibility Criteria for Contraceptive Use in Family Planning Reference section 2.170.

Appropriate to being or continue progestin-only oral contraceptive.

PLAN
PHN follows the ongoing plan of care written by the examiner or RN initiates combine hormonal contraception via Quick Start Protocol.

- Document name, dosage, route, and frequency of the progestin-only oral contraceptive chosen.
- Document number of cycles given
- PHN must consult with health department APN/MD an obtain an order to continue chosen method beyond 6 months
- Provide necessary health teaching to use method correctly and consistently.
- Provide client with method specific instructions. Resources are available at http://fpntc.org/training-and-resources/contraceptive-fact-sheets. A Spanish version is available at http://www.cardeaservices.org/resourcecenter/contraceptive-fact-sheets-Spanish. You may also use previously approved instructions.
- Document 3-4 of the Title X Office of Population Affairs required health teaching/counseling topics during each family planning visit until instruction in all required topics is complete.
- Chlamydia and gonorrhea screening
  - Screen all sexually active women aged ≤ 25 years for chlamydia AND gonorrhea annually
  - Screen all sexually active women ≥26 years with risk factors for chlamydia AND gonorrhea.

- Risk factors include; a new partner; more than one sex partner; a partner who has other concurrent partners; or a partner who has a sexually transmitted infection

- Offer condoms for improved STI protection.
- Offer condoms and/or contraceptive foam or film for use as back-up protection against unintended pregnancy
- Offer ECP as indicated
- Advise client when to return to the clinic for a visit with provider

Health Teaching

Document necessary health teaching regarding emergency warning signs:

A Abdominal pain – severe (as might be seen with liver disease, gallbladder disease, ectopic pregnancy)

C Chest pain - severe, (cough, shortness of breath or sharp pain on inhalation as might be seen with heart attack or pulmonary embolism)

H Headache - severe, dizziness, weakness, or numbness, especially if one-sided (as might be seen with migraine or stroke especially with numbness, muscle weakness, or visual changes)

E Eye disturbances vision loss or blurring, also speech problems (as might be seen with retinopathy or stroke)

S Severe leg pain in calf or thigh (as might be seen with thrombophlebitis)

- Consult APN or physician for complications and warning signs and for side effects that have not responded to standard treatments

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Hatcher, R. et al. Contraceptive Technology, Twentieth Revised Edition. New York: Ardent Media 2011.

"Family Planning Clinical Guidelines", Tennessee Department of Health, January 2011.

Hatcher, R. A., Nelson, A. L., Zieman, M., et. al., A Pocket Guide to Managing Contraception, Tiger, Georgia: Bridging the Gap Foundation 2015.

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STERILIZATION

GENERAL INFORMATION

Sterilization is the surgical interruption, or closure, of pathways for sperm or ova, preventing fertilization. The method should be considered a permanent means of contraception. Although some surgical procedures to reverse both vasectomies and tubal ligations have been successful, none are guaranteed. Sterilization is the most popular method of contraception in the United States and worldwide. Sterilization provides highly effective, permanent methods of birth control for both sexes.

For detailed information on policy, federal sterilization requirements, selection criteria, sterilization consent forms, and general instructions access the Office of Population Affairs web site at http://www.hhs.gov/opa/pdfs/42-cfr-50-c.pdf
For a complete list of approved resources serving as the Family Planning Clinical Guidelines, see Attachment F, Tennessee Department of Health Family Planning Clinical Guidelines.

Sterilization is a service that may be provided or arranged for with government funding. When Family Planning Program funds are used to provide sterilization, federal sterilization consent guidelines must be followed. Medicaid and TennCare also have the same requirements as Title X. In Tennessee, program funding for sterilization is limited. Clinic sites should keep a list of clients requesting sterilization through the state sterilization program, and prioritize applicants when funds for sterilization are available.

Indications include**:** Client desires permanent, low risk, highly effective contraceptive method.

ADVANTAGES of ***female*** sterilization (tubal ligation) include:

- ✓ One-time decision provides permanent fertility control
- ✓ Highly effective, convenient
- ✓ Cost effective
- ✓ Nothing to buy or remember
- ✓ Lack of significant long-term side effects
- ✓ No need for partner compliance
- ✓ No need to interrupt sexual activity
- ✓ Considered safe with low complication and morbidity rates
- ✓ Certain techniques can be performed immediately after pregnancy
- ✓ Can be performed while client is lactating
- ✓ Bilateral tubal ligation (BTL) is immediately effective
- ✓ Low long term risks and costs
- ✓ Privacy

ADVANTAGES of ***male*** sterilization (vasectomy) include:

- ✓ One-time decision provides permanent fertility control
- ✓ Highly effective, convenient

- ✓ Considered safe with low complication and morbidity rates
- ✓ Cost effective (most cost effective of all contraceptive methods)
- ✓ Removal of contraceptive burden from the woman
- ✓ No need for partner compliance after post vasectomy sperm check is done to prove that no sperm remain in the reproductive tract
- ✓ No need to interrupt sexual activity
- ✓ Short recovery time
- ✓ Vasectomy is equally effective, simpler, safer, and much less expensive than BTL
- ✓ Privacy

DISADVANTAGES of ***female*** sterilization include**:**

- Inherent risks associated with any surgery: infection, injury to other organs, hemorrhage, and complications of anesthesia
- Initial cost may be high
- Procedure to reverse sterilization is difficult, has limited success rates, is expensive, and not covered by insurance
- Title X and Medicaid funding require a 30-day waiting period <u>between</u> the date of signature on consent form and day of surgery
- Provides no protection against HIV and other sexually transmitted infections
- Some clients may have regrets following the procedure
- Menstrual irregularities, increased dysmenorrhea, and premenstrual syndrome are reported by some women following BTL (not supported by research)
- Possibility of ectopic pregnancy if method fails

DISADVANTAGES of ***male*** sterilization include**:**

- Inherent risks associated with any surgery: infection, injury to other organs, hemorrhage, and complications of anesthesia
- Initial cost may be high
- Some clients may have regrets following the procedure
- Procedure to reverse sterilization is difficult, has limited success rates, is expensive, and not covered by insurance
- Vasectomy is not immediately effective
- Title X funding requires a 30-day waiting period <u>between</u> the date of signature on consent form and day of surgery
- Possible post vasectomy complications can include hematoma formation, congestive epididymitis, and sperm granuloma

PLAN

- ➢ Discuss all available options of contraception
- ➢ Offer condoms, foam, or film for protection against STIs
- ➢ Provide written and oral instructions regarding various components of sterilization
- ➢ Obtain informed consent
- ➢ Obtain approval for sterilization via the appropriate process for region/agency
- ➢ Schedule appointment with provider for sterilization procedure

- Provide appropriate follow-up
- Return for recheck and/or for resolution of any complications

Health Teaching:
Communicate the importance of following instructions and keeping all appointments as directed to complete the sterilization process

Instruct client that sterilization does not protect against STIs and HIV

Provide verbal and written information regarding possible danger signs following sterilization and the necessary steps in follow-up

Instruct on 30 day waiting period

Referral Indicators after procedure:
Side effects or complications to the sterilization procedure

Pregnancy

Client verbalizing feelings of regret about sterilization

Client verbalizing sexual adjustment issues/problems

REFERENCES
Providing Quality Family Planning Services Recommendations of CDC and the U.S. Office of Population Affairs MMWR/ Vol. 63 / No. 4 April 25, 2014

QUICK REFERENCE TO STERILIZATIONS

Providing Quality Family Planning Services. Recommendations of CDC and the U.S. Office of Population Affairs, 2014

1. Family Planning Clinical Guidelines under Sterilization

   Federal Guidelines:
   - Minimum age is 21
   - Mentally incompetent/institutionalized individual may **not** be sterilized
   - Waiting period: 30 days between date of consent signed to date of surgery. Consent valid for up to 180 days only after date consent is signed
   - Decision not to be sterilized at any time will not result in withdrawal or withholding of state or federal benefits
   - Under no circumstances may a hysterectomy be performed using Title X dollars or as a part of Family Planning Program solely for purpose of rendering the individual unable to reproduce

   Selection Criteria
   - Family Planning Program client or partner of Family Planning client
   - Low income client
   - No clients with TennCare or insurance that covers sterilization: instead, refer client
   - Clients
     - with method failure
     - medical contraindication to use of temporary methods
     - who have had multiple pregnancies
     - other high risks
   - Older client
   - For female sterilization, priority should be given to those who will have an outpatient procedure, so that more clients can be served

   Possible contraindications

   Client:
   - has mental/emotional conditions negating informed consent
   - or couple feels they are not *yet* ready to assume the responsibility of parenthood
   - believes reversal is possible in case of situational changes such as remarriage or death of child(ren).

2. Federal Sterilization Forms: Forms must be completed in compliance with regulations.

Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

Key:	
1	No restriction (method can be used)
2	Advantages generally outweigh theoretical or proven risks
3	Theoretical or proven risks usually outweigh the advantages
4	Unacceptable health risk (method not to be used)

Updated June 2012. This summary sheet only contains a subset of the recommendations from the US MEC. For complete guidance, see: http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm

Most contraceptive methods do not protect against sexually transmitted infections (STIs). Consistent and correct use of the male latex condom reduces the risk of STIs and HIV.

Condition	Sub-condition	Combined pill, patch, ring		Progestin-only pill		Injection		Implant		LNG--IUD		Copper-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Age		Menarche to <40=1		Menarche to <18=1		Menarche to <18=2		Menarche to <18=1		Menarche to <20=2		Menarche to <20=2	
		≥40=2		18-45=1		18-45=1		18-45=1		≥20=1		≥20=1	
				>45=1		>45=2		>45=1					
Anatomic abnormalities	a) Distorted uterine cavity									4		4	
	b) Other abnormalities									2		2	
Anemias	a) Thalassemia	1		1		1		1		1		2	
	b) Sickle cell disease‡	2		1		1		1		1		2	
	c) Iron-deficiency anemia	1		1		1		1		1		2	
Benign ovarian tumors	(including cysts)	1		1		1		1		1		1	
Breast disease	a) Undiagnosed mass	2*		2*		2*		2*		2		1	
	b) Benign breast disease	1		1		1		1		1		1	
	c) Family history of cancer	1		1		1		1		1		1	
	d) Breast cancer‡												
	i) current	4		4		4		4		4		1	
	ii) past and no evidence of current disease for 5 years	3		3		3		3		3		1	
Breastfeeding (see also Postpartum)	a) < 1 month postpartum	3*		2*		2*		2*					
	b) 1 month or more postpartum	2*		1*		1*		1*					
Cervical cancer	Awaiting treatment	2		1		2		2		4	2	4	2
Cervical ectropion		1		1		1		1		1		1	
Cervical intraepithelial neoplasia		2		1		2		2		2		1	
Cirrhosis	a) Mild (compensated)	1		1		1		1		1		1	
	b) Severe‡ (decompensated)	4		3		3		3		3		1	
Deep venous thrombosis (DVT) /Pulmonary embolism (PE)	a) History of DVT/PE, not on anticoagulant therapy												
	i) higher risk for recurrent DVT/PE	4		2		2		2		2		1	
	ii) lower risk for recurrent DVT/PE	3		2		2		2		2		1	
	b) Acute DVT/PE	4		2		2		2		2		2	
	c) DVT/PE and established on anticoagulant therapy for at least 3 months												
	i) higher risk for recurrent DVT/PE	4*		2		2		2		2		2	
	ii) lower risk for recurrent DVT/PE	3*		2		2		2		2		2	
	d) Family history (first-degree relatives)	2		1		1		1		1		1	
	e) Major surgery												
	(i) with prolonged immobilization	4		2		2		2		2		1	
	(ii) without prolonged immobilization	2		1		1		1		1		1	
	f) Minor surgery without immobilization	1		1		1		1		1		1	
Depressive disorders		1*		1*		1*		1*		1*		1*	
Diabetes mellitus (DM)	a) History of gestational DM only	1		1		1		1		1		1	
	b) Non-vascular disease												

Condition	Sub-condition	Combined pill, patch, ring		Progestin-only pill		Injection		Implant		LNG--IUD		Copper-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Diabetes mellitus (cont.)	(i) non-insulin dependent	2		2		2		2		2		1	
	(ii) insulin dependent‡	2		2		2		2		2		1	
	c) Nephropathy/ retinopathy/ neuropathy‡	3/4*		2		3		2		2		1	
	d) Other vascular disease or diabetes of >20 years' duration‡	3/4*		2		3		2		2		1	
Endometrial cancer‡		1		1		1		1		4	2	4	2
Endometrial hyperplasia		1		1		1		1		1		1	
Endometriosis		1		1		1		1		1		2	
Epilepsy‡	(see also Drug Interactions)	1*		1*		1*		1*		1		1	
Gallbladder disease	a) Symptomatic												
	(i) treated by cholecystectomy	2		2		2		2		2		1	
	(ii) medically treated	3		2		2		2		2		1	
	(iii) current	3		2		2		2		2		1	
	b) Asymptomatic	2		2		2		2		2		1	
Gestational trophoblastic disease	a) Decreasing or undetectable ß-hCG levels	1		1		1		1		3		3	
	b) Persistently elevated ß-hCG levels or malignant disease‡	1		1		1		1		4		4	
Headaches	a) Non-migrainous	1*	2*	1*	1*	1*	1*	1*	1*	1*	1*	1*	
	b) Migraine												
	i) without aura, age <35	2*	3*	1*	2*	2*	2*	2*	2*	2*	2*	1*	
	ii) without aura, age ≥35	3*	4*	1*	2*	2*	2*	2*	2*	2*	2*	1*	
	iii) with aura, any age	4*	4*	2*	3*	2*	3*	2*	3*	2*	3*	1*	
History of bariatric surgery‡	a) Restrictive procedures	1		1		1		1		1		1	
	b) Malabsorptive procedures	COCs: 3 P/R: 1		3		1		1		1		1	
History of cholestasis	a) Pregnancy-related	2		1		1		1		1		1	
	b) Past COC-related	3		2		2		2		2		1	
History of high blood pressure during pregnancy		2		1		1		1		1		1	
History of pelvic surgery		1		1		1		1		1		1	
HIV	High risk	1		1		1*		1		2	2	2	2
	HIV infected (see also Drug Interactions)‡	1*		1*		1*		1*		2	2	2	2
	AIDS (see also Drug Interactions) ‡	1*		1*		1*		1*		3	2*	3	2*
	Clinically well on therapy	If on treatment, see Drug Interactions								2	2	2	2
Hyperlipidemias		2/3*		2*		2*		2*		2*		1*	
Hypertension	a) Adequately controlled hypertension	3*		1*		2*		1*		1		1	
	b) Elevated blood pressure levels (properly taken measurements)												
	(i) systolic 140-159 or diastolic 90-99	3		1		2		1		1		1	
	(ii) systolic ≥160 or diastolic ≥100‡	4		2		3		2		2		1	
	c) Vascular disease	4		2		3		2		2		1	

Condition	Sub-condition	Combined pill, patch, ring		Progestin-only pill		Injection		Implant		LNG--IUD		Copper-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Inflammatory bowel disease	(Ulcerative colitis, Crohn's disease)	2/3*		2		2		1		1		1	
Ischemic heart disease‡	Current and history of	4		2	3	3		2	3	2	3	1	
Liver tumors	a) Benign												
	i) Focal nodular hyperplasia	2		2		2		2		2		1	
	ii) Hepatocellular adenoma‡	4		3		3		3		3		1	
	b) Malignant‡	4		3		3		3		3		1	
Malaria		1		1		1		1		1		1	
Multiple risk factors for arterial cardiovascular disease	(such as older age, smoking, diabetes and hypertension)	3/4*		2*		3*		2*		2		1	
Obesity	a) ≥30 kg/m^2 body mass index (BMI)	2		1		1		1		1		1	
	b) Menarche to < 18 years and ≥ 30 kg/m^2 BMI	2		1		2		1		1		1	
Ovarian cancer‡		1		1		1		1		1		1	
Parity	a) Nulliparous	1		1		1		1		2		2	
	b) Parous	1		1		1		1		1		1	
Past ectopic pregnancy		1		2		1		1		1		1	
Pelvic inflammatory disease	a) Past, (assuming no current risk factors of STIs)												
	(i) with subsequent pregnancy	1		1		1		1		1	1	1	1
	(ii) without subsequent pregnancy	1		1		1		1		2	2	2	2
	b) Current	1		1		1		1		4	2*	4	2*
Peripartum cardiomyopathy‡	a) Normal or mildly impaired cardiac function												
	(i) < 6 months	4		1		1		1		2		2	
	(ii) ≥ 6 months	3		1		1		1		2		2	
	b) Moderately or severely impaired cardiac function	4		2		2		2		2		2	
Postabortion	a) First trimester	1*		1*		1*		1*		1*		1*	
	b) Second trimester	1*		1*		1*		1*		2		2	
	c) Immediately post-septic abortion	1*		1*		1*		1*		4		4	
Postpartum (see also Breastfeeding)	a) < 21 days	4		1		1		1					
	b) 21 days to 42 days												
	(i) with other risk factors for VTE	3*		1		1		1					
	(ii) without other risk factors for VTE	2		1		1		1					
	c) > 42 days	1		1		1		1					
Postpartum (in breastfeeding or non-breastfeeding women, including post-cesarean section)	a) < 10 minutes after delivery of the placenta									2		1	
	b) 10 minutes after delivery of the placenta to < 4 weeks									2		2	
	c) ≥ 4 weeks									1		1	
	d) Puerperal sepsis									4		4	
Pregnancy		NA*		NA*		NA*		NA*		4*		4*	
Rheumatoid arthritis	a) On immunosuppressive therapy	2		1		2/3*		1		2	1	2	1
	b) Not on immunosuppressive therapy	2		1		2		1		1		1	
Schistosomiasis	a) Uncomplicated	1		1		1		1		1		1	
	b) Fibrosis of the liver‡	1		1		1		1		1		1	
Severe dysmenorrhea		1		1		1		1		1		2	
Sexually transmitted infections (STIs)	a) Current purulent cervicitis or chlamydial infection or gonorrhea	1		1		1		1		4	2*	4	2*
	b) Other STIs (excluding HIV and hepatitis)	1		1		1		1		2	2	2	2

Condition	Sub-condition	Combined pill, patch, ring		Progestin-only pill		Injection		Implant		LNG--IUD		Copper-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Sexually transmitted infections (cont.)	c) Vaginitis (including trichomonas vaginalis and bacterial vaginosis)	1		1		1		1		2	2	2	2
	d) Increased risk of STIs	1		1		1		1		2/3*	2	2/3*	2
Smoking	a) Age < 35	2		1		1		1		1		1	
	b) Age ≥ 35, < 15 cigarettes/day	3		1		1		1		1		1	
	c) Age ≥ 35, ≥15 cigarettes/day	4		1		1		1		1		1	
Solid organ transplantation‡	a) Complicated	4		2		2		2		3	2	3	2
	b) Uncomplicated	2*		2		2		2		2		2	
Stroke‡	History of cerebrovascular accident	4		2	3	3		2	3	2		1	
Superficial venous thrombosis	a) Varicose veins	1		1		1		1		1		1	
	b) Superficial thrombophlebitis	2		1		1		1		1		1	
Systemic lupus erythematosus‡	a) Positive (or unknown) antiphospholipid antibodies	4		3		3	3	3		3		1	1
	b) Severe thrombocytopenia	2		2		3	2	2		2*		3*	2*
	c) Immunosuppressive treatment	2		2		2	2	2		2		2	1
	d) None of the above	2		2		2	2	2		2		1	1
Thrombogenic mutations‡		4*		2*		2*		2*		2*		1*	
Thyroid disorders	Simple goiter/ hyperthyroid/hypothyroid	1		1		1		1		1		1	
Tuberculosis‡ (see also Drug Interactions)	a) Non-pelvic	1*		1*		1*		1*		1		1	
	b) Pelvic	1*		1*		1*		1*		4	3	4	3
Unexplained vaginal bleeding	(suspicious for serious condition) before evaluation	2*		2*		3*		3*		4*	2*	4*	2*
Uterine fibroids		1		1		1		1		2		2	
Valvular heart disease	a) Uncomplicated	2		1		1		1		1		1	
	b) Complicated‡	4		1		1		1		1		1	
Vaginal bleeding patterns	a) Irregular pattern without heavy bleeding	1		2		2		2		1	1	1	
	b) Heavy or prolonged bleeding	1*		2*		2*		2*		1*	2*	2*	
Viral hepatitis	a) Acute or flare	3/4*	2	1		1		1		1		1	
	b) Carrier/Chronic	1	1	1		1		1		1		1	
Drug Interactions													
Antiretroviral therapy	a) Nucleoside reverse transcriptase inhibitors	1*		1		1		1		2/3*	2*	2/3*	2*
	b) Non-nucleoside reverse transcriptase inhibitors	2*		2*		1		2*		2/3*	2*	2/3*	2*
	c) Ritonavir-boosted protease inhibitors	3*		3*		1		2*		2/3*	2*	2/3*	2*
Anticonvulsant therapy	a) Certain anticonvulsants (phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine)	3*		3*		1		2*		1		1	
	b) Lamotrigine	3*		1		1		1		1		1	
Antimicrobial therapy	a) Broad spectrum antibiotics	1		1		1		1		1		1	
	b) Antifungals	1		1		1		1		1		1	
	c) Antiparasitics	1		1		1		1		1		1	
	d) Rifampicin or rifabutin therapy	3*		3*		1		2*		1		1	

I = initiation of contraceptive method; C = continuation of contraceptive method; NA = Not applicable

* Please see the complete guidance for a clarification to this classification: www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm

‡ Condition that exposes a woman to increased risk as a result of unintended pregnancy.

SECTION III: GENERAL

3.010 – 3.530

ACNE

SUBJECTIVE

Pimples, blackheads, whiteheads, bumps, "zits"

OBJECTIVE

Open comedones (blackheads) and closed comedones (whiteheads), papules, pustules, nodulocystic lesions
Scars usually distributed on face, neck, upper chest, back, and shoulders
Skin and hair are often oily

ASSESSMENT

Acne (85% of those aged 12 to 24 have acne to some extent)

PLAN

Wash gently with soap and hot water TID, rinse with cold water
Encourage to keep hands off face; especially refrain from squeezing or picking skin
Instruct to keep hair clean and off the face
Use waterbase cosmetics (or preferably none at all)
Apply OTC preparations of benzoyl peroxide cream (e.g., Clearasil), in a thin layer over entire area of involvement, not just on lesions; begin with once a day applications and after 3 days if no excess peeling or redness of skin, increase use to BID; reduce frequency if excessive dryness or irritation develops
Recommend NO dietary restrictions; eat a balanced diet
Teach precipitating factors which may cause exacerbations, (i.e., menses, oral contraceptives, emotional stress)
Counsel regarding danger of ACCUTANE use during pregnancy (high risk of malformations) and oral antibiotics if taking oral contraceptives (decreased effectiveness of oral contraceptives)

Referral Indicators:

Little or no response to treatment (topical antibiotics can be helpful in some cases)
Allergy or skin irritation from topical OTC medication
Extensive or widespread involvement Secondary bacterial infections
Potential facial scarring if untreated

Follow-Up:

Patient/parent will be asked to contact health provider in 2 weeks if not resolved

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

ACUTE UPPER RESPIRATORY INFECTION (COMMON COLD)

SUBJECTIVE

Sneezing, “stuffiness" of head
Malaise, fatigue Sore throat, cough Poor appetite
Low grade or no fever history

OBJECTIVE

Congested nasal passages
Serous nasal discharge, moist and boggy nasal mucous membranes
Lung fields clear
Low grade fever may be present

ASSESSMENT

Upper respiratory infection (common cold)

PLAN

Acetaminophen for pain or fever
May humidify the air (vaporizer or bathroom shower water) to relieve nasal and pharyngeal discomfort and cough; vaporizer should not be used if allergic to molds
Nasal congestion may be relieved as follows by normal saline nose drops. (1/4-1/2 teaspoon salt to 1 cup water) every 4 hours PRN; for infants to 2 years, recommend suction gently with infant syringe
OTC decongestant as appropriate and if not contraindicated (follow label directions)

Health Teaching:

Instruct patient to rest and force fluids
Teach proper hand washing technique, cover mouth while coughing, and tissue disposal to prevent spread of disease

Referral Indicators:

Purulent nasal discharge
Pharyngeal exudate and/or tender cervical nodes
Red and/or bulging tympanic membranes
Tender sinuses
Fever extending beyond 48 hours/antipyretic does not bring fever below 101° F Infants 0-12 months with fever 100.5° F rectally
Infants < 2 months with significant symptoms, with or without fever
Children under 2 years if no improvement in 24 hours, or signs and symptoms worsen

Follow-Up:

Patient/parent will be asked to contact health provider if condition persist or worsen

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

ASSESSMENT OF IRON INTAKE AND MANAGEMENT OF IRON DEFICIENCY ANEMIA

PROVIDED BY RNS ONLY

Background

Childhood Anemia

Childhood anemia is a very common diagnosis and usually occurs due to an inadequate amount of dietary iron. Adequate iron storage is necessary to prevent anemia, but is also essential for brain development. In order to prevent iron-deficiency anemia, infants should be drinking either breast milk or iron-fortified formula. Toddlers and older children should eat a balanced, iron-rich diet.

Although iron deficiency is the most common etiology, anemia in childhood can be caused by a variety of conditions that are either congenital or acquired. Types of congenital anemia include sickle cell disease or thalassemia; acquired anemia includes such diagnoses as leukemia, gastrointestinal bleeding, and hemolytic disease. Congenital and acquired anemia generally is not iron-responsive. If a child presents with a pre-diagnosed anemia that is NOT iron-deficient, he/she should be referred to his/her provider for further management.

Sickle cell anemia can be easily ruled out by checking the status of the newborn screening. If sickle cell anemia is strongly suspected and an asymptomatic infant's disease status is unknown, refer to his/her provider, and delay replacement iron regimen until the results are available.

Adult Anemia

Anemia in adults is most commonly due to iron deficiency. In contrast to iron deficiency in childhood, which is most commonly caused by deficient dietary intake, the major cause of iron deficiency anemia is blood loss, which can be overt (trauma, hematemesis, melena, menorrhagia, etc.) or occult (e.g. via the gastrointestinal tract). Iron deficiency can also result from dietary deficiencies or reduced gastrointestinal absorption; however, blood loss should first be ruled out by the patient's primary care physician as a cause of iron deficiency before nutritional deficiency or malabsorption is assumed as a diagnosis.

Anemia Screening Procedure

Anemia screening is performed by checking hemoglobin levels. **Confirm abnormal/low hemoglobin levels with a second test at the same or a new site.** Make sure the skin is clean and dry before puncture. Avoid any squeezing of the digit after puncture. After the diagnosis of anemia, iron deficiency anemia is confirmed by administering a therapeutic regimen of iron and demonstrating a rise in hemoglobin of ≥1 g/dL after 4 weeks. If an infant fails to respond to therapy, referral shall be made to the patient's PCP or to a health department physician or APN for further evaluation.

SUBJECTIVE

Dietary assessment

- Inadequate consumption of dietary iron
- Consumption of whole cow's milk or formula with low iron or no iron

- Children > age 1year: consumption of more than 24 ounces of milk daily

Menstrual history (if appropriate)
Patient reported history of gastrointestinal blood loss
Normal versus abnormal newborn state screen for sickle cell disease
Symptoms: Pallor, shortness of breath, tachycardia, decreased energy/fatigue/lethargy, dizziness

OBJECTIVE

Fatigued appearance
Pallor of skin and/or conjunctiva
Dyspnea
Tachycardia
Heart murmur
Abnormal/low hemoglobin (hgb), see chart below

Age	**Criteria for anemia (hemoglobin concentration in g/dL)**	
	Female	**Male**
6-12 months	<11.0	<11.0
1-2 years	<11.0	<11.0
2-5 years	<11.1	<11.1
5-8 years	<11.5	<11.5
8-12 years	<11.9	<11.9
12-15 years **(non-pregnant)**		
Nonsmoker	<11.8	<12.5
Smoke up to 1 pack/day	<12.1	<12.8
Smoke 1-2 packs/day	<12.3	<13.0
Smoke >2 packs/day	<12.5	<13.2
15-18 years **(non-pregnant)**		
Nonsmoker	<12.0	<13.3
Smoke up to 1 pack/day	<12.3	<13.6
Smoke 1-2 packs/day	<12.5	<13.8
Smoke >2 packs/day	<12.7	<14.0
>18 years **(non-pregnant)**		
Nonsmoker	<12.0	<13.5
Smoke up to 1 pack/day	<12.3	<13.8
Smoke 1-2 packs/day	<12.5	<14.0
Smoke >2 packs/day	<12.7	<14.2
PREGNANT: 1st Trimester		
Nonsmoker	<11.0	N/A
Smoke up to 1 pack/day	<11.3	N/A
Smoke 1-2 packs/day	<11.5	N/A
Smoke >2 packs/day	<11.7	N/A

Age	Criteria for anemia (hemoglobin concentration in g/dL)	
	Female	**Male**
PREGNANT: 2nd Trimester		
Nonsmoker	<10.5	N/A
Smoke up to 1 pack/day	<10.8	N/A
Smoke 1-2 packs/day	<11.0	N/A
Smoke >2 packs/day	<11.2	N/A
PREGNANT: 3rd Trimester		
Nonsmoker	<11.0	N/A
Smoke up to 1 pack/day	<11.3	N/A
Smoke 1-2 packs/day	<11.5	N/A
Smoke >2 packs/day	<11.7	N/A

ASSESMENT

Not at risk for iron depletion with normal hemoglobin

OR

At risk for iron depletion with normal hemoglobin

- Infant at risk: preterm, low birth weight, diet of non-iron fortified infant formula, introduction of cow's milk prior to 12 months of age, or breastfed infant who is receiving inadequate dietary iron after six months of age
- Toddler/child/adolescent at risk: consumption of more than 24 ounces of cow's milk daily, low dietary iron intake/picky eaters, previous history of iron deficiency

OR

Anemia, suspect iron-deficiency

PLAN

For those <u>not at risk for iron depletion</u> with a <u>normal hemoglobin</u>

Instruct in age appropriate diet high in iron

Certification for WIC if eligible

Educate regarding the importance of iron for both blood and brain development

For those <u>at risk of iron depletion</u> with a <u>normal hemoglobin</u>

Instruct in age appropriate diet high in iron

Issue age-appropriate multivitamin with iron or write prescription:

- Infant/toddler multivitamin with iron drops at dose of 1 ml daily **OR**
- Children's chewable multivitamin with iron at dose of one tablet daily per manufacturer's directions
- **NOTE:** If multivitamins with iron are used in an infant who is not anemic, the daily dose should not exceed 15 mg elemental iron daily or 2 mg/kg/day. Most infant/toddler *multivitamin* with iron drops contain 10 mg elemental iron per milliliter. Most chewable multivitamins with iron for toddlers and older

children/adolescents contain 15-18 mg elemental iron per tablet. These should be administered according to package instructions.

Give iron-related pamphlet

Certification for WIC if eligible

Educate regarding the importance of iron for both blood and brain development

For those with suspected iron deficiency anemia, see table below and refer to the Iron replacement Dosing Chart:

Age <6 months	Age 6-12 Months	Age 1-3 Years	Age 3-12 Years	Age 12-18 Years	>18 Years
Obtain dietary assessment Instruct to use breast milk or iron fortified formula Supplement with iron according to the dose based on body weight (see dosing chart) Refer to WIC if eligible	Obtain dietary assessment Instruct in adequate consumption of dietary iron Give iron-related pamphlet Refer to WIC if eligible Supplement with iron according to dose based on body weight (see dosing chart)	Obtain dietary assessment Instruct in adequate consumption of dietary iron Decrease milk if necessary to 16 ounces or less daily Give iron-related pamphlet Refer to WIC if eligible Supplement with iron according to dose based on body weight (see dosing chart)	Obtain dietary assessment Instruct in adequate consumption of dietary iron Decrease milk if necessary to 16 ounces or less daily Give iron-related pamphlet Refer to WIC if eligible (< 5 yrs.) Supplement with iron according to dose based on body weight (see dosing chart)	Obtain dietary assessment Instruct in adequate consumption of dietary iron Decrease milk if necessary to 16 ounces or less daily Give iron-related pamphlet Supplement with iron according to dose based on body weight (see dosing chart)	Evaluate for blood loss (history, physical, hemoccult) Consider referral to MD or NP Instruct in adequate consumption of dietary iron and Vitamin C Issue Ferrous Sulfate ($FeSO_4$) 325mg pills. Take one by mouth three times per day.

Health Teaching

Oral iron may cause constipation and turn stool black

Establish regular time for drug administration

Iron drops may harmlessly coat the teeth

Oral iron may interfere with absorption of tetracycline

Vitamin C will enhance absorption

Iron absorption is inhibited by antacids, Vitamin E, eggs, coffee, tea, and milk

ORAL IRON IS A SERIOUS POTENTIAL POISON - Issue safely

Referral Indicators

Premature infant

Poor weight gain/abnormal growth pattern

Symptomatic anemia (see “objective” for list of possible symptoms)

Heart murmur present

Pregnancy

Pre-diagnosed anemia that is NOT iron-deficient
Sickle cell disease and other hemoglobinopathies
Symptoms of gastrointestinal bleeding (dark tarry stools, blood in toilet bowl or on toilet paper, large amounts of blood passed from the rectum, vomiting blood)
Special health needs that increase the risk of iron-deficiency (chronic infection, inflammatory disorders, chronic or acute blood loss, restricted diets, use of medications that interfere with iron absorption)
Parent needs further guidance/education (subjective evaluation by RN/RD)
Inadequate response to therapy

CRITICAL VALUES:
For ages <5: Refer immediately for hemoglobin of **8.5 or less** or if the patient is symptomatic

For ages 5 and up: Refer immediately for hemoglobin of **10 or less** or if the patient is symptomatic

*For all ages, if the patient is symptomatic, they should be referred to their primary care provider immediately

Follow-up
For individuals with normal hemoglobin or iron depletion with normal hemoglobin:
Screen for anemia at routine intervals during WIC visits and/or preventive care visits (EPSDT exams)

For individuals with suspected iron deficiency anemia:

Evaluate for compliance to dietary and iron therapy
Repeat hemoglobin in 4 weeks, confirm at least 1 g/dL increase in hemoglobin

- **If there less than a 1 g/dL increase in hemoglobin after 4 weeks of iron supplementation, confirm that the dose is appropriate, there is no dairy overconsumption, and that the patient is compliant. If there are no confounding factors and the hemoglobin has not gone up, refer to health care provide**r.
- **If there is at least 1g/dL increase in hemoglobin, continue iron supplementation for 8 weeks after hemoglobin confirmed normal.**

Refer to health care provider if compliant infant shows inadequate response to therapy or hemoglobin remains below normal range despite 6-8 weeks of iron supplementation.

Iron Replacement Dosing Chart

All treatment of iron deficiency anemia is two-fold, a diet high in iron rich foods and therapeutic regimens of iron.

If concentrated iron drops, elixir or tablets are used in an infant or child that is anemic, the dose should not exceed 6 mg/kg of elemental iron daily to a maximum of the standard adult dose. Replacement iron doses may be divided into two or three daily doses. Liquid concentrated iron preparations are generally accepted but may not be palatable. If a child refuses to take the prescribed preparation, another may be used as long as the daily dose of elemental iron remains consistent.

All doses referenced in this protocol and on the dosing chart refer to either:

- **Concentrated ferrous sulfate drops that contain 15 mg/1.0 ml elemental iron.**
  OR
- **Ferrous sulfate elixir that contain 44 mg/5.0 mL elemental iron.**
  OR
- **325 mg ferrous sulfate tablets that contain 65 mg elemental iron per tablet.**

Instruct the caregiver regarding measurement using calibrated, oral medication syringes. Doses in milliliters require a precise dropper or oral syringe with well-marked increments of 0.1 ml.

Maximizing the dose for body weight is very important.

Iron Replacement Dosing Chart

Weight		Dosing Script (Write This on Prescription)		
Lbs	**Kgs**	**IRON DROPS (15 mg / 1.0 ml)**	**ELIXIR (44 mg / 5.0 ml)**	**TABLETS (65 mg / tablet)**
10	4.5	10.2 mg elemental iron (0.7 ml) po bid		
11	5.0	11.3 mg elemental iron (0.8 ml) po bid		
12	5.5	12.3 mg elemental iron (0.8 ml) po bid		
13	5.9	13.3 mg elemental iron (0.9 ml) po bid		
14	6.4	14.3 mg elemental iron (1.0 ml) po bid		
15	6.8	15.3 mg elemental iron (1.0 ml) po bid		
16	7.3	16.4 mg elemental iron (1.1 ml) po bid		
17	7.7	17.4 mg elemental iron (1.2 ml) po bid		
18	8.2	18.4 mg elemental iron (1.2 ml) po bid		
19	8.6	19.4 mg elemental iron (1.3 ml) po bid		
20	9.1	20.5 mg elemental iron (1.4 ml) po bid		
21	9.5	21.5 mg elemental iron (1.4 ml) po bid		
22	10.0	22.5 mg elemental iron (1.5 ml) po bid		
23	10.5	23.5 mg elemental iron (1.6 ml) po bid		
24	10.9	24.5 mg elemental iron (1.6 ml) po bid		
25	11.4	25.6 mg elemental iron (1.7 ml) po bid		
26	11.8	26.6 mg elemental iron (1.8 ml) po bid		
27	12.3	27.6 mg elemental iron (1.8 ml) po bid		
28	12.7	28.6 mg elemental iron (1.9 ml) po bid		
29	13.2	29.7 mg elemental iron (2.0 ml) po bid		
30	13.6	30.7 mg elemental iron (2.0 ml) po bid		
31	14.1	31.7 mg elemental iron (2.1 ml) po bid		
32	14.5	32.7 mg elemental iron (2.2 ml) po bid		
33	15.0	33.8 mg elemental iron (2.3 ml) po bid	33.8 mg elemental iron (3.8 ml) po bid	
34	15.5	34.8 mg elemental iron (2.3 ml) po bid	34.8 mg elemental iron (4.0 ml) po bid	
35	15.9	35.8 mg elemental iron (2.4 ml) po bid	35.8 mg elemental iron (4.1 ml) po bid	
36	16.4	36.8 mg elemental iron (2.5 ml) po bid	36.8 mg elemental iron (4.2 ml) po bid	
37	16.8	37.8 mg elemental iron (2.5 ml) po bid	37.8 mg elemental iron (4.3 ml) po bid	
38	17.3	38.9 mg elemental iron (2.6 ml) po bid	38.9 mg elemental iron (4.4 ml) po bid	
39	17.7	39.9 mg elemental iron (2.7 ml) po bid	39.9 mg elemental iron (4.5 ml) po bid	
40	18.2	40.9 mg elemental iron (2.7 ml) po bid	40.9 mg elemental iron (4.6 ml) po bid	
41	18.6	41.9 mg elemental iron (2.8 ml) po bid	41.9 mg elemental iron (4.8 ml) po bid	
42	19.1	43.0 mg elemental iron (2.9 ml) po bid	43.0 mg elemental iron (4.9 ml) po bid	
43	19.5	44.0 mg elemental iron (2.9 ml) po bid	44.0 mg elemental iron (5.0 ml) po bid	
44	20.0		45.0 mg elemental iron (5.1 ml) po bid	

Weight		Dosing Script (Write This on Prescription)		
Lbs	**Kgs**	**IRON DROPS (15 mg / 1.0 ml)**	**ELIXIR (44 mg / 5.0 ml)**	**TABLETS (65 mg / tablet)**
45	20.5		46.0 mg elemental iron (5.2 ml) po bid	
46	20.9		47.0 mg elemental iron (5.3 ml) po bid	
47	21.4		48.1 mg elemental iron (5.5 ml) po bid	
48	21.8		49.1 mg elemental iron (5.6 ml) po bid	
49	22.3		50.1 mg elemental iron (5.7 ml) po bid	
50	22.7		51.1 mg elemental iron (5.8 ml) po bid	
51	23.2		52.2 mg elemental iron (5.9 ml) po bid	
52	23.6		53.2 mg elemental iron (6.0 ml) po bid	
53	24.1		54.2 mg elemental iron (6.2 ml) po bid	
54	24.5		55.2 mg elemental iron (6.3 ml) po bid	
55	25.0		56.3 mg elemental iron (6.4 ml) po bid	
56	25.5		57.3 mg elemental iron (6.5 ml) po bid	
57	25.9		58.3 mg elemental iron (6.6 ml) po bid	
58	26.4		59.3 mg elemental iron (6.7 ml) po bid	
59	26.8		60.3 mg elemental iron (6.9 ml) po bid	
60	27.3		61.4 mg elemental iron (7.0 ml) po bid	
61	27.7		62.4 mg elemental iron (7.1 ml) po bid	
62	28.2		63.4 mg elemental iron (7.2 ml) po bid	
63	28.6		64.4 mg elemental iron (7.3 ml) po bid	
64	29.1		65.5 mg elemental iron (7.4 ml) po bid	One tablet (65.0 mg elemental iron) po bid
65	29.5		66.5 mg elemental iron (7.6 ml) po bid	One tablet (65.0 mg elemental iron) po bid
66	30.0		67.5 mg elemental iron (7.7 ml) po bid	One tablet (65.0 mg elemental iron) po bid
67	30.5		68.5 mg elemental iron (7.8 ml) po bid	One tablet (65.0 mg elemental iron) po bid
68	30.9		69.5 mg elemental iron (7.9 ml) po bid	One tablet (65.0 mg elemental iron) po bid
69	31.4		70.6 mg elemental Iron (8.0 ml) po bid	One tablet (65.0 mg elemental iron) po bid
70	31.8		71.6 mg elemental iron (8.1 ml) po bid	One tablet (65.0 mg elemental iron) po bid
71	32.3		72.6 mg elemental iron (8.3 ml) po bid	One tablet (65.0 mg elemental iron) po bid
72	32.7		73.6 mg elemental iron (8.4 ml) po bid	One tablet (65.0 mg elemental iron) po bid
73	33.2		74.7 mg elemental iron (8.5 ml) po bid	One tablet (65.0 mg elemental iron) po bid
73 - 95	33.2 43.2		86.0 mg elemental iron (9.8 ml) po bid	One tablet (65.0 mg elemental iron) po bid
> 95	> 43.2		64.8 mg elemental iron (7.4 ml) po tid	One tablet (65.0 mg elemental iron) po tid

Writing a Prescription for Iron Replacement

Provider and Pharmacist Prescription Guidance

When writing a prescription for ferrous sulfate, the dosage should be based strictly on the exact weight of the child. Use the following format when writing prescriptions for iron replacement. This format will help to standardize the instructions given to pharmacists and should help minimize dosing errors if the pharmacy needs to provide the medication in another formulation.

For liquid iron preparations, write:	***Example:***
Ferrous sulfate drops (15mg elemental iron/1.0 mL) Sig (insert dosing script from dosing chart) #QS 1 month, 3 refills Or Ferrous sulfate elixir (44mg elemental iron/5.0 mL) Sig (insert dosing script from dosing chart) #QS 1 month, 3 refills	Ferrous sulfate drops (15 mg elemental iron/1.0 mL) Sig 10.2 mg elemental iron (0.7 mL) po bid #QS 1 month, 2 refills Or Ferrous sulfate elixir (44 mg elemental iron/5.0 mL) Sig 66 mg elemental iron (7.5 mL) po bid #QS 1 month, 3 refills
For iron tablets, write:	***Example:***
Iron tablets (65 mg elemental iron/tablet) Sig (insert dosing script based from dosing chart) #QS 1 month, 3 refills	Iron tablets (65 mg elemental iron/tablet) Sig one tablet (65 mg elemental iron) po tid #QS 1 month, 3 refills

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ASCARIASIS (ROUNDWORMS)

SUBJECTIVE

History of passage of adult worm, round and pinkish-white, often no symptoms
May have symptoms of:

- Abdominal pain
- Nausea and vomiting
- Anorexia
- Weight loss
- Pica
- Persistent cough, fever, blood tinged sputum
- Choking

OBJECTIVE

Laboratory confirmation of roundworm infestation from stool specimen, OR visual observation of roundworm in stool or vomitus; There is no useful blood test.

ASSESSMENT

Ascariasis (Roundworms)

PLAN

Pyrantel Pamoate, 11mg base/kg, once daily for 3 consecutive days.

Pyrantel Dosing - Single Dose			
Weight		Chewable Tablets (250mg Pyrantel base/chewable tablet)	Suspension (50mg Pyrantel base/ml)
25 to 37 lbs	11 to 16 kg	1/2	2.5 ml
38 to 62 lbs	17 to 28 kg	1	5 ml
63 to 87 lbs	29 to 39 kg	1 & 1/2	7.5 ml
88 to 112 lbs	40 to 50 kg	2	10 ml
113 to 137 lbs	51 to 62 kg	2 & 1/2	12.5 ml
138 to 162 lbs	63 to 73 kg	3	15 ml
163 to 187 lbs	74 to 84 kg	3 & 1/2	17.5 ml
188 lbs or more	85 kg or more	4	20 ml

NOTE: DO NOT GIVE TO CHILDREN UNDER TWO YEARS OLD, PREGNANT OR POSSIBLY PREGNANT, OR BREAST-FEEDING WOMEN WITHOUT SPECIFIC AUTHORIZATION OF A HEALTH DEPARTMENT PHYSICIAN

Family members submit specimen and treat as indicated

Health Teaching

Avoid contacting soil that may be contaminated
Sanitary disposal of diapers and feces; cleaning of toilet seat; attention to children's play areas
Wash hands before eating, preparing food, and after elimination; keep nails short
Discourage eating food that has been dropped on the floor, or is unwashed from the garden; wash, peel or cook raw fruits and vegetables before eating.

Referral Indicators

No response to treatment
Children under two years of age
Pregnant or breast-feeding women
Pulmonary involvement
Abdominal pain

Follow-Up

Patient/parent will be asked to contact health provider if reoccurrence of symptoms after second treatment

Reference

CDC.gov; Ascarius Infection; September 2012.
UpToDate.com; Pyrantel Pamoate: pediatric drug information; Septermber 2012.
Quartzpharmaceuticals.com; Pin-x-overview; September 2012.

BLOOD PRESSURE, ELEVATED
ADULTS 18 YEARS OF AGE AND OLDER

GENERAL INFORMATION

Classification of blood pressure is based on the average of two or more properly measured, seated BP readings on each of two or more clinic visits:

Normal	systolic = <120	diastolic = <80
Prehypertension	systolic = 120-139	diastolic = 80-89
Hypertension, Stage 1	systolic = 140-159	diastolic = 90-99
Hypertension, Stage 2	systolic = ≥160	diastolic = ≥100

Accuracy in blood pressure measurement is dependent on the following:

- Persons should be seated quietly for at least 5 minutes in a chair, with feet on the floor, and arm supported at heart level
- An appropriate sized cuff should be used (cuff bladder encircling at least 80 percent of the arm)
- Equipment should be properly calibrated
- At least two measurements should be made
- The right arm is preferred in repeated measures of BP to provide consistency and comparison with standard tables; it is also important because of the possibility of coarctation of the aorta, which might lead to false (low) readings in the left arm

Risk factors for hypertension include the following:

- Specific lifestyle factors (alcohol use, tobacco use, excess dietary sodium, lack of exercise, stress)
- Medical conditions (obesity, sleep apnea, diabetes, kidney disease, hormonal disorders, thyroid or parathyroid disease, preeclampsia during pregnancy)
- Certain medications (oral contraceptives, steroids, nonsteroidal anti-inflammatory drugs, decongestants, diet pills, antidepressants)
- Age (35 and older)
- Gender (men, post menopausal women)
- Genetic factors (family history of hypertension, stroke, heart attack, heart disease, kidney disease, or diabetes)
- Race (African-Americans are at higher risk)

PLAN

Obtain history, weight, height, urine dipstick, and blood pressure

Use a cuff appropriate to the size of the adult's upper arm – BP using auscultation is preferred

Have adult sit quietly for 5 minutes with feet and back supported

Check BP using the right arm

If BP is < 120/80, the BP is normal
If BP is 120-139/80-89, patient is prehypertensive and life style modifications should be strongly encouraged
If BP is ≥140/90, repeat BP within one week
If BP continues to be elevated on the second visit, check BP again within one week
If the third BP check is still elevated and the average of the 3 BPs is ≥ 140/90, **REFER**

Blood Pressure Screening Table for Persons 18 Years and Older (Non-Pregnant)

CATEGORIES	READINGS*		FOLLOW-UP RECOMMENDATIONS
	Systolic	Diastolic	
Normal	Less than 120	AND Less than 80	• Recheck in 2 years • Encourage healthy lifestyle
Prehypertension	120-139	OR 80-89	• Recommend lifestyle modifications • Recheck in one year • If under MD/NP care, urge to keep doctor's appointments and follow instructions
Hypertension Stage 1	140-159	OR 90-99	• Recheck within one week • If still elevated, recheck within one week • If still elevated and average of the 3 BPs is ≥140/90, refer for medical evaluation • If under MD/NP care, refer for reevaluation
Hypertension Stage 2	160 or greater	OR 100 or greater	• Refer for prompt medical evaluation • If under MD/NP care, refer for prompt reevaluation
	180 or greater	OR 120 or greater	• Refer immediately • If under MD/NP care, refer for immediate reevaluation

*Based on the average of two or more readings taken at each of two or more visits. When systolic and diastolic pressures fall into different categories, the higher category should be used to classify the individual's blood pressure

Health Teaching

Encourage healthy lifestyles for all individuals
Emphasize lifestyle modifications for all patient with prehypertension and hypertension in order to reduce blood pressure, enhance antihypertensive drug efficacy, and decrease cardiovascular risk
Components of lifestyle modifications include weight reductions, DASH eating plan, dietary sodium reduction, aerobic physical activity, and moderation of alcohol consumption

Modification	Recommendation
Weight Reduction	Maintain normal body weight (BMI 18.5-24.9)
DASH eating plan*	Adopt a diet rich in fruits, vegetables, and lowfat dairy products with reduced content of saturated and total fat
Dietary sodium reduction	Reduce dietary sodium intake to ≤100 mmol per day (2.4 g sodium or 6 g sodium chloride
Aerobic physical activity	Regular aerobic physical activity (e.g., brisk walking) at least 30 minutes per day, most days of the week
Moderation of alcohol consumption	Men: limit to ≤2 drinks** per day Women and lighter weight persons: limit to ≤1 drink* per day

* Dietary Approaches to Stop Hypertension (DASH)
**1 drink = ½ oz or 15 ml ethanol (e.g., 12 oz beer, 5 0z wine, 1.5 oz 80-proof whiskey)

Referral Indicators

Symptoms of elevated BP (headache, blurred vision, vertigo, chest pain, edema, nausea and vomiting, and alteration in consciousness)
BP ≥140/90 (average of 3 BP readings)

Reference

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of high Blood Pressure, US Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute, National High Blood Pressure Education Program, December 2003

BLOOD PRESSURE, ELEVATED
CHILDREN 1-17 YEARS OF AGE

GENERAL INFORMATION

Based on the Fourth Report of the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of Hypertension in Children and Adolescents, the following definitions are provided:

Normal BP in children is defined as an average systolic and diastolic BP ≤90th percentile for gender, age and height

Hypertension in children is defined as an average systolic BP and/or diastolic BP that is ≥ 95th percentile for gender, age, and height on ≥ 3 separate occasions

Prehypertension in children is defined as an average systolic BP or diastolic BP that are ≥ 90th percentile but <95th percentile or a BP that exceeds 120/80 mmHg even if below the 90th percentile

In order to achieve an accurate blood pressure reading, it is recommended that:

The child be free of stimulant drugs or food AND

Have been sitting quietly for 5 minutes AND

Be seated with his or her back supported, feet on the floor, and right arm supported, cubital fossa at heart level

The right arm is preferred in repeated measures of BP for consistency and comparison with standard tables; it is also important because of the possibility of coarctation of the aorta, which might lead to false (low) readings in the left arm

PLAN

Obtain the child's height and age

Use a cuff appropriate to the size of the child's upper arm – BP using auscultation is preferred

Have child sit quietly for 5 minutes with feet and back supported

Check BP of any child over 3 years of age using the right arm

If BP is ≤ 90th percentile, the BP is normal

If the BP is > 5 mm Hg above the 99th percentile, REFER PROMPTLY

If the patient is symptomatic, REFER IMMEDIATELY

If automatic BP cuff is used and the child is found to have elevated BP ≥ 90th percentile, repeat BP using auscultation after sitting quietly for 5 minutes

If BP found to be elevated (≥ 95th percentile) based on systolic and diastolic reading, age, gender and height (using attached chart), repeat BP in one week

If BP continues to be elevated on the second visit, check BP again in one week

If the third BP check is still elevated and the average of the 3 BPs is ≥ 95th percentile,

REFER

Using the BP Chart

1. Obtain height and age of child
2. Measure and record BP
3. Find correct gender chart
4. Find the child's age on the left side of the chart, follow the age row horizontally across the table to the intersection of the line for the height percentile (vertical column)
5. Find the 50th, 90th, and 99th percentiles for systolic and diastolic BP in the right columns

BP < 90th percentile	= Normal
BP between the 90th and 95th	= Prehypertensive
BP > 95th percentile X 3 checks	= May Be Hypertensive
BP > 99th percentile + 5 mm Hg	= Probably Hypertensive

Health Teaching

Counsel the child on prevention and health related life-styles such as:

- Weight reduction
- Increased physical activity
- Dietary modification such as decreased sugar, salt, and an increase in fresh fruits and vegetables, regular meals, and a healthy breakfast

If Prehypertensive counsel regarding the need for BP recheck in 6 months

Referral Indicators

BP > 99th percentile + 5 mm Hg (PROMPTLY, if symptomatic IMMEDIATE)
Average of 3 BP > 95th percentile
Symptoms of elevated BP (i.e. headache, blurred vision, vertigo, chest pain, edema, nausea and vomiting, and alteration in consciousness)

REFERENCE

The Fourth Report on the Diagnosis, Evaluation, and treatment of High Blood Pressure in Children and Adolescents, U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute, May 2005

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of high Blood Pressure, US Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute, National High Blood Pressure Education Program, December 2003

Blood Pressure Levels for BOYS by Age and Height Percentile

Age (Year)	BP Percentile ↓	Systolic BP (mmHg) ← Percentile of Height →							Diastolic BP (mmHg) ← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
1	50th	80	81	83	85	87	88	89	34	35	36	37	38	39	39
	90th	94	95	97	99	100	102	103	49	50	51	52	53	53	51
	95th	98	99	101	103	104	106	106	54	54	55	56	57	58	58
	99th	105	106	108	110	112	113	114	61	62	63	64	65	66	66
2	50th	84	85	87	88	90	92	39	39	40	41	42	43	44	44
	90th	97	99	100	102	104	105	106	54	55	56	57	58	58	59
	95th	101	102	104	106	108	109	110	59	59	60	61	62	63	63
	99th	109	110	111	113	115	117	117	66	67	68	69	70	71	71
3	50th	86	87	89	91	93	94	95	44	44	45	46	47	48	48
	90th	100	101	103	105	107	108	109	59	59	60	61	62	63	63
	95th	104	405	407	109	110	112	113	63	63	64	65	66	67	67
	99th	111	112	114	116	118	119	120	71	71	72	73	74	75	75
4	50th	88	89	91	93	95	96	97	47	48	49	50	51	51	52
	90th	102	103	105	107	109	110	111	62	63	64	65	66	66	67
	95th	106	107	109	111	112	114	115	66	67	68	69	70	71	71
	99th	113	114	116	118	120	121	122	74	75	76	76	78	78	79
5	50th	90	91	93	95	96	98	98	50	51	52	53	54	55	55
	90th	104	105	106	108	110	111	112	65	66	67	68	69	69	70
	95th	108	109	110	112	114	115	116	69	70	71	72	73	74	74
	99th	115	116	118	120	121	123	123	77	78	79	80	81	81	82
6	50th	91	92	94	96	98	99	100	53	53	54	55	56	57	57
	90th	105	106	108	110	111	113	113	68	68	69	70	71	72	72
	95th	109	110	112	114	115	117	117	72	72	73	74	75	76	76
	99th	116	117	119	121	123	124	125	80	80	81	82	83	814	84
7	50th	92	94	95	97	99	100	101	55	55	56	57	58	59	59
	90th	106	107	109	111	113	114	115	70	70	71	72	73	74	74
	95th	110	111	113	115	117	118	119	74	74	75	76	77	78	78
	99th	117	118	120	122	124	125	126	82	82	83	84	85	86	86
8	50th	94	95	97	99	100	102	102	56	57	58	59	60	60	61
	90th	107	109	110	112	114	115	116	71	72	72	73	74	75	76
	95th	111	112	114	116	118	119	120	75	76	77	78	79	79	80
	99th	119	120	122	123	125	127	127	83	84	85	86	87	87	88
9	50th	95	96	98	100	102	103	104	57	58	59	60	61	61	62
	90th	106	110	112	114	115	117	118	72	73	74	75	76	76	77
	95th	113	114	116	118	119	121	121	76	77	78	79	80	81	81
	99th	120	121	123	125	127	128	129	84	85	86	87	88	88	89
10	50th	97	98	100	102	103	105	106	58	59	60	61	61	62	63
	90th	111	112	114	115	117	119	119	73	73	74	75	76	77	78
	95th	115	116	117	119	121	122	123	77	78	79	80	81	81	82
	99th	122	123	125	127	128	130	130	85	86	86	88	88	89	90

Blood Pressure Levels for BOYS by Age and Height Percentile (Continued)

Age (Year)	BP Percentile ↓	Systolic BP (mmHg) ← Percentile of Height →							Diastolic BP (mmHg) ← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
11	50th	99	100	102	104	105	107	107	59	59	60	61	62	63	63
	90th	113	114	115	117	119	120	121	74	74	75	76	77	78	78
	95th	117	118	119	121	123	124	125	78	78	79	80	81	82	82
	99th	124	125	127	129	130	132	132	86	86	87	88	89	90	90
12	50th	101	102	104	106	108	109	110	59	60	61	62	63	63	64
	90th	115	116	118	120	121	123	123	74	75	75	76	77	78	79
	95th	119	120	122	123	125	127	127	78	79	80	81	82	82	83
	99th	126	127	129	131	133	134	135	86	87	88	89	90	90	91
13	50th	104	105	106	108	110	111	112	60	60	61	62	63	64	64
	90th	117	118	120	122	124	125	126	75	75	76	77	78	79	79
	95th	121	122	124	126	128	129	130	79	79	80	81	82	83	83
	99th	128	130	131	133	135	136	137	87	87	88	89	90	91	91
14	50th	106	107	109	111	113	114	115	60	61	62	63	64	65	65
	90th	120	121	123	125	126	128	128	75	76	77	78	79	79	80
	95th	124	125	127	128	130	132	132	80	80	81	82	83	84	84
	99th	131	132	134	136	138	139	140	87	88	89	90	91	92	92
15	50th	109	110	112	113	115	117	117	61	62	63	64	65	66	66
	90th	122	124	125	127	129	130	131	76	77	78	79	80	80	81
	95th	126	127	129	131	133	134	135	81	81	82	83	84	85	85
	99th	134	135	136	138	140	142	142	88	89	90	91	92	93	93
16	50th	111	112	114	116	118	119	120	63	63	34	65	66	67	67
	90th	125	126	128	130	131	133	134	78	78	79	80	81	82	82
	95th	129	130	132	134	135	137	137	82	83	83	84	85	86	87
	99th	136	137	139	141	143	144	145	90	90	91	92	93	94	94
17	50th	114	115	116	118	120	121	122	65	66	66	67	68	69	70
	90th	127	128	130	132	134	135	136	80	80	81	82	83	84	84
	95th	131	132	134	136	138	139	140	84	85	86	87	87	88	89
	99th	139	140	141	143	145	146	147	92	93	93	94	95	96	97

Blood pressure tables taken from the Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents

BP standards based on sex, age, and height provide a precise classification of BP according to body size

Blood Pressure Levels for GIRLS by Age and Height Percentile

Age (Year)	BP Percentile ↓	Systolic BP (mmHg) ← Percentile of Height →							Diastolic BP (mmHg) ← Percentile of Height →						
		5th	**10th**	**25th**	**50th**	**75th**	**90th**	**95th**	**5th**	**10th**	**25th**	**50th**	**75th**	**90th**	**95th**
1	50th	83	84	85	86	88	89	90	38	39	39	40	41	41	42
	90th	97	97	98	100	101	102	103	52	53	53	54	55	55	56
	95th	100	101	102	104	105	106	107	56	57	57	58	59	59	60
	99th	108	108	109	111	112	113	114	64	64	65	65	66	67	67
2	50th	85	85	87	88	89	91	91	43	44	44	45	46	46	47
	90th	98	99	100	101	103	104	105	57	58	58	59	60	61	61
	95th	102	103	104	105	107	108	109	61	62	62	63	64	65	65
	99th	109	110	111	112	114	115	116	69	69	70	70	71	72	72
3	50th	86	87	88	89	91	92	93	47	48	48	49	50	50	51
	90th	100	100	102	103	104	106	106	61	62	62	63	64	64	65
	95th	104	104	105	107	108	109	110	65	66	66	67	68	68	69
	99th	111	111	113	114	115	116	117	73	73	74	74	75	76	76
4	50th	88	88	90	91	92	94	94	50	50	51	52	52	53	54
	90th	101	102	103	104	106	107	108	64	64	65	66	67	67	68
	95th	105	406	107	108	110	111	112	68	68	69	70	71	71	72
	99th	112	113	114	115	117	118	119	76	76	76	77	78	79	79
5	50th	89	90	91	93	94	95	96	52	53	53	54	55	55	56
	90th	103	103	105	106	107	109	109	66	67	67	68	69	69	70
	95th	107	107	107	110	111	112	113	70	71	71	72	73	73	74
	99th	114	114	116	117	118	120	120	78	78	79	79	80	81	81
6	50th	91	92	93	94	96	97	98	54	54	55	56	56	57	58
	90th	104	105	106	108	109	110	111	68	68	69	70	70	71	72
	95th	108	109	110	111	113	114	115	72	72	73	74	74	75	76
	99th	115	116	117	119	120	121	122	80	80	80	81	82	83	83
7	50th	93	93	95	96	97	99	99	55	56	56	57	58	58	59
	90th	106	107	108	109	111	112	113	69	70	70	71	72	72	73
	95th	110	111	112	113	115	116	116	73	74	74	75	76	76	77
	99th	117	118	119	120	122	123	124	81	81	82	82	83	84	84
8	50th	95	95	96	96	99	100	101	57	57	57	58	59	60	60
	90th	108	109	110	111	113	114	114	71	71	71	72	73	74	74
	95th	112	112	114	115	116	118	118	75	75	75	76	77	78	78
	99th	119	120	121	122	123	125	125	82	82	83	83	84	85	86
9	50th	96	97	98	100	101	102	103	58	58	58	59	60	61	61
	90th	110	110	112	113	114	116	116	72	72	72	73	74	75	75
	95th	114	114	115	117	118	119	120	76	76	76	77	78	79	79
	99th	121	121	123	124	125	127	127	83	83	84	81	85	86	87
10	50th	98	99	100	102	103	104	105	59	59	59	60	61	62	62
	90th	112	112	114	115	116	118	118	73	73	73	74	75	76	76
	95th	116	116	117	119	120	121	122	77	77	77	78	79	80	80
	99th	123	123	125	126	127	129	129	84	84	85	86	86	87	88

Blood Pressure Levels for GIRLS by Age and Height Percentile (Continued)

Age (Year)	BP Percentile ↓	Systolic BP (mmHg) ← Percentile of Height →							Diastolic BP (mmHg) ← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
11	50th	100	101	102	103	105	106	107	60	60	60	61	62	63	63
	90th	114	114	116	117	118	119	120	74	74	74	75	76	77	77
	95th	118	118	119	121	122	123	124	78	78	78	79	80	81	81
	99th	125	125	126	128	129	130	131	85	85	86	87	87	88	89
12	50th	102	103	104	105	107	108	109	61	61	61	62	63	64	64
	90th	116	116	117	119	120	121	122	75	75	75	76	77	78	78
	95th	119	120	121	123	124	125	126	79	79	79	80	81	82	82
	99th	127	127	128	130	131	132	133	86	86	87	88	88	89	90
13	50th	104	105	106	107	109	110	110	62	62	62	63	64	65	66
	90th	117	118	119	121	122	123	124	76	76	76	77	78	79	79
	95th	121	122	123	124	126	127	128	80	80	80	81	82	83	83
	99th	128	129	130	132	133	134	135	87	87	88	89	89	90	91
14	50th	106	106	107	109	110	111	112	63	63	63	64	65	66	66
	90th	119	120	121	122	124	125	125	77	77	77	78	79	80	80
	95th	123	123	125	126	127	129	129	81	81	81	82	83	84	84
	99th	130	131	132	133	135	136	136	88	88	89	90	90	91	92
15	50th	107	108	109	110	111	113	113	64	64	64	65	66	67	67
	90th	120	121	122	123	125	126	127	78	78	78	79	80	81	81
	95th	124	125	126	127	129	130	131	82	82	82	83	84	85	85
	99th	131	132	133	134	136	137	138	89	89	90	91	91	92	93
16	50th	108	108	110	111	112	114	114	64	64	65	66	66	67	68
	90th	121	122	123	124	126	127	128	78	78	79	80	81	81	82
	95th	125	126	127	128	130	131	132	82	82	83	84	85	85	86
	99th	1323	133	134	135	137	138	139	90	90	90	91	92	93	93
17	50th	108	109	110	111	113	114	115	64	65	65	66	67	67	68
	90th	122	122	123	125	126	127	128	78	79	79	80	81	81	82
	95th	125	126	127	129	130	131	132	82	83	83	84	85	85	86
	99th	133	133	134	136	137	138	139	90	90	91	91	92	93	93

Blood pressure tables taken from the Fourth Report on the Diagnosis, Evaluation, and Treatment of
High Blood Pressure in Children and Adolescents

BP standards based on sex, age, and height provide a precise classification of BP according to body size

CERUMEN, IMPACTED
(EAR WAX)

SUBJECTIVE

Ear feels plugged
Diminished hearing
Itching may be present
History is negative for:
- Ear drainage
- Perforation of ear drum(s) Ear pain
- Ear surgery, e.g., "tubes"

OBJECTIVE

Hardened and packed cerumen
Tympanic membrane not visible

ASSESSMENT

Impacted cerumen

PLAN

Hearing assessment according to age
Recommend softening ear wax with the following warmed to body temperature:
Use glycerin or mineral oil to fill each ear canal two or three times a day for 7 days or recommend filling ear canal with Debrox daily for 3-4 days.

Parent or guardian should be instructed in proper manipulation of ear lobe and cartilage to facilitate drops flowing into the ear
Discourage the use of anything smaller than the finger tip for cleaning the ear canal, (i.e., Q-tips, bobby pins, toothpicks, match sticks, twigs or straw)

Referral Indicators:

Earaches, ear pain
Ear drainage
Perforation of tympanic membrane
Impacted cerumen that fails to respond to above management
Impaired hearing or delayed and/or impaired speech
Children less than 2 years of age
Febrile

Follow-Up:

Follow up as needed

Reference:

http://www.webmd.com/a-to-z-guides/ear-wax

CHIGGERS (DEMATOPHILIS PENTRANS)

SUBJECTIVE

Intense itching and red raised wheels which increase in size and intensity over time
History of exposure to grasses and shrubs that may have harbored the mites

OBJECTIVE

Red raised wheels found especially in body creases and at edges of clothing
R/O insect bites/stings, scabies, varicella
Excoriations and 2° infections

ASSESSMENT

Chigger Bites

PLAN

Ice water compresses or gentle ice massage may help with itching
May obtain relief through application of OTC hydrocortisone preparation
If bites are extensive, an oral antihistamine may be beneficial

Health Teaching:

Avoid scratching to reduce risk of secondary bacterial infection
Future skin contact with the mites can be avoided by wearing long-sleeved shirts, long pants, and boots, and taping the clothing at the ankles, wrists, and waist, and using an insect repellent such as DEET
DEET **should be avoided** in infants under 2 months of age (follow label directions)
Wash clothing immediately after exposure
Shower well with soap after outdoors exposure

Referral Indicators:

Localized infection

Follow-Up:

Usually not necessary

Reference:

Medline Plus Medical Encyclopedia, “Chiggers” 10/17/06.
http://www.nlm.nih.gov/medlineplus/ency/article/001333.htm

CHOLESTEROL RISK ASSESSMENT (Child Health/EPSDT)

GENERAL INFORMATION

The following children are at **high risk** for developing coronary heart disease:

Children whose parent(s) have a total blood cholesterol level ≥ 240 mg/dL

Children whose parents or grandparents have had a documented myocardial infarction, positive coronary angiogram, or cerebrovascular or peripheral vascular disease before the age of fifty-five (55)

Children and adolescents with several risk factors for future coronary vascular disease (e.g., smoking, hypertension, physical inactivity, obesity, or diabetes mellitus), or whose family history cannot be ascertained (e.g., adopted, early parent death)

Assessment (see Plan for assessment questions):

"High risk cholesterol" assessment will be completed on all children two years of age and older who receive EPSDT services in local health departments

This assessment will be updated annually unless the cholesterol level has already been determined and a plan for treatment is in effect

PLAN

If the child is receiving a well child or an EPSDT exam, and is two years of age and older, assess the potential of being at high risk for elevated cholesterol levels by asking the following questions:

Is there a history of heart disease, heart attack or stroke with the child's parents or grandparents before these individuals turned fifty-five (55) years of age?

If the answer is **YES** -

Assess that it is a true diagnosis by asking questions regarding lab work, hospitalization and/or surgeries pertaining to the diagnosis

If the answer is still **YES** and the diagnosis is likely -

Counsel (nurse/nutritionist) regarding good eating habits and making good food choices (decreasing fat intake and increasing their diets with more grain products, fruits, vegetables, low-fat milk, beans, lean meat, poultry and fish)

Document history and plan of action in the patient's chart

Refer the child to their PCP for evaluation

Do you know if the child's mother or father has a high cholesterol level over 240 mg/dL?

If the answer is **YES** -

Discuss child's existing risk factors and the value of referring to the PCP for cholesterol evaluation

CHOLESTEROL SCREENING

Counsel (nurse/nutritionist) regarding good eating habits and making good food choices (decreasing fat intake and increasing their diets with more grain products, fruits, vegetables, low-fat milk, beans, lean meat, poultry and fish)
Document history and plan of action in the patient's chart

If the answer to both questions is **NO**:
Counsel (nurse/nutritionist) regarding good eating habits and making good food choices (decreasing fat intake and increasing their diets with more grain products, fruits, vegetables, low-fat milk, beans, lean meat, poultry and fish)
Document "cholesterol assessment negative and counseled regarding good nutrition"

If the nurse is **UNABLE TO OBTAIN A HISTORY**:
Counsel (nurse/nutritionist) regarding good eating habits and making good food choices (decreasing fat intake and increasing their diets with more grain products, fruits, vegetables, low-fat milk, beans, lean meat, poultry and fish)
Encourage the child's parent to discuss with PCP the need for cholesterol screening
Document "Unable to obtain a cholesterol history; counseled parents regarding cholesterol evaluation and good eating habits "

If the child has **RISK FACTORS** and/or the **CHOLESTEROL HISTORY IS NOT OBTAINABLE:**
Document risk factors and/or cholesterol history not available
Counsel the family regarding risk factors and/or refer to the PCP for cholesterol evaluation
Counsel (nurse/nutritionist) regarding good eating habits and making good food choices (decreasing fat intake and increasing their diets with more grain products, fruits, vegetables, low-fat milk, beans, lean meat, poultry and fish)
Document plan of action in the patient's record

NOTE: If the patient does not have a PCP or the Health Department is the PCP consult with or refer to physician and/or nurse clinician for evaluation according to Physician/Nurse Clinician protocols

CONSTIPATION, ACUTE, CHILD

SUBJECTIVE

Malaise, abdominal cramping
History of hard, dry, stools
Possible history of involuntary fecal soiling in a previously toilet trained or older child
History of infrequent passage of stools relative to the individual's usual habit
Pain and/or straining at defecation; reluctance to sit on toilet
Stool streaked with blood
Diet and medication history

OBJECTIVE

Signs of dehydration
Anal fissure or evidence of irritation
Abdominal distention with or without palpable firm mass
Stool streaked with bright blood
Visible hemorrhoid

ASSESSMENT

Acute childhood constipation

PLAN

- Encourage defecation when urge presents
- Adjust diet to allow for adequate fluid and carbohydrate intake
- For infants1 month and older: 1 ounce a day for every month of life up to about 4 months (a 3-month-old baby would get 3 ounces) of apple or pear juice; or use 1 to 2 tablespoons per day of dark corn syrup
- Once your infant is taking solids you can try vegetables and fruits, especially prunes.
- Older infants - increase fluid intake; increase amounts of pureed fruits in the diet, especially prunes and plums; the amount needed will vary with individual infants
- Older children - Increase fluid intake; add prunes, apricots, and figs to the daily diet; include high-residue substances such as bran, whole wheat, oatmeal, and green leafy vegetables in daily diet
- If these dietary changes don't help, call the PCP
- Discourage use of suppositories, laxatives, or enemas unless specifically ordered by health department physician or APN.
- For minor anal irritation, advise warm sitz baths and use of petroleum jelly or ointment and/or hypoallergenic moist wipes
- For previously toilet trained child, support for feet when toileting

NOTE: DO NOT GIVE HONEY TO CHILDREN LESS THAN ONE YEAR OLD DUE TO DANGER OF BOTULISM

Referral Indicators:

Persistent, severe, or recurrent abdominal pain
Persistent fecal soiling
Persistent constipation
Vomiting, dehydration, fever
Breakdown of skin around anus
Blood streaked stool

Follow-Up:

Patient/parent will be asked to contact health provider if not resolved in 24-48 hours

Reference

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

CONSTIPATION, ADULT

SUBJECTIVE

Symptoms may include:
- Headache, indigestion, nausea, fatigue; abdominal pain, spasm, or discomfort; gas pain and flatulence
- Abnormal color and/or odor of feces; quantity of stool less than normal
- Decreased appetite; anorexia
- Frequency of defecation less than normal, or less than every third day
- Hard formed stool; strains at stool; feels pressure in rectum

Diet and medication history

OBJECTIVE

Bowel sounds diminished
Palpable mass in left lower quadrant
Distended abdomen

ASSESSMENT

Constipation

PLAN

Health Teaching:

Activity - increase daily activity level (example: walking 30-40 minutes daily)
Elimination patterns - set aside 30 minutes, preferably after breakfast, for defecation; pay attention to urge to defecate; instruct against habitual use of enemas and laxatives; avoid straining, ensure privacy, minimize distractions Hydration - drink 6 glasses of water daily in addition to any other beverage Nutrition - increase intake of fruit (raisins, dried apricots and plums), raw vegetables, broccoli, bran cereals, and whole-grain breads; consider use of unprocessed wheat bran (6 teaspoons a day) in cereal or liquids
Medication - select one or more of the following as appropriate:
- *Bulk* - Metamucil or generic brand, 1 tsp. stirred into 8 oz. cool water daily to t.i.d.; follow each dose with additional glass of water; optimal benefit 2-3 days
- *Laxative* - Milk of Magnesia 2-4 tbsp followed by a glass of water for mild laxative
- *Stool softener* - docusate sodium (Colace) 50-200 mg daily; adjust dose to individual response; effects noticed in 1-3 days
- *Lubricant* - Glycerin Suppository at time bowel movement required

Referral Indicators:

Constipation not corrected with above management in 72 hours
Nausea and vomiting
Persistent, severe, or recurrent abdominal pain
Temperature above normal
Rectal bleeding or positive serocult
Abnormal color of stool

References

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

DIAPER DERMATITIS (DIAPER RASH)

SUBJECTIVE

Caretaker reports diaper rash
Irritability

OBJECTIVE

Contact or irritant dermatitis: Chafed, reddened, non-raised areas over genital and buttocks area
Infected dermatitis: Inflamed, bright red, indurated and tender skin; With satellite lesions; thick white plaques with an erythematous base may be present on oral mucus membrane (thrush), especially during or following antibiotic therapy (see oral candidiasis/moniliasis)

ASSESSMENT

Contact or Infected Diaper Dermatitis

PLAN

For Contact Diaper Dermatitis:

- Change diaper as soon as possible after it becomes wet or soiled;
- Clean diaper area with warm water and a hypoallergenic/or unscented soap after each bowel movement; dry gently but thoroughly after each diaper change
- Leave diaper off during nap time to allow drying of the area
- A layer of protective diaper ointment/cream or a corn starch based powder may be applied to skin with each diaper change.
- Do not overdress infant
- Discourage use of waterproof pants, plastic covered diapers, tightly pinned or double diapers, scented diapers, and scented diaper wipes as many contain perfume or alcohol
- DO NOT USE TALCUM POWDER, BAKING SODA, OIL, OR PETROLEUM JELLY
- Provide laundry instructions for cloth diapers, if applicable:
  Suggest laundering diapers in mild hypoallergenic detergent and rinse thoroughly
  Use only hypoallergenic fabric softener

Referral Indicators:

Infected diaper dermatitis
Suspicion of burn
No response to treatment within 2-3 days
Presence of systemic involvement (e.g., fever)

Follow up:

Parent will be asked to contact health provider in 24-48 hours if not improved

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
American Academy of Pediatrics, Healthy Children
http://www.healthychildren.org/English/ages-stages/baby/diapers-clothing/Pages/Diaper-Rash-Solution.aspx

DIARRHEA

SUBJECTIVE

Loose, watery stools, increased frequency
Urgency for stool
Cramping abdominal pain
Decreased urination, strong colored urine

OBJECTIVE

Increased bowel sounds
Observe for signs of dehydration:
- Sunken fontanelles
- Dry mucus membranes
- Sunken eyes Decreased
- skin turgor Decreased
- urination Fever
- Grayish skin
- Rapid breathing and pulse
- Weight loss

ASSESSMENT

Diarrhea: Acute and Unaccompanied by Nausea/Vomiting

PLAN

Weigh patient

<u>For infants older than 2 months, instruct parent to</u>:
- Increase liquids containing calories, sodium (Na), and potassium (K), example Pedialyte, etc.
- Discontinue solid foods but do not withhold formula milk/breast milk
- After 24 hours if improvement, add semi-solids (e.g., cereal, applesauce, bananas) if tolerated, and if infant was on semi-solids prior to diarrhea Slowly advance diet to its previous level if semi-solids are well tolerated
- Teach signs and symptoms of dehydration

<u>For young child or adult</u>:
- Rehydrate with clear liquids (apple juice, gingerale, tea, broth) for 12 to 24 hours
- Then try usual diet, avoid simple sugars and fats
- Add soda crackers, toast, rice, cereal, yogurt, fruits, vegetables
- Add soft foods as symptoms begin to improve

Referral Indicators:

Infant less than 2 months old
Preschool child with 9-10 stools per 24 hours
Patients with lethargy, vomiting, or fever
Patients with signs of severe dehydration (sunken eyes, dry mucus membranes, decreased skin turgor, decreased urination)
Presence of abdominal tenderness
Patients with no improvement after 24 hours on liquid diet
Blood, pus, or mucus in stool
Weight loss significant in relation to age
Infants and children less than 4 years of age who fails to improve in 24 hours after clear liquids
If infants/children are taking fluids poorly

References

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Managing Acute Gastroenteritis Among Children, MMWR. November 21, 2003

DILATION FOR RETINAL IMAGING

General Information
Diabetic retinopathy is caused by damage from diabetes to blood vessels of the retina. The retina is the layer of tissue at the back of the inner eye that changes light and images entering the eye into nerve signals, which are sent to the brain. Diabetic retinopathy is the leading cause of preventable vision loss in the United States. Only 60% of persons with diabetes receive timely and appropriate eye examinations. Early detection of retinal abnormalities is essential in preventing vision loss from diabetes. Most patients will not require dilation.
Dilation is required ONLY if the optic nerve and maculae cannot be observed with non-mydriatic screening.

SUBJECTIVE
Symptoms of diabetic retinopathy include:

- Blurred vision and slow vision loss over time
- Floaters
- Shadows or missing areas of vision
- Trouble seeing at night

Many people with early diabetic retinopathy are asymptomatic

Screen patient for history of allergy to Tropic amide or history of untreated glaucoma.
Do not proceed if patient answers yes to either question.

OBJECTIVE
All diabetic patients should receive annual imaging. Document as much information as available (when, where, etc.) for patients who received imaging elsewhere.

ASSESSMENT
Unable to observe optic nerve and maculae with non-mydriatic screening.

PLAN
If optic nerve and maculae cannot be visualized, dilate eyes as needed for proper screening
Follow the directions below to dilate the eyes

- Have patient remove contacts if applicable
- Tilt patient's head back slightly and pull down the lower eyelid.
- Instruct the patient to look up and away from the dropper
- Instill one drop of 0.5% tropicamide ophthalmic solution near the inner canthus of each eye (Do not allow the dropper tip to touch any surface, including the eyes or hands. If the dropper becomes contaminated, do not use.)
- Have patient close eyes
- Wait 20 minutes, then proceed with imaging
- Record the lot number and expiration date of the tropicamide solution
- Caution patients regarding temporary sun sensitivity and suggest use of sunglasses

Health Teaching

The most common side effects of tropicamide ophthalmic solution include:

- blurred vision
- eye sensitivity to sunlight
- stinging and burning
- swelling of the eyelids

Protect your eyes from sunlight and be careful if you drive, operate machinery, or do anything else that requires you to see clearly. These effects can last for up to 24 hours.

Avoid using other eye drops or ointment until the effects of tropicamide ophthalmic have worn off unless your physician advises otherwise.

Instruct patient to obtain emergency medical help for any of these **signs of an allergic reaction:** hives; difficulty breathing; swelling of your face, lips, tongue, or throat.

Tell your doctor at once if you have any of these serious side effects:

- ✓ fast or uneven heart rate
- ✓ hallucinations or unusual behavior (especially in children)
- ✓ stomach bloating or discomfort

REFERENCES

Journal of Diabetes Science and Technology Jan 2008 Teleretinal Imaging to Screen for diabetic Retinopathy in the Veterans Health Administration.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2769713/

ENTEROBIUS VERMICULARIS (PINWORMS)

SUBJECTIVE

Rectal itching, especially at night
Heavy infestations may cause perianal pain and bleeding with defecation
White threadlike worms may be seen in bowel movements
Restlessness and irritability
Nightmares

OBJECTIVE

Anal area shows evidence of scratching, may have perianal infection
Using clear tape collection method, ova may be seen microscopically
Laboratory confirmation of pinworm infestation from stool specimen
Visual observation of pinworm

ASSESSMENT

Enterobius Vermicularis (Pinworms) or Enterobiasis

PLAN

Pyrantel Pamoate, 11 mg pyrantel base/kg, given as a single dose with a maximum of 1 gm/single dose.

Pyrantel Dosing - Single Dose			
Weight		**Chewable Tablets (250 mg Pyrantel**	**Suspension (50 mg Pyrantel**
25 to 37 lbs	11 to 16 kg	1/2	2.5 ml
38 to 62 lbs	17 to 28 kg	1	5 ml
63 to 87 lbs	29 to 39 kg	1 & 1/2	7.5 ml
88 to 112 lbs	40 to 50 kg	2	10 ml
113 to 137 lbs	51 to 62 kg	2 & 1/2	12.5 ml
138 to 162 lbs	63 to 73 kg	3	15 ml
163 to 187 lbs	74 to 84 kg	3 & 1/2	17.5 ml
188 lbs or more	85 kg or more	4	20 ml

NOTE: **DO NOT GIVE TO CHILDREN UNDER TWO YEARS OLD, PREGNANT OR POSSIBLY PREGNANT, OR BREAST-FEEDING WOMEN**

The entire family (immediate household members) should be treated, even if asymptomatic, to prevent reinfestation.

A second treatment should be given in 2 weeks to eliminate possible reinfection.

Health Teaching

Inform that reinfection and recurrence is common and will require retreatment
Sanitary disposal of feces; cleaning of toilet seat
Change bed linens and underwear of infected person daily
Wash soiled laundry in hot water
Wash hands before preparing food, eating, and after elimination; keep nails short
Discourage habits of nail biting and scratching bare anal area

Referral Indicators:

Secondary bacterial infection No response to treatment Children under 2 years of age
Pregnant or breast-feeding women

Follow-Up:

Patient/parent will be asked to contact health provider if reoccurrence of symptoms after second treatment

Reference:

cdc.gov; Enterobius Vericularis Infection – See Pinworm Infection
UpToDate.com; Pyrantel Pamoate: pediatric drug information; Septermber 2012.
quartzpharmaceuticals.com; Pin-x-overview; September 2012.

FLUORIDE DEFICIENCY

NOTE:

- The use of dietary fluoride supplements is one alternative means of providing fluoride protection to the teeth of children 6 months old to 16 years of age who consume fluoride-deficient water with 0.6 ppm fluoride or less.

- Dietary fluoride supplements, in the form of daily tablets, lozenges, liquids, or vitamin-fluoride combinations, provide systemic benefits to developing teeth as well as topical benefits to erupted teeth. When practical, supplements should be prescribed as chewable tablets or lozenges to maximize the topical effects of fluoride.

- When prescribed and used appropriately, fluoride supplements provide benefits similar to those obtained from ingesting optimally-fluoride water over the same period of time.

- **When improperly prescribed, fluoride supplements may cause mild enamel fluorosis (white spots on teeth). Therefore, systemic fluoride supplements should never be prescribed to children in fluoridated communities who are already receiving optimally fluoridated water (0.7 ppm fluoride).**

- Because of an increase in the milder forms of dental fluorosis associated with fluoride ingestion in excess of that necessary to prevent tooth decay, a conservative approach to fluoride supplementation should be used and in accordance with the recently revised guidelines.

- If a child's primary drinking water source is a well, spring, or non-fluoridated community water system, a water sample must first be taken and analyzed to determine its fluoride content and what dosage of fluoride supplement, if any, is needed.

SUBJECTIVE

No other systemic source of fluoride besides that present in foods and beverages processed with fluoridated water
Request for dietary fluoride supplement
Age 6 months to 16 years

OBJECTIVE

Private community water supply with a fluoride content 0.6 ppm fluoride or below as confirmed by fluoride assay
Dental caries are more common in areas of fluoride deficient water supply.

ASSESSMENT

Fluoride Deficiency

PLAN

Drinking water should be analyzed for fluoride content prior to supplementation in order to determine if supplements are necessary and how much to prescribe.

To determine the level of fluoride in the child's existing water supply:

1. Obtain water sample bottles from either Fluoridation Specialist (TDEC Nashville Env. Field Office, Division of Water Supply, 711 R.S. Gass Blvd, Nashville, TN 37216, Telephone 615-687-7037 or the Regional Dental Director.
2. Provide parent or guardian with 1 water sample bottle, request slip for fluoride determination.
3. Instruct patient on the correct procedure for collecting and handling of the water sample:
    a. Using a kitchen or bathroom faucet allow cold water to run for at least 30 seconds.
    b. Rinse out the sample bottle twice before filling.
    c. Fill sample bottle with cold water and screw on cap firmly.
    d. Mail the sample within 3 days.

Estimate an effective fluoride concentration as indicated (child is consuming water from multiple sources)

Example: If the home water supply is tested and the fluoride concentration is 0.2 ppm, but it only accounts for half of the child's daily water intake (0.2 ppm x 0.50 = 0.1 ppm) and the day-care water supply has a known fluoride concentration of 1.0 ppm and it accounts for the remaining half of the child's daily intake (1.0 ppm x 0.50 ppm) a dietary fluoride supplement (if prescribed) should be based on the effective fluoride concentration of 0.6 ppm and not 0.2 Ppm

Issue fluoride supplements according to the following dosage schedule:

Dietary Supplemental Fluoride Dosage Schedule in mg F/day
Revised, ADA Winter 1994

Age of Child	**ppm fluoride in water supply**		
	0-0.3 ppm	0.3-0.6 ppm	>0.6 ppm
Birth to 6 mo	0	0	0
6 mo to 3 yrs	0.25 mg	0	0
3 to 6 yrs	0.5mg	0.25mg	0
6-16 yrs	1.0mg	0.5mg	0

Issue on a "one bottle at a time" basis

Each bottle should not exceed the recommended limit of 120 mgs of fluoride

Health Teaching:

There is a well-documented decline in dental caries in children in the United States which is due to widespread use of various forms of fluoride

Even people living in communities where water supplies are not fluoridated still benefit from exposure to fluorides found in toothpaste, mouth rinses, professionally applied fluorides and in foods processed in cities where water supplies are fluoridated (i.e., the "halo" phenomenon)

In order to reduce risk of dental fluorosis, it is recommended that parents closely supervise tooth brushing by young children to prevent their ingestion of fluoride toothpaste and to ensure that only very small quantities (pea-sized amounts) are used

Careful use of fluoride is particularly appropriate during the time of anterior tooth enamel development (birth to 8 years)

Follow-Up:

The parent or guardian of the child will be asked to return for a refill when one bottle is near completion or if the fluoride status of the water supply changes

Reference

MMWR August 17, 2001 / 50 (RR14) 1-42

MMWR "Achievements….etc." October 22, 1999 / 48 (41); 933-940

Hagan JF, Shaw JS, Duncan PM, eds. 2008 *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*, Third edition. Elk Grove Village, IL: American Academy of Pediatrics.

FLUORIDE VARNISH

General Information

- The bacteria associated with dental caries have been identified as Streptococcus Mutans. The presence of these bacteria along with food and saliva allow the process of decay to begin on the tooth surface. Untreated decay progresses through stages of tooth destruction. As the decay progresses, the affected area becomes larger.

- There has been a well-documented decline in dental caries in children in the United States, which has been attributed to widespread use of various forms of fluoride. With the use of fluoride varnish, a high-concentration of fluoride in a small amount is painted directly onto the teeth.

- Even people living in communities where water supplies are fluoridated benefit from exposure to fluorides found in toothpaste, mouth rinses, professionally applied fluorides, and in foods processed in cities where water supplies are fluoridated (i.e., the "halo" phenomenon).

- The use of topical fluoride supplements is one alternative means of providing protection to the teeth of children 0 months old to 21[1] years of age who are at risk for dental caries.

- Proper application technique reduces the possibility that a patient will swallow varnish during its application and limits the total amount of fluoride swallowed as the varnish wears off the teeth over several hours.

- A combination of various types of fluoride use (e.g. optimally fluoridated water, prescription fluoride supplements, and professionally applied topical fluoride) reduces dental caries significantly more than any one method alone.

- No published evidence indicates that professionally applied fluoride varnish is a risk factor for enamel fluorosis, even among children aged <6 years.

- Applying the fluoride varnish to any and all tooth surfaces reduces the risk of decay.

- A helpful tip for applying fluoride varnish to the teeth of young children is to sit knee-to-knee with parent or caregiver, and have child lay in the health care provider's lap

[1] Topical application of fluoride varnish is safe for the prenatal patient

SUBJECTIVE
Age 0 – 21 years of age
Target population age 0 - 5 years
Mother requests application of dental varnish for child
Health care provider recommends application of dental varnish

OBJECTIVE
White spot lesions may or may not be present on any teeth in the child's oral cavity

ASSESSMENT
Need for dental varnish application

PLAN
Public Health Nurse to apply dental fluoride varnish application according to package instructions

Health Teaching:
Instruct parent/guardian on the correct care of child's teeth until the next day
Provide parent/guardian with appropriate information sheet for care of child's teeth following fluoride varnish application
Instruct parent or guardian on the need for additional applications of fluoride varnish
Counsel parent/guardian to closely supervise tooth brushing by young children in order to prevent their ingestion of fluoride toothpaste and to ensure that only very small quantities (pea-sized amounts) are used (so as to reduce the risk of dental fluorosis)
Counsel parent/guardian regarding the risks that contributes to dental decay
Instruct parent/guardian about proper diet and feeding habits, as well as the daily care of the child's teeth to contribute to the prevention of dental decay

Follow-Up:
Fluoride varnish should be applied two times annually or according to package instructions.

REFERENCE

Morbidity and Mortality Weekly Report, Recommendations and Reports, August 17, 2001, Vol. 50 No. RR-14; pages 18–19

Tenn. Code Ann. § 63-5-109

FOLIC ACID PROPHYLACTIC THERAPY FOR WOMEN OF REPRODUCTIVE AGE

GENERAL INFORMATION

Folic acid is vital to the early development of the fetal brain and spinal cord. Brain and spinal cord development occur by the 5th week of pregnancy. This is only one week after the menstrual period has been missed. Some women will not yet know they are pregnant. Inadequate folic acid levels can lead to a defect in the developing fetal brain and spinal cord. This is called a neural tube defect. All women of reproductive age should consume 400mcg (0.4 mg) of folic acid daily in order to be prepared should a pregnancy occur. Folic acid prior to pregnancy is an important component of preconception care.

Supplementation with folic acid is recommended because it is difficult to eat a diet that contains adequate amounts of folic acid. Today, enriched grain products such as flour, cereal, bread, rice and pasta are fortified with folic acid. Other sources of folic acid include dark green leafy vegetables, dried beans, legumes oranges, and orange juice. Nevertheless supplementation is recommended.

SUBJECTIVE

No medical history of intolerance to multivitamins with folic acid
Negative obstetric history for a child with spina bifida or anencephaly
Not currently taking a daily multivitamin with folic acid

OBJECTIVE

Woman of reproductive age (approximately 10 to 44 years of age)

ASSESSMENT

Client is appropriate for supplementation with a daily multivitamin with 400 mcg of folic acid.

PLAN

Educate the client about the importance of folic acid.

If the client already takes a multivitamin with folic acid, assure that she understands that she needs only one a day. She should complete what she has before beginning what is given to her at the clinic.

If there is an obstetric history of neural tube defects, consult for the proper dosage of folic acid. Women who have given birth to a child with a neural tube defect require higher doses of folic acid.

Give the client a supply of multivitamins with folic acid with the instructions to take one tablet orally daily.

Client may take the supplement with food if she has nausea when taking it on an empty stomach.

Provide client with any written materials you may have regarding folic acid.

The return appointment is scheduled as needed.

REFERENCES

http://ods.od.nih.gov/factsheets/folate.asp

www.cdc.gov/Features/FolicAcid/

www.marchofdimes.com

FOODBORNE OUTBREAK INVESTIGATION

GENERAL INFORMATION
A foodborne outbreak is defined as the occurrence of two or more cases of a similar illness resulting from the ingestion of a common food.
Exception: one case of botulism is considered a foodborne outbreak and is subject to notification and investigation
Complaints about taste, appearance or odor of food without illness are not considered outbreaks.

PLAN

Follow instructions in the following manual:

Foodborne Outbreak Investigation Manual
Tennessee Department of Health, January 2000

Report all foodborne outbreaks to the local health department as stated in the following document**:**

Rules and Regulations Governing Communicable Diseases in Tennessee
Chapter 1200-14-1-.02
Tennessee Department of Health

Notify according to the following document:

Foodborne Outbreak Investigation Manual
Tennessee Department of Health
January 2000

Note:
Important Telephone Numbers listed in Appendix A of the Foodborne Outbreak Manual

INVASIVE *HAEMOPHILUS INFLUENZA TYPE B*, DISEASE CONTACT

Background

Before the introduction of effective vaccines, Haemophilus influenza type b (Hib) was the leading cause of bacterial meningitis in the United States among children younger than 5 years old. Widespread use of Hib conjugate vaccine has virtually eliminated invasive Hib disease in the United States and other countries where vaccination is routine. Hib is spread by direct contact with a patient's oral secretions. Hib can be spread by people who have the bacteria in their noses or throats but who do not show symptoms. The incubation period is unknown.

SUBJECTIVE

Referred to Health Department with history of recent (within 1 week) contact to confirmed case of invasive *Haemophilus influenzae* type B disease and other resources for patient to purchase medication is not available

OBJECTIVE

Chemoprophylaxis with Rifampin Recommended

For all household contacts in the following circumstances:

- Household with at least 1 contact younger than 4 years of age who is unimmunized or incompletely immunized
- Household with a child younger than 12 months of age who has not completed the primary Hib vaccine series
- Household with a contact who is an immunocompromised child, regardless of that child's Hib immunization status

For preschool and childcare center contacts when 2 or more cases of Hib invasive disease have occurred within 60 days

For the index patient, if younger than 2 years of age, or a member of a household with a susceptible contact and treated with a regimen other than cefotaxime or ceftriaxone.

Consult with Regional Health Officer as needed for further identification/clarification of contacts needing chemoprophylaxis

Chemoprophylaxis Not Recommended

For occupants of households with no children younger than 4 years of age other than the index patient

For occupants of households where all household contacts 12 through 48 months of age have completed their Hib immunization series and when household contacts younger than 12 months of age have completed their primary series of Hib immunization

For preschool or childcare contacts of one index case

For pregnant women

Observe for symptoms of fever, malaise, nausea, vomiting, severe headache, increased sensitivity to light, altered mental status or confusion.

IF SYMPTOMATIC DO NOT PROVIDE PROPHYLAXIS, REFER IMMEDIATELY FOR DEFINITIVE DIAGNOSIS AND TREATMENT

ASSESSMENT
Provide chemoprophylaxis and immunization as indicated

PLAN
Rifampin is the drug of choice for chemoprophylaxis
Obtain order from health department physician to issue Rifampin (for individual with no known allergy to Rifampin)
Obtain Rifampin from regional pharmacy; ask regional pharmacist to re-package tablets for adults and mix suspension for children; if necessary, Rifampin may be provided to a local pharmacist for re-packaging

Rifampin Dosage:
Adults: 600 mg/day (single dose) x 4 days, by mouth
Children (1 month-12 years): 20 mg/kg/day (single dose) x 4 days, not to exceed 600 mg per dose, by mouth
Infants (less than 1 month): 10 mg/kg/day (single dose) x 4 days, by mouth

Instruct patient regarding medication side effects and contraindications

Immunization
Children in the household and younger than age 5 years who are incompletely immunized against Hib disease according to the Hib immunization schedule should be administered a dose of Hib-containing vaccine and, if necessary, educated to return for the next dose when due. A single dose of Hib vaccine completes the series for any child age 15 months through 59 months.

Health Teaching
Advise barrier method (foam and condoms) for oral contraceptives
Advise contact lens wearers that tears will be orange and stain contacts; urine may be orange
Notify Regional Health Officer, Communicable Disease Director and Nursing Supervisor

Referral Indicators:
Symptomatic for meningitis
Unable to tolerate, or allergy to, Rifampin

REFERENCES
CDC. Meningitis – Bacterial
www.cdc.gov/meningitis/bacterial
American Academy of Pediatrics. Haemophilus influenzae infections. In: Pickering, LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2012 Report of the Committee on Infectious Diseases.* Elk Grove Village, IL: American Academy of Pediatrics; 2012:345-352.
Epidemiology and Prevention of Vaccine- Preventable Diseases, Department of Health and Human Services, Centers for Disease Control and Prevention, 12th Edition, May 2011
Manual for Surveillance of Vaccine-Preventable Diseases, Centers for Disease Control and Prevention, 5th Edition, 2012
Yeh, S. Prevention of Haemophilus influenza infection. In: UpToDate, Torchia, M (Ed), Waltham, MA, 2013

HEPATITIS A, CASE OR PRESUMPTIVE

BACKGROUND

Hepatitis A virus (HAV) is acquired primarily by mouth through fecal-oral transmission by either person-to-person contact or ingestion of contaminated food or water. Humans are the only natural reservoir of the virus. The incubation period is approximately 28 days with a range of 15-50 days. Blood test for HAV infection becomes positive about 5 days before symptoms appear and remains positive for about 6 months after infection. Once infected with hepatitis A virus, it is not possible to become infected again.

SUBJECTIVE

Initial symptoms of hepatitis A usually include:

Fatigue	Malaise
Nausea	vomiting
Lack of appetite	Fever (greater than 100.4ºF or 38ºC
Abdominal pain (right side under the ribs)	

Other symptoms that may develop as illness progresses:

Jaundice	Dark colored urine
Itchy skin	Light colored stools

OBJECTIVE

Viral shedding persists for 1 to 3 weeks. Infected persons are most likely to transmit HAV 1 to 2 weeks before the onset of illness, up to 1 week after illness onset.

Symptoms usually last less than 2 months, although 10%–15% of symptomatic persons have prolonged or relapsing disease for up to 6 months.

Management should be considered for:

- Hepatitis A confirmed by laboratory (note: hepatitis A IgM testing is not recommended for patients without symptoms of acute hepatitis illness due to the risk of false positive hepatitis A IgM test results).
- If hepatitis A is strongly suspected
- Epidemiological contact to confirmed case of Hepatitis A

Groups at increased risk for Hepatitis A or its complications include:

- International travelers
- Men who have sex with men
- Users of injection and non-injection illegal drugs
- Persons with clotting factor disorders
- Persons working with nonhuman primates susceptible to HAV infection

ASSESSMENT

There is no specific treatment for hepatitis A virus infection. Treatment and management are supportive.

PLAN
Institute fecal-oral precautions

Determine if post-exposure prophylaxis is indicated (refer to PHN Protocol 3.220 Hepatitis A Post-exposure).

Hepatitis A is a reportable condition under Tennessee Reportable Disease Regulations. Notify nursing supervisor and communicable disease investigator; complete appropriate case investigation forms

Notify environmentalist if food or water borne transmission is suspected

Refer to the Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use PHN Protocol 2.170 for contraceptive management during an acute illness,

Health Teaching
Instruct on proper hand washing techniques. Advise to wash for 15 to 20 seconds using antimicrobial soap and water. Rinse well and dry hands on a SINGLE USE TOWEL.

Hands should be washed before and after preparing food and eating, after going to the bathroom(or changing a diaper) and/or handling garbage, dirty laundry or any soiled item.

Wash raw fruits and vegetables thoroughly before eating

REFERENCES
CDC. Hepatitis A Information for Health Professionals, Centers for Disease Control and Prevention, Division of Viral Hepatitis, August 2011
http://www.cdc.gov/hepatitis/HAV/HAVfaq.htm

Cheney, CP, Patient Information: Hepatitis A (Beyond the Basics), In: UptoDate, Baron, EB(Ed.) Waltham, MA, 2013

Epidemiology and Prevention of Vaccine Preventable Diseases, Department of Health and Human Services, Centers for Disease Control and Prevention 12th Edition, May 2011

Ferri, FF. (2010), Ferri's Clinical Advisor, Philadelphia, PA: Mosby Elsevier

HEPATITIS A, POSTEXPOSURE

GENERAL INFORMATION

Hepatitis A virus (HAV) symptoms may appear two to seven weeks after exposure to the infected source, but usually occur about four weeks after exposure. However, people who have been infected are contagious from about two weeks before the symptoms appear and continue to be contagious for about one week after the onset of jaundice. After they recover from HAV they are immune to it for life and do not continue to carry the virus.

The recommendations for the use of hepatitis A vaccine after exposure to HAV have changed. People who recently have been exposed to HAV and who previously have not had hepatitis A vaccine should be given a single dose of hepatitis A vaccine (not the combination vaccine) **or** immune globulin (IG) as soon as possible and within 14 days of the last exposure. The effectiveness of postexposure prophylaxis declines over time. Decisions to use vaccine or IG should take into account which of them is readily available and patient characteristics associated with more severe manifestations of hepatitis A, including older age and chronic liver disease.

Federally funded vaccine and IG may be used for PEP. Federally funded vaccine is not available for second doses of vaccine unless the recipient would otherwise be provided the second dose as part of the routine hepatitis A immunization protocol.

Hepatitis A vaccine is preferred for:
Most people age 12 months through 40 years of age (exceptions below)

IG is preferred for:
People over 40 years of age (hepatitis A vaccine can be used if IG is unavailable)
Children younger than 12 months of age
Immunocompromised persons
Persons who have diagnosed chronic liver disease
Persons for whom vaccine is contraindicated

Contact to a known or suspected hepatitis A case is defined as follows:
Close personal contact (with not more than 14 days since last exposure to infectious case):
Household and sexual contacts
Persons who have shared illicit drugs
Close family and playmates
Ongoing personal contact (e.g., regular babysitting)

Daycare contact (with not more than 14 days since exposure)
Hepatitis A vaccine or IG should be administered to all previously unvaccinated staff members and attendees of child care centers or homes if:

1) one or more cases of hepatitis A are recognized in children or employees
   OR
2) cases are recognized in two or more households of center attendees

In centers that do not provide care to children who wear diapers, hepatitis A vaccine or IG need be administered only to classroom contacts of the index patient.
When an outbreak occurs (i.e., hepatitis A cases in three or more families), hepatitis A vaccine or IG also should be considered for members of households that have children (center attendees) in diapers.

Common-source exposure

If case is a **food handler**, hepatitis A vaccine or IG should be given to other food handlers in the same establishment (if not more than 14 days since exposure)
- consult with communicable disease director and regional health officer before acting.

Recommended for patrons if

1) during the time when the food handler was likely to be infectious, the food handler both directly handled uncooked or cooked foods and had diarrhea or poor hygienic practices, **AND**

2) patrons can be identified and treated ≤2 weeks after the exposure. In settings in which repeated exposures to HAV might have occurred (e.g., institutional cafeterias), stronger consideration of hepatitis A vaccine or IG use could be warranted.

Schools, hospitals, and work settings

Hepatitis A postexposure prophylaxis is not routinely indicated when a single case occurs in an elementary or secondary school or an office or other work setting, and the source of infection is outside the school or work setting. Also, when a person who has hepatitis A is admitted to a hospital, staff members should not routinely be administered hepatitis A postexposure prophylaxis; instead, careful hygienic practices should be emphasized. Hepatitis A vaccine or IG should be administered to persons who have close contact with index patients if an epidemiologic investigation indicates HAV transmission has occurred among students in a school or among patients or between patients and staff members in a hospital.

PLAN

Report all know cases and suspects to the Communicable Disease Representative
For persons exposed to HAV within the past 14 days and who previously have not received hepatitis A vaccine, administer appropriate postexposure prophylaxis, according to guidelines above: **either**

a single dose of single-antigen vaccine (refer to the Hepatitis A Vaccine protocol for dosage and administration)

or IG (0.02mL/kg)

as soon as possible (and **only** within 14 days of exposure); see Dosage for IG Prophylaxis Chart.

The Tennessee Department of Health provides post-exposure prophylaxis with vaccine or immune globulin for contacts to hepatitis A cases who meet listed criteria
If using immune globulin, obtain order from public health or private physician to administer immune globulin
Delay administration of live virus vaccine(s) for at least 3 months after IG administration
If immune globulin is given within 14 days after a live virus vaccine has been given, the live virus vaccine should be repeated in 3 months

If immune globulin has been given in the previous 3 months, consult communicable disease director or public health physician prior to repeating

If the preferred postexposure prophylaxis (immune globulin or vaccine) for a particular patient is not readily available, but the alternative product is, consult with a public health physician or communicable disease director to determine acceptability of administering the alternative product.

Health Teaching:

Household and close contacts

Fecal/oral precautions

Wash hands after elimination, and before preparing food and eating; keep nails short

Daycare Facilities

Prompt and proper diaper changing

Proper disposal of diapers and disinfection of changing area

Hand washing after elimination, diaper changing, before eating, before food preparation

Disinfection of toys and play equipment in areas with diagnosed children

Educate that all children 12 months and up are now recommended to be vaccinated routinely against hepatitis A

Food Service Facilities

Environmental inspection and emphasis on personal hygiene, hand washing and sanitation

Remove food handler with diarrhea from direct food handling duties

Management to notify health department if secondary cases indicated in food handlers (fever, malaise, anorexia, abdominal pain, or nausea)

Contact health provider immediately if symptoms develop in coinfected cases (similar time frame) or in secondary cases (within six weeks)

Follow-up

If hepatitis A vaccine is initiated for postexposure, instruct patient that they may obtain a second dose after 6 months or longer to complete the series for lifelong immunity. The second dose of vaccine is not necessary for post-exposure prophylaxis and is not provided by the health department to persons for whom the health department would not otherwise provide hepatitis A vaccine.

Referral Indicators:

Symptomatic for hepatitis A

REFERENCES

MMWR, Update: Prevention of Hepatitis A After Exposure to Hepatitis A…., October 19, 2007 /56 (41); 1080-1084

Red Book, 27th Edition 2006

"Federally Funded Vaccines for Adults" memo from Dr. Kelly Moore and Dr. Tom Jaselskis, July 8, 2009

DOSAGE OF IMMUNE GLOBULIN (IG) FOR PROPHYLAXIS OF HEPATITIS A

Dosage is 0.02 ml of IG/kg
1 kg = 2.2 lbs

Weight	Immune Globulin
11 lbs	.1 ml
22 lbs	.2 ml
33 lbs	.3 ml
44 lbs	.4 ml
55 lbs	.5 ml
66 lbs	.6 ml
77 lbs	.7 ml
88 lbs	.8 ml
99 lbs	.9 ml
110 lbs	1.0 ml
121 lbs	1.1 ml
132 lbs	1.2 ml
143 lbs	1.3 ml
154 lbs	1.4 ml
165 lbs	1.5 ml
176 lbs	1.6 ml
187 lbs	1.7 ml
198 lbs	1.8 ml
209 lbs	1.9 ml
220 lbs	2.0 ml
231 lbs	2.1 ml
242 lbs	2.2 ml
253 lbs	2.3 ml
264 lbs	2.4 ml
275 lbs	2.5 ml

HERPES SIMPLEX TYPE I
(Fever Blister)

SUBJECTIVE

Singular or grouped blisters around mouth (cold sores, fever blisters)
Sores may be preceded by irritation, a tingling sensation or burning at affected site and may appear following exposure to sun or tanning bed, and at times of stress

OBJECTIVE

Vesicular eruption and ulceration of mucous membranes of the lips, mouth and/or face
Initial case may have fever [Fever may reach 40-40.6°C (104-105°F)]
Tender, enlarged lymph nodes (submandibular, submaxillary)
Increased salivation, halitosis, and anorexia

ASSESSMENT

Herpes Simplex (Fever Blister)

PLAN

Inform that disease is usually self-limiting, lasting 1-2 weeks
Important to ensure adequate fluid intake (avoid acidic drinks)
Advise regarding temporary relief:
- Application of ice cube (1 hour duration) when lesions first suspected or within 24 hours of appearance may promote rapid healing
- Acetaminophen for fever or pain with generalized primary infection
- Local analgesics prior to feedings
- Local drying agents, i.e., Blistex, 3-4 times daily

Health Teaching:

Antibody studies indicate over 85% of all adults have had this exposure
Teach proper hand washing technique
Educate that recurrent infection may be reactivated by overexposure to heat (sunlight, ultraviolet light) or cold, emotional stress, fever, trauma, or menses; often returns in same location
Advise use of lip moisturizer containing sun screen
Advise to avoid kissing when lesion present
Encourage additional rest

Referral Indicators:

Newborn infants, severely malnourished infants or children, immunosuppressed patients, or in association with another disease (i.e., measles)
Generalized eruption or extensive mucosal involvement
Ocular or genital lesions
Secondary bacterial infection
Suspected dehydration

Signs of neurologic manifestation (i.e., headache, vomiting, photophobia, convulsions, or neurologic findings)

Follow-Up:

Contact health provider if blister not improving in 72 hours; may need reassessment for hydration status
Antiviral antibiotics can be effective if started early.

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

HERPETIC STOMATITIS
(Gingivostomatitis)

SUBJECTIVE
Sores in mouth
Sudden onset of pain in mouth, drooling, bad breath, refusal to eat, and fever
Sores may be preceded by fever and irritability by 1-2 days

OBJECTIVE
Vesicular eruption and ulceration of gingival and oral mucosa
Fever may reach 40-40.6°C (104-105°F)
Tender, enlarged lymph nodes (submandibular, submaxillary)
Increased salivation, halitosis, and anorexia
Signs of dehydration

ASSESSMENT
Herpetic Stomatitis (usually Herpes Simplex type 1)

PLAN
Inform that disease is self-limiting, lasting 4-10 days
Important to ensure adequate fluid intake (avoid acidic drinks; offer children popsicles)
Acetaminophen for fever or pain Local analgesics prior to feedings
Teach proper hand washing technique

Health Teaching:
Avoid kissing when lesions are present

Referral Indicators:
Infants less than 2 months, severely malnourished infants or children, immunosuppressed patients, or in association with another disease (e.g. measles)
Secondary bacterial infection (i.e., suspected strep)
Suspected dehydration (i.e., no urinary output in 12 hours)
Signs of neurological manifestation (i.e., headache, vomiting, photophobia, convulsions or neurological findings)
Persistence or non-healing over 2 weeks

Follow-Up:
Patient/parent will be asked to contact health provider if the condition is not improving in 48-72 hours

Reference:
Ferri's Clinical Advisor 2008

STY
(HORDEOLUM)

SUBJECTIVE

Tenderness at site of infection
Tearing

OBJECTIVE

Redness, swelling, and small, hard, red boil at base of eyelash

ASSESSMENT

Hordeolum (Sty)

PLAN

Advise warm, moist (water) compresses 5-15 minutes, 3-4 times daily

Health Teaching:

Instruct patient to keep hands away from eyes and wash hands after touching eyes
Systemic Antibiotics generally not necessary

Referral Indicators:

More than one sty
Redness of sclera
Exudate or swelling
Increasing redness of the eyelid margin
Marked pain
Discharge

Follow-Up:

Patient/parent will be asked to contact health provider if no improvement in 3-4 days

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition. 2006
Ferri's Clinical Advisor, 2006

IMPETIGO/BULLOUS IMPETIGO

SUBJECTIVE

Often history of trauma, i.e., insect bites, abrasions or chronically wet skin from muggy weather or hot clothes (diapers), eczema or chickenpox
It can be spread by touch and by shared objects such as towels.
Sores that do not heal or are spreading
May complain of itching
Dysuria

OBJECTIVE

Impetigo: Seropurulent vesicles surrounded by an erythematous base; may be honey-colored crust present, especially around nose and mouth

Bullous Impetigo: Seropurulent or ruptured vesicles often on extremities; lesions vary in size; these lesions can form on face, trunk, limbs and diaper area

Blood pressure
Proteinuria
Swollen glands

ASSESSMENT

Impetigo or Bullous Impetigo

PLAN

Check blood pressure
Do urine dipstick for protein
Soak and then gently scrub lesions with warm water and antibacterial soap 2-3 times a day to soften and remove crusts
Apply thin coat of topical OTC antibacterial ointment (e.g., Bacitracin, Neosporin, Neomycin or generic equivalent) to affected area after each cleansing TID or QID

Teaching

Trim and clean fingernails to prevent spread of infection and teach children not to scratch
Counsel on treatment of other family members/contacts if applicable; impetigo is highly contagious. It can be spread by touch and by shared objects such as towels.
Don't share towels or clothing
Provide advice on school attendance
When cuts and scrapes occur, wash then with antibacterial soap and a dab of OTC ointment such as Neosporin

Referral Indicators:

Three or more lesions greater than 1/2 inch in diameter
Little or no response to treatment within 3 days
Impetigo in conjunction with acute or chronic illness
Any systemic symptoms, i.e., fever, regional adenopathy
Signs or symptoms of complications, i.e., glomerulonephritis (dark colored urine, decreased urinary output, edema)
Eye involvement or close to eye
Hypertension
Proteinuria
Widely spaced lesions, such as face and buttocks (may need systemic treatment)

Follow-Up:

Patient/parent will be asked to contact health provider in 48-72 hours

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

LEAD TOXICITY SCREENING

GENERAL INFORMATION

Children from 6 to 72 months may be at risk for lead poisoning (lead poisoning can affect any child regardless of race, economic status, or living conditions)

Children under the age of 6, living in older homes, and living in poverty have the highest risk for lead poisoning

Sources of lead exposure include:

- Housing built prior to 1978 with old chipping paint, lead water pipes, or lead soldered pipes
- Recently renovated home or frequently visited house/building built before 1978
- Close proximity (80 ft) to a heavily traveled highway (leaded gasoline) or near industrial site
- Work or hobbies involving paint, chemicals, battery, mining, lead smelting, leaded glass, lead sinkers, and lead glazed pottery
- Pewter or leaded crystal containers for storing, cooking, or eating food/drink
- Plastic or vinyl mini blinds, (purchased prior to 1996)
- Folk medicine such as Mexican, Asian, and Middle Eastern
- Sibling, housemate, frequent visitor, playmates of children with known lead toxicity

Effects of lead toxicity include:

- Very severe lead exposure in children can cause coma, convulsions, and even death
- Lower levels can affect the central nervous system and kidneys
- Very low levels are associated with decreased intelligence, behavior problems, decreased growth, and hearing difficulties

SUBJECTIVE

Have parent/guardian complete the **Blood Lead Risk Assessment Questionnaire** (see Table 1). Document all positive risk factors in the medical record. If the parent/guardian answers "yes" or "don't know" to any of the questions, the child is considered to be at **high risk** and should be **screened with a finger stick BLL at that time.**

OBJECTIVE

Obtain a finger stick blood lead level at well child visit on all children **12 months and 24 months of age**

Obtain a finger stick blood lead level at well child visit on **children 36 to 72 months of age Who do not have a previously documented blood test**

Confirm all elevated blood lead levels (5 μg/dL or greater) using venous blood sampling in accordance with the **Recommended Schedule for a Confirmatory Venous Sample** (see Table 2)

Obtain a finger stick blood lead level for siblings (6-72 months of age) of children with a confirmed elevated blood lead level, and consult with parents regarding the need to test other frequent playmates, pregnant household members, and others

Consult parent(s) or caretaker regarding results and need for follow-up (document any parent/guardian refusal)

Comprehensive follow-up services must be based on the child's confirmed Blood Lead Level (BLL) and managed according to **Schedule for Follow-up Blood Lead Testing** (see Table 3)

ASSESSMENT

All children with a confirmed **BLL ≥5 µg/dL** should receive comprehensive follow-up services based on the confirmed Blood Lead Level(BLL) and managed according to **Schedule for Follow-up Blood Lead Testing** (see Table 3)

PLAN

Provide comprehensive follow-up services for confirmed **BLL ≥5 µg/dL** according to **Schedule for Follow-up Blood Lead Testing** (see Table 3)
Stress need for appropriate follow-up, testing, treatment, and intervention
Repeat blood lead level (BLL) according to guidelines
If developmentally delayed, refer to appropriate programs

Health Teaching (for confirmed cases of lead exposure of 5 µg/dL or greater)

Provide anticipatory guidance during pregnancy, when children are 3-6 months of age, and again when they are 12 months of age (parental guidance during this time frame might prevent some lead exposure)
Provide lead poisoning prevention counseling to all children receiving child health exams
Educate about the effects/problems of lead poisoning, important sources of lead (be alert to parental occupations/hobbies), and discuss ways to prevent access to causative agents
Stress hand washing (especially before eating), showering, proper handling of soiled clothes, and frequent washing of toys and pacifiers
Educate about soil contaminated with lead (if soil near house is contaminated because of lead-based paint or near major highway, advise to plant shrubs near house to decrease play activity in that area)
Educate about miniblinds and possible lead contamination
Provide nutritional counseling regarding the need for 3 small meals and 3 snacks a day with adequate iron and calcium (iron deficiency can enhance lead absorption and empty stomach increases lead absorption)
Stress need to clean floors, window frames, windowsills, and other surfaces at least weekly with warm water and a general all-purpose cleaner or a cleaner made specifically for lead
Discuss the ineffectiveness of dry methods of cleaning, such as sweeping or vacuuming (unless a Hepavac is used) for lead removal
If drinking water has increased lead, use only fully flushed water (let water run one to two minutes) from cold-water tap for cooking, drinking, and making formula (encourage breast-feeding)
For cooking preparation and storage, use pottery that is labeled safe for cooking and/or storing food, and do not store food in open cans

Table 1: BLOOD LEAD RISK ASSESSMENT QUESTIONNAIRE

Mandatory Questions:

Does your child live in or regularly visit a house built before 1950? (This could include a day care center, home of a baby sitter, or a relative.)

Does your child live in or regularly visit a house built before 1978 with recent, ongoing, or planned renovations or remodeling (within the past 6 months)?

Does your child have a sibling or a playmate that has, or did have, lead poisoning?

Optional Questions (may be asked at the provider's discretion):

Does your child frequently come in contact with an adult who works with lead? (Examples include construction, welding, pottery, etc.)

Does your home contain any plastic or vinyl mini blinds made before July 1996?

Have you ever been told that your child has low iron?

Have you seen your child eating paint chips, crayons, soil, or dirt?

Does your child live near or visit with someone who lives near a lead smelter, battery recycling plant or other industry that could release lead?

Do you give your child any home or folk remedies that may contain lead? (such as moonshine, Azarcon, Greta, Paylooah)

Does your child live within 80 feet (or one block) of areas with a constant flow of traffic, such as busy intersections and streets, highways and interstates? (The soil near heavily used streets and roads may contain lead as a result of past use of lead in gasoline; automobile exhaust from past leaded gasoline contributes to both air and soil lead pollution)

Does your home's plumbing have lead pipes or copper pipes with lead solder joints?

Does your family use pottery ware or leaded crystal for cooking, eating, or drinking?

Table 2: RECOMMENDED SCHEDULE FOR A CONFIRMATORY VENOUS SAMPLE

Screening test result (µg/dL)	Time to confirmation testing:
5-9	1-3 months
10-44	1 week - 1 month*
45-59	48 hours
60-69	24 hours
≥ 70	Urgently as emergency test

* The higher the BLL on the screening test, the more urgent the need for confirmatory testing

Table 3: SCHEDULE FOR FOLLOW-UP BLOOD LEAD TESTING[a]

Medical management includes follow-up blood lead testing. The following table (Table 3) presents the suggested frequency of follow-up tests and should be used as guidance. Case managers and PCPs should consider individual patient characteristics and caregiver capabilities and adjust the frequency of follow-up tests accordingly.

Venous Blood Lead Level (µg/dL)	Early Follow-Up (first 2-4 tests after identification)	Late Follow-Up (after BLL begins to decline)
5-9	3 months [b]	6-9 months
10-19	1-3 months [b]	3-6 months
20-24	1-3 months [b]	1-3 months
25-44	2 weeks-1 month	1 month
≥ 45	As soon as possible	As soon as possible

[a] Seasonal variation of BLLs exists and may be more apparent in colder climate areas. Greater exposure in the summer months may necessitate more frequent follow-ups.
[b] Some case managers or PCPs may choose to repeat blood lead tests on all new patients within a month to ensure that their BLL is not rising more quickly than anticipated.

Table 4: SUMMARY OF RECOMMENDED ACTIONS FOR CHILDREN BASED ON BLOOD LEAD LEVEL(µg/dL) VALUES

<5	5 - 44	45 – 69	≥70
Lead education* -Dietary -Environmental Environmental assessment for pre-1978 housing Follow-up blood lead monitoring	Lead education* -Dietary -Environmental Follow-up blood lead monitoring (see guidelines) Complete history and physical exam Lab work: -Iron status -Consider hemoglobin or hematocrit Environmental investigation** (BLL's ≥ 20 or persistently elevated levels) Lead hazard reduction Neurodevelopmental monitoring Abdominal X-ray (if particulate lead ingestion is suspected) with bowel decontamination if indicated	Lead education* -Dietary -Environmental Follow-up blood lead monitoring (see guidelines) Complete history and physical exam Lab work: - Iron Status -Hemoglobin or hematocrit -Free erythrocyte protoporphyrin (FEP) Environmental investigation** Lead hazard reduction Neurodevelopmental monitoring Abdominal X-ray (if particulate lead ingestion is suspected) with bowel decontamination if indicated Oral Chelation therapy Consider hospitalization if lead-safe environment cannot be assured	Hospitalize and commence chelation therapy (following confirmatory venous blood lead test) in conjunction with consultation from a medical toxicologist or a pediatric environmental health specialty unit. Proceed according to actions for 45-69 µg/dL

*http://pediatrics.aappublications.org/content/116/4/1036.full.pdf

**Environmental investigations are requested by a Childhood Lead Prevention Nurse at the Central office .

If the child lives in Section 8 housing and has an elevated blood lead level, the Tennessee Housing Development Agency will be notified for environmental investigation, assessment, and correction of the problem. For certified inspection, assessment, and abatement firms in the area, call the Lead Line at 1-888-771-5323.

The following actions are **NOT** recommended at any blood lead level:

- Searching for gingival lead lines
- Testing of neurophysiologic function
- Evaluation of renal function (except during chelation with EDTA)
- Testing of hair, teeth, or fingernails for lead
- Radiographic imaging of long bones
- X-ray fluorescence of long bones

REFERENCES

"Recommendations for Blood Lead Screening of Young Children Enrolled in Medicaid: Targeting a Group at High Risk", MMR, December 8, 2000

Centers for Disease Control and Prevention. Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention. Atlanta: CDC; 2002

http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf

MENINGOCOCCAL DISEASE (Case)

BACKGROUND

Meningococcal disease is an acute, severe illness caused by the bacterium *Neisseria meningitidis*. *Neisseria meningitidis* is rare, but is the leading cause of bacterial meningitis and is considered a medical emergency. About 1,000 cases occur in the U.S. each year. Meningococcal disease is spread person to person through exchange of respiratory and throat secretions such as coughing, kissing or sharing eating utensils. Household contacts living with a case in the week before illness onset are at the greatest risk of illness. The incubation period of meningococcal disease is 3–4 days, with a range of 2–10 days.

SUBJECTIVE

Meningococcal disease is a reportable condition under Tennessee Reportable Disease Regulations. Meningococcal disease may be reported to the health department by physician, physician's office or hospital

Meningococcal meningitis due to *Neisseria meningitidis* confirmed by laboratory results

OBJECTIVE

Symptoms include sudden onset of fever, headache, stiff neck often accompanied by nausea, vomiting, sensitivity to light and altered mental status. A non-blanching, red purpuric rash may be present on the skin.

PLAN

Determine if chemoprophylaxis is indicated for contacts. Consult Regional Medical Director and Regional Communicable Disease Director

Educate patients that all exposed close contacts who develop febrile illness should **receive prompt medical evaluation**.

Notify nursing supervisor

Complete Case Report in the National Electronic Disease Surveillance system (NEDSS).

REFERENCES

Immunization Action Coalition, Meningococcal: Questions and Answers Information about the disease and vaccines, March 2012
http://www.immunize.org/catg.d/p4210.pdf

CDC. Meningococcal Disease
www.cdc.gov/meningococcal/about/symptoms.html

Kaplan SL, & Pentima CD. Meningitis in Children Beyond the Basics, In: UpToDate, Torchia, MM (Ed), Waltham, MA, 2013

MENINGOCOCCAL, INVASIVE DISEASE, Contact

BACKGROUND

Invasive infections with *Neisseria meningitidis* may present as meningococcemia (an infection of the bloodstream), meningococcal meningitis (inflammation of the protective membranes that cover the brain and spinal cord), or both. Invasive meningococcal disease is rare (about 1,000 cases occur in the United States each year) and serious. About 10% of cases die. Among survivors, 11-20% suffer neurologic damage or loss of limbs. Invasive meningococcal disease is spread person to person through exchange of respiratory and throat secretions such as coughing, kissing or sharing eating utensils. The incubation period of meningococcal disease is 1-10 days, usually less than 4 days. Meningococcal vaccines cannot prevent all cases of meningococcal disease and is not a factor in decisions concerning chemoprophylaxis of contacts.

SUBJECTIVE

Referred to Health Department with history of exposure to confirmed case of invasive meningococcal disease within 7 days of onset of disease in the index case and less than 2 weeks after exposure and other resources not available for patient to purchase medication.

OBJECTIVE

Chemoprophylaxis recommended (high risk)

Chemoprophylaxis is indicated for the following close contacts, ideally within 24 hours of diagnosis of *Neisseria meningitidis* invasive disease in the index case, but *not* more than 2 weeks after exposure.

- Household members, roommates, intimate contacts in the 7 days prior to disease onset
- Child care or preschool contacts any time during 7 days before onset of illness
- Direct exposure to index patient's oral secretions through kissing or through sharing toothbrushes, cigarettes, drinks or eating utensils, markers of close social contact, at any time during 7 days before onset of illness.
- Mouth-to-mouth resuscitation, *unprotected* endotracheal intubation or endotracheal tube management during 7 days before onset of illness
- People who frequently slept in the same dwelling as index patient during 7 days before onset of illness
- Passengers seated directly next to the index patient during airline flights lasting more than 8 hours

Consult with Regional Health Officer as needed for further identification/clarification of contacts needing chemoprophylaxis

Observe for symptoms of fever, malaise, nausea, vomiting, severe headache, increase sensitivity to light, altered mental status or confusion

IF SYMPTOMATIC, DO NOT PROVIDE PROPHYLAXIS, REFER IMMEDIATELY FOR DEFINITIVE DIAGNOSIS AND TREATMENT

ASSESSMENT
Provide chemoprophylaxis as indicated

PLAN
Obtain order from health care provider to issue Rifampin (no known allergy to Rifampin)

Obtain Rifampin from regional pharmacy; ask regional pharmacist to repackage tablets for adults and mix suspension for children

Rifampin: **Adults:** 600 mg every 12 hours x 2 days
Children: (**1 month-12 years**) 10 mg/kg/dose every 12 hours x 2 days not to exceed 600 mg/dose
Infants: (**less than 1 month**) 5 mg/kg/dose every 12 hours x 2 days

Ciprofloxacin: 500 mg STAT dose may be issued or prescribed as an alternate treatment for persons **over age 18** years

Health Teaching
Counsel patient that chemoprophylaxis is not 100% protective, review the signs and symptoms of meningococcal disease (sudden onset of fever, chills, malaise, muscle pain or a rash), advise to seek immediate medical attention should these signs develop.
Instruct patient regarding side effects and contraindications of chemoprophylaxis
Advise barrier method (foam, film or condoms) for oral contraceptive clients
Advise that tears will be orange and stain contacts lenses; urine may be orange
Notify regional health officer, communicable disease director and nursing supervisor
Should check to see that index case received Rifampin post treatment to eradicate upper respiratory tract colonization of organism

Referral Indicators:
Symptomatic for meningitis
Unable to tolerate Rifampin

REFERENCES

American Academy of Pediatrics. Meningococcal infections. In: Pickering, LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2012 Report of the Committee on Infectious Diseases.* Elk Grove Village, IL: American Academy of Pediatrics; 2012:500-509.

CDC. Meningococcal Disease
www.cdc.gov/meningococcal/about/symptoms.html

Epidemiology and Prevention of Vaccine-Preventable Diseases, Department of Health and Human Services, Centers for Disease Control and Prevention, 12th Edition, May 2011

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http://www.immunize.org/catg.d/p4210.pdf

Kaplan SL, & Pentima CD. Meningitis in Children Beyond the Basics, In: UpToDate, Torchia, MM (Ed), Waltham, MA, 2013
Red Book, Report of the Committee on Infectious Diseases, 29th Edition, 2012

MILIARIA
(Prickly Heat, Heat Rash)

SUBJECTIVE

"Little pimples" on skin
May have history of recent elevated temperature, or exposure to hot, humid temperature

OBJECTIVE

Very small vesicles without erythema (miliaria crystallina) or erythematous papules (miliaria rubra) over the chest and neck
Vesicle fluid is clear, vesicles are extremely superficial, and no inflammation is present
Lesions are usually localized to sites of occlusion or to flexural areas where skin may become macerated and eroded
Infants may be overdressed

ASSESSMENT

Miliaria (Prickly Heat)

PLAN

Avoidance of overheating
Cool patient by regulation of environmental temperature
Remove excessive clothing
Discontinue inappropriate use of topical agents (powder, ointments, lotions)
Bath with tepid water with baking soda, no soap bath

Referral Indicators:

Secondary bacterial infection

Follow-Up:

Patient/parent will be asked to contact health provider if condition worsens

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

OBSTRUCTED NASOLACRIMAL DUCT

SUBJECTIVE

Excessive tearing
Swollen inner eyelid

OBJECTIVE

Swelling over medial aspect of upper lid extending to the nose

ASSESSMENT

Obstructed nasolacrimal duct

PLAN

Instruct parent to wash hands prior to procedure and to massage the area by applying pressure from the inner canthus of the eye down the side of the nose 3-4 times daily

Referral Indicators:

Significant redness or swelling
Intermittent swelling past 6 months of age
Purulent discharge with reddened conjunctiva or sclera

Follow-Up:

Parent will be asked to contact health provider in 5-7 days

Reference:

Uphold and Graham, Clinical Guidelines in Family Medicine, Fourth Edition 2003

ORAL CANDIDIASIS/MONILIASIS
(Thrush)

SUBJECTIVE

Inability of infant to breast or bottle feed due to discomfort in mouth;
older child may complain of painful or sore mouth or tongue
White rash in mouth
Infant/child unusually fussy

OBJECTIVE

Excessive drooling
Creamy white patches of exudate found on tongue or buccal mucosa
Occasional cracking and redness of skin at corners of mouth
Exudate cannot be removed when scraped with tongue blade

ASSESSMENT

Thrush

PLAN

Nystatin oral suspension 100,000 u./ml, quantity 60 ml with the following directions:

- Place 1 cc in each side of mouth four times a day

If infant is breastfed, mothers must also be treated, even if asymptomatic;

- Give Nystatin topical cream 15 gm Rx - advise to apply to breast TID

Wipe off breast prior to breast-feeding; change bra/nursing pads daily;
avoid use of excessive soap on breasts during treatment
Sterilize bottles and pacifiers used by infant

Referral Indicators:

Baby refuses to bottle or breast feed
No response to treatment within 2-3 days
Presence of systemic involvement, such as fever

Follow-Up

Contact health provider in 48-72 hours if no improvement

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008
Medline Plus Medical Encyclopedia (online)

PEDICULOSIS CAPITIS (Head Lice)

POLICY STATEMENT

The following policy was adopted by the Medical Services Evaluation Committee July 22, 1998:

> **Local school authorities have the sole authority to implement a no-nit policy in a school. However, the Tennessee Department of Health encourages school officials to consult with the Regional Health Officer and the local health department prior to implementing such a policy. Scientific evidence for or against a no-nit policy is not available. Educational efforts directed toward local medical professionals, school officials, teachers, and parents should be at the center of control measures. The Health Department feels that only in special cases should any no-nit policy be attempted, and then for a limited period of time. In these cases, the problems accompanying the implementation of the policy should be understood and reviewed with all concerned.**

SUBJECTIVE

Severe itching of scalp
Bugs on head or nits (eggs) on hair
Contact with infected individual
Rule out allergies to drug components

OBJECTIVE

Light, tan, or dark eggs firmly attached to hair shaft
May see lice in hair, especially at the back of the head in occipital region
Excoriation of scalp
Enlargement of occipital and cervical nodes

ASSESSMENT

Pediculosis Capitis (head lice)

PLAN

Advise Patients/Parents Regarding Appropriate Treatment:

- Treatment for head lice is recommended for persons diagnosed with an active infestation. All household members and other close contacts should be checked; those persons with evidence of an active infestation should be treated. Some experts believe prophylactic treatment is prudent for persons who share the same bed with actively infested individuals. All infested persons (household members and close contacts) and their bedmates should be treated at the same time.
- Issue and/or advise to treat with OTC pediculocide shampoo or crème rinse according to specific product instructions.
- Some pediculicides (medicines that kill lice) have an ovicidal effect (kill eggs). If treatment regimen is not ovicidal, repeat treatment in 7-9 days.

- If treatment was with an ovicidal product, retreatment is recommended only if live (crawling) lice are still present several days after treatment (see recommendation for each medication). To be most effective, retreatment should occur after all eggs have hatched but before new eggs are produced
- Nits should be removed with a fine tooth comb or fingernails
- If the infested person has very long hair (longer than shoulder length), it may be necessary to use a second bottle.

Advise Patients/Parents How to Clean the Environment:

- Launder all washable clothing and bed linens used within previous 48 hours with hot water (130 degrees) and detergent, and dry at high heat for at least 20 minutes; dry clean clothing that is not washable, or place items that cannot be washed, including stuffed animals, in a heavy duty plastic bag, and securely seal for 10-14 days
- Soak combs and brushes in hot water (at least 130°F) for 5–10 minutes.
- Hats, scarves, pillow cases, bedding, clothing, and towels worn or used in the 2-day period just before treatment can be machine washed and dried using the hot water and hot air cycles
- Vacuum carpet, furniture, and car upholstery (throw away vacuum cleaner bag)

Advise Parents How to Prevent Spread and Re-infestation:

Report case of head lice to school, day care, camp, church, and social groups so that other children in the facility can be checked

Strategy Regarding Persistent Infestation:

To assess reason for continued infestation (misdiagnosis, non-compliance, new infestation); have patient describe process used.

1. *Tell me step-by-step how you used the product*
2. *Tell me step-by-step how you cleaned the environment*
3. *How did you remove the nits? (assess for adequate eyesight/lighting and use of comb and fingernail)*

Asking questions such those above will assist you to assess correct use of product and compliance with cleaning the environment

If original treatment was not ovicidal, retreat all household members and close contacts in 7-9 days

Health Teaching

- Lice and nits (eggs) are killed by exposure to temperatures greater than 53.5°C (128.3°F) for 5 minutes
- The risk of getting infested by a louse that has fallen onto a rug or carpet or furniture is very low. Head lice survive less than 1–2 days if they fall off a person and cannot feed; nits cannot hatch and usually die within a week if they are not kept at the same temperature as that found close to the human scalp. Spending much time and money on housecleaning activities is not necessary to avoid re-infestation by lice or nits that may have fallen off the head or crawled onto furniture or clothing.

- **Instruct parents to check child's head daily for lice (this catches head lice early and thus prevents it from spreading in school/daycare and keeps child from missing school and parents from missing work)**
- Teach mode of transmission and prevention of spread (e.g., headphones in school, stuffed toys, auto upholstery, car seats, sharing of hats, hair scrunches, combs, and helmets)
- Teach children to avoid sharing hats, sports headgear, combs and brushes, or borrowing clothing or other personal objects
- Teach use and side effects of medications, and caution against overuse
- Teach caregiver to wear gloves if they are shampooing the child's hair and especially if she is pregnant
- Teach patients to shampoo their hair in the sink to prevent over absorption of medication due to contact on other body surfaces
- Advise do not use conditioner or shampoo that contains conditioner when washing hair before treatment.
- Advise to avoid shampooing the hair for 2 days after treatment and then to shampoo as infrequently as possible for the next two weeks using a mild shampoo.
- Do not use fumigant sprays or fogs; they can be toxic if inhaled or absorbed through the skin.

Referral Indicators:
Pregnant women in their first trimester, or lactating women
Secondary bacterial infection
Those with a known sensitivity to pediculocide shampoo, crème rinse or chrysanthemums/ragweed sensitized persons
Nits present in eyelashes
Repeat infestations (greater than 3)
Raw or inflamed scalp
Retreat using a different OTC pediculocide shampoo or crème rinse in accordance with package instructions, if live lice are noted 7-10 days after second treatment, (a maximum of three treatments may be advised)

Follow-up:
Assessment after treatment

REFERENCE
Centers for Disease Control. http://www.cdc.gov/parasites/lice/head/treatment.htm

Treatment of Head Lice and Prevention of Re-infestation

When using a lice treatment medication, it is important to follow these treatment steps:

1. All infested household members or close contacts should be treated at the same time.

2. Do **not** use a combination shampoo/conditioner, or conditioner before applying the lice medicine and do **not** re–wash the hair for 1–2 days after the lice treatment medicine is removed because doing so may reduce the effectiveness of the lice medication.

3. Before applying lice medicine, it may be helpful to remove clothing that can become wet or stained during treatment.

4. Apply lice medicine exactly according to the instructions contained in the box or printed on the label. If the infested person has very long hair (longer than shoulder length), it may be necessary to use a second bottle. Pay special attention to instructions on the label or in the box regarding how long the medication should be left on the hair and how it should be washed out.

5. Have the infested person put on clean clothing after treatment.

6. If, 8–12 hours after treatment, no dead lice are found and lice seem as active as before, the medicine may not be working. Do not retreat until speaking with your health care provider. If your health care provider recommends a different treatment, carefully follow the treatment instructions contained in the box or printed on the label.

7. A nit comb (head lice egg comb), often found in lice medicine packages, should be used to remove nits and lice from the hair shaft. Many fine-toothed flea combs made for cats and dogs are also effective.

8. **Certain lice medications recommend a second treatment to be repeated 9 days after the first treatment in order to kill any surviving hatched lice before they produce new eggs. Medications that warrant this repeat treatment include: permethrin (Nix®), Pyrethrins (Rid®), and Benzyl alcohol (Ulesfia®)**

9. After each treatment, checking the hair and combing with a nit comb to remove nits and lice every 2-3 days may decrease the chance of re-infestation. Continue to check for 2-3 weeks to be sure all lice and nits are gone.

Supplemental Measures: Head lice do not survive long if they fall off a person and cannot feed. You don't need to spend a lot of time or money on housecleaning activities. Follow these steps to help avoid re–infestation by lice that have recently fallen off the hair or crawled onto clothing or furniture.

1. Machine wash and dry clothing, bed linens, and other items that the infested person wore or used during the 2 days before treatment using the hot water (130°F) laundry cycle and the high heat drying cycle. Clothing and items that are not washable can be dry–cleaned **OR** sealed in a plastic bag and stored for 2 weeks.

2. Soak combs and brushes in hot water (at least 130°F) for 5–10 minutes.

3. Vacuum the floor and furniture, particularly where the infested person sat or lay. However, the risk of getting infested by a louse that has fallen onto a rug or carpet or furniture is very low. Head lice survive less than 1–2 days if they fall off a person and cannot feed; nits cannot hatch and usually die within a week if they are not kept at the same temperature as that found close to the human scalp. Spending much time and money on housecleaning activities is not necessary to avoid re-infestation by lice or nits that may have fallen off the head or crawled onto furniture or clothing.

4. Do not use fumigant sprays or fogs; they can be toxic if inhaled or absorbed through the skin.

Source: Centers for Disease Control
www.cdc.gov/parasites/lice/head/treatment
accessed December 3, 2015

Head Lice Treatment Formulations

Agent	Brand Name	Rx/OTC	Ovicidal Activity	Formulations	Avg Retail Cost	Approved for ages:	Special Considerations
Permethrin, 1%	Nix®	OTC	No	60 ml 120 ml Cream rinse	$8-14	2 months and older	• Retreatment recommended 9 days after first treatment • Can be irritating to skin • Pregnancy category B / lactation; probably safe
Pyrethrins, 0.33% piperonyl butoxide, 4%	Rid® A-200® Pronto® R&C® Triple X® Licide®	OTC	No	60 ml 120 ml shampoo	$6-15	2 years and older	• Retreatment recommended 9-10 days after first treatment • Derived from chrysanthemum flower extracts – avoid if allergic to chrysanthemums or ragweed • Can be irritating to skin • Pregnancy category C / lactation; probably safe
Benzyl alcohol, 5%	Ulesfia®	Rx	No	227 gram lotion	$50-60	6 months and older (safety in persons > 60 years has not been established)	• Retreatment recommended 9 days after first treatment • Can be irritating to skin • Pregnancy category B / lactation safety unknown
Malathion, 0.5%	Ovide®	Rx	Yes	59 ml lotion	$145-200	6 years and older	• Single application generally adequate with retreatment recommended if live lice still present 7-9 days after first treatment • Can be irritating to skin • Flammable; do not use electrical hair dryers, curlers, curling irons, or smoke when applying malathion lotion and while the hair is wet • Pregnancy category B / lactation safety unknown
Spinosad, 0.9%	Natroba®	Rx	Yes	120 ml Topical suspension	$186-210	6 months and older	• Retreatment usually not needed; nit combing not required • Repeat treatment only if live lice are seen 7 days after first treatment • Can be irritating to skin • Pregnancy category B / lactation safety unknown
Ivermectin, 0.5%	Sklice®	Rx	No	4 oz lotion	$278-300	6 months and older	• Effective in most patients as single application on dry hair without nit combing • Can be irritating to skin • Pregnancy category C / lactation safety unknown

Sources: Centers for Disease Control and Prevention (cdc.gov)
Manufacturer package inserts

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

Bright Futures™
prevention and health promotion for infants, children, adolescents, and their families™

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in satisfactory fashion. Additional visits may become necessary if circumstances suggest variations from normal.

Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits.

These guidelines represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.

Refer to the specific guidance by age as listed in *Bright Futures* guidelines (Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures Guidelines for Health Supervision of Infants, Children and Adolescents*. 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008).

The recommendations in this statement do not indicate an exclusive course of treatment or standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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	INFANCY								EARLY CHILDHOOD							MIDDLE CHILDHOOD						ADOLESCENCE										
AGE[1]	**Prenatal[2]**	**Newborn[3]**	**3-5 d[4]**	**By 1 mo**	**2 mo**	**4 mo**	**6 mo**	**9 mo**	**12 mo**	**15 mo**	**18 mo**	**24 mo**	**30 mo**	**3 y**	**4 y**	**5 y**	**6 y**	**7 y**	**8 y**	**9 y**	**10 y**	**11 y**	**12 y**	**13 y**	**14 y**	**15 y**	**16 y**	**17 y**	**18 y**	**19 y**	**20 y**	**21 y**
HISTORY Initial/Interval	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MEASUREMENTS																																	
Length/Height and Weight		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Head Circumference		●	●	●	●	●	●	●	●	●	●	●																					
Weight for Length		●	●	●	●	●	●	●	●	●	●																						
Body Mass Index[5]												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Blood Pressure[6]		★	★	★	★	★	★	★	★	★	★	★	★	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SENSORY SCREENING																																	
Vision[7]		★	★	★	★	★	★	★	★	★	★	★	★	●	●	●	●	★	●	★	●	★	●	★	★	●	★	★	★	★	★	★
Hearing		●[8]	★	★	★	★	★	★	★	★	★	★	★	★	●	●	●	★	●	★	●	★	★	★	★	★	★	★	★	★	★	★	★
DEVELOPMENTAL/BEHAVIORAL ASSESSMENT																																	
Developmental Screening[9]								●			●		●																				
Autism Screening[10]											●	●																					
Developmental Surveillance		●	●	●	●	●	●		●	●		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Psychosocial/Behavioral Assessment		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Alcohol and Drug Use Assessment[11]																						★	★	★	★	★	★	★	★	★	★	★
Depression Screening[12]																						●	●	●	●	●	●	●	●	●	●	●
PHYSICAL EXAMINATION[13]		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
PROCEDURES[14]																																	
Newborn Blood Screening[15]		←—	●	—→																													
Critical Congenital Heart Defect Screening[16]		●																															
Immunization[17]		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Hematocrit or Hemoglobin[18]						★			●	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Lead Screening[19]							★	★	● or ★[20]		★	● or ★[20]		★	★	★	★																
Tuberculosis Testing[21]				★			★		★			★		★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Dyslipidemia Screening[22]												★			★		★		★	←—	●	—→	★	★	★	★	★	★	←—	●	—→		
STI/HIV Screening[23]																						★	★	★	★	★	←—	●	—→	★	★	★
Cervical Dysplasia Screening[24]																																●
ORAL HEALTH[25]							★	★	● or ★		● or ★	● or ★	● or ★	●			●															
Fluoride Varnish[26]							←—				●	—→																				
ANTICIPATORY GUIDANCE	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

1. If a child comes under care for the first time at any point on the schedule, or if any items are not accomplished at the suggested age, the schedule should be brought up to date at the earliest possible time.
2. A prenatal visit is recommended for parents who are at high risk, for first-time parents, and for those who request a conference. The prenatal visit should include anticipatory guidance, pertinent medical history, and a discussion of benefits of breastfeeding and planned method of feeding, per the 2009 AAP statement "The Prenatal Visit" (http://pediatrics.aappublications.org/content/124/4/1227.full).
3. Every infant should have a newborn evaluation after birth, and breastfeeding should be encouraged (and instruction and support should be offered).
4. Every infant should have an evaluation within 3 to 5 days of birth and within 48 to 72 hours after discharge from the hospital to include evaluation for feeding and jaundice. Breastfeeding infants should receive formal breastfeeding evaluation, and their mothers should receive encouragement and instruction, as recommended in the 2012 AAP statement "Breastfeeding and the Use of Human Milk" (http://pediatrics.aappublications.org/content/129/3/e827.full). Newborn infants discharged less than 48 hours after delivery must be examined within 48 hours of discharge, per the 2010 AAP statement "Hospital Stay for Healthy Term Newborns" (http://pediatrics.aappublications.org/content/125/2/405.full).
5. Screen, per the 2007 AAP statement "Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report" (http://pediatrics.aappublications.org/content/120/Supplement_4/S164.full).
6. Blood pressure measurement in infants and children with specific risk conditions should be performed at visits before age 3 years.
7. A visual acuity screen is recommended at ages 4 and 5 years, as well as in cooperative 3 year olds. Instrument based screening may be used to assess risk at ages 12 and 24 months, in addition to the well visits at 3 through 5 years of age. See 2016 AAP statement, "Visual System Assessment in Infants, Children, and Young Adults by Pediatricians" (http://pediatrics.aappublications.org/content/137/1/1.51) and "Procedures for Evaluation of the Visual System by Pediatricians" (http://pediatrics.aappublications.org/content/137/1/1.52).
8. All newborns should be screened, per the AAP statement "Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs" (http://pediatrics.aappublications.org/content/120/4/898.full).
9. See 2006 AAP statement "Identifying Infants and Young Children With Developmental Disorders in the Medical Home: An Algorithm for Developmental Surveillance and Screening" (http://pediatrics.aappublications.org/content/118/1/405.full).
10. Screening should occur per the 2007 AAP statement "Identification and Evaluation of Children with Autism Spectrum Disorders" (http://pediatrics.aappublications.org/content/120/5/1183.full).
11. A recommended screening tool is available at http://www.ceasar-boston.org/CRAFFT/index.php.
12. Recommended screening using the Patient Health Questionnaire (PHQ)-2 or other tools available in the GLAD-PC toolkit and at http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Documents/MH_ScreeningChart.pdf.
13. At each visit, age-appropriate physical examination is essential, with infant totally unclothed and older children undressed and suitably draped. See 2011 AAP statement "Use of Chaperones During the Physical Examination of the Pediatric Patient" (http://pediatrics.aappublications.org/content/127/5/991.full).
14. These may be modified, depending on entry point into schedule and individual need.
15. The Recommended Uniform Newborn Screening Panel (http://www.hrsa.gov/advisorycommittees/mchbadvisory/heritabledisorders/recommendedpanel/uniformscreeningpanel.pdf), as determined by The Secretary's Advisory Committee on Heritable Disorders in Newborns and Children, and state newborn screening laws/regulations (http://genes-r-us.uthscsa.edu/sites/genes-r-us/files/nbsdisorders.pdf), establish the criteria for and coverage of newborn screening procedures and programs. Follow-up must be provided, as appropriate, by the pediatrician.
16. Screening for critical congenital heart disease using pulse oximetry should be performed in newborns, after 24 hours of age, before discharge from the hospital, per the 2011 AAP statement "Endorsement of Health and Human Services Recommendation for Pulse Oximetry Screening for Critical Congenital Heart Disease" (http://pediatrics.aappublications.org/content/129/1/190.full).
17. Schedules, per the AAP Committee on Infectious Diseases, are available at: http://aapredbook.aappublications.org/site/resources/izschedules.xhtml. Every visit should be an opportunity to update and complete a child's immunizations.
18. See 2010 AAP statement "Diagnosis and Prevention of Iron Deficiency and Iron Deficiency Anemia in Infants and Young Children (0-3 Years of Age)" (http://pediatrics.aappublications.org/content/126/5/1040.full).
19. For children at risk of lead exposure, see the 2012 CDC Advisory Committee on Childhood Lead Poisoning Prevention statement "Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention" (http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf).
20. Perform risk assessments or screenings as appropriate, based on universal screening requirements for patients with Medicaid or in high prevalence areas.
21. Tuberculosis testing per recommendations of the Committee on Infectious Diseases, published in the current edition of *AAP Red Book: Report of the Committee on Infectious Diseases*. Testing should be performed on recognition of high-risk factors.
22. See AAP-endorsed 2011 guidelines from the National Heart Blood and Lung Institute, "Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents" (http://www.nhlbi.nih.gov/guidelines/cvd_ped/index.htm).
23. Adolescents should be screened for sexually transmitted infections (STIs) per recommendations in the current edition of the *AAP Red Book: Report of the Committee on Infectious Diseases*. Additionally, all adolescents should be screened for HIV according to the AAP statement (http://pediatrics.aappublications.org/content/128/5/1023.full) once between the ages of 16 and 18, making every effort to preserve confidentiality of the adolescent. Those at increased risk of HIV infection, including those who are sexually active, participate in injection drug use, or are being tested for other STIs, should be tested for HIV and reassessed annually.
24. See USPSTF recommendations (http://www.uspreventiveservicestaskforce.org/uspstf/uspscerv.htm). Indications for pelvic examinations prior to age 21 are noted in the 2010 AAP statement "Gynecologic Examination for Adolescents in the Pediatric Office Setting" (http://pediatrics.aappublications.org/content/126/3/583.full).
25. Assess if the child has a dental home. If no dental home is identified, perform a risk assessment (http://www2.aap.org/oralhealth/docs/RiskAssessmentTool.pdf) and refer to a dental home. If primary water source is deficient in fluoride, consider oral fluoride supplementation. Recommend brushing with fluoride toothpaste in the proper dosage for age. See 2009 AAP statement "Oral Health Risk Assessment Timing and Establishment of the Dental Home" (http://pediatrics.aappublications.org/content/111/5/1113.full), 2014 clinical report "Fluoride Use in Caries Prevention in the Primary Care Setting" (http://pediatrics.aappublications.org/content/134/3/626), and 2014 AAP statement "Maintaining and Improving the Oral Health of Young Children (http://pediatrics.aappublications.org/content/134/6/1224.full)."
26. See USPSTF recommendations (http://www.uspreventiveservicestaskforce.org/uspstf/uspsdnch.htm). Once teeth are present, fluoride varnish may be applied to all children every 3-6 months in the primary care or dental office. Indications for fluoride use are noted in the 2014 AAP clinical report "Fluoride Use in Caries Prevention in the Primary Care Setting" (http://pediatrics.aappublications.org/content/134/3/626).

KEY ● = to be performed ★ = risk assessment to be performed with appropriate action to follow, if positive ←— ● —→ = range during which a service may be provided

Summary of changes made to the
Bright Futures/AAP Recommendations for Preventive Pediatric Health Care

(Periodicity Schedule)

This Schedule reflects changes approved in October 2015 and published in January 2016. For updates, visit www.aap.org/periodicityschedule.

Changes made October 2015

- **Vision Screening**- The routine screening at age 18 has been changed to a risk assessment.
- Footnote 7 has been updated to read, "A visual acuity screen is recommended at ages 4 and 5 years, as well as in cooperative 3 year olds. Instrument based screening may be used to assess risk at ages 12 and 24 months, in addition to the well visits at 3 through 5 years of age. See 2016 AAP statement, "Visual System Assessment in Infants, Children, and Young Adults by Pediatricians (http://pediatrics.aappublications.org/content/137/1/1.51) and "Procedures for Evaluation of the Visual System by Pediatricians" (http://pediatrics.aappublications.org/content/137/1/1.52).

Changes made May 2015

- **Oral Health**- A subheading has been added for fluoride varnish, with a recommendation from 6 months through 5 years.
- Footnote 25 wording has been edited and also includes reference to the 2014 clinical report, "Fluoride Use in Caries Prevention in the Primary Care Setting" (http://pediatrics.aappublications.org/content/134/3/626) and 2014 policy statement, "Maintaining and Improving the Oral Health of Young Children" (http://pediatrics.aappublications.org/content/134/6/1224.full).
- Footnote 26 has been added to the new fluoride varnish subheading: See USPSTF recommendations (http://www.uspreventiveservicestaskforce.org/uspstf/uspsdnch.htm). Once teeth are present, fluoride varnish may be applied to all children every 3-6 months in the primary care or dental office. Indications for fluoride use are noted in the 2014 AAP clinical report "Fluoride Use in Caries Prevention in the Primary Care Setting" (http://pediatrics.aappublications.org/content/134/3/626).

Changes made March 2014

Changes to Developmental/Behavioral Assessment

- **Alcohol and Drug Use Assessment**- Information regarding a recommended screening tool (CRAFFT) was added.
- **Depression**- Screening for depression at ages 11 through 21 has been added, along with suggested screening tools.

Changes to Procedures

- **Dyslipidemia screening**- An additional screening between 9 and 11 years of age has been added. The reference has been updated to the AAP-endorsed National Heart Blood and Lung Institute policy (http://www.nhlbi.nih.gov/guidelines/cvd_ped/index.htm).
- **Hematocrit or hemoglobin**- A risk assessment has been added at 15 and 30 months. The reference has been updated to the current AAP policy (http://pediatrics.aappublications.org/content/126/5/1040.full).
- **STI/HIV screening**- A screen for HIV has been added between 16 and 18 years. Information on screening adolescents for HIV has been added in the footnotes. STI screening now references recommendations made in the AAP Red Book. This category was previously titled "STI Screening."
- **Cervical dysplasia**- Adolescents should no longer be routinely screened for cervical dysplasia until age 21. Indications for pelvic exams prior to age 21 are noted in the 2010 AAP statement "Gynecologic Examination for Adolescents in the Pediatric Office Setting" (http://pediatrics.aappublications.org/content/126/3/583.full).
- **Critical Congenital Heart Disease-** Screening for critical congenital heart disease using pulse oximetry should be performed in newborns, after 24 hours of age, before discharge from the hospital, per the 2011 AAP statement, "Endorsement of Health and Human Services Recommendation for Pulse Oximetry Screening for Critical Congenital Heart Disease" (http://pediatrics.aappublications.org/content/129/1/190.full).

See www.aap.org/periodicityschedule for additional updates made to footnotes and references in March 2014.

PITYRIASIS ROSEA

SUBJECTIVE

Mild itching
Occasionally mild fever or malaise
Usually history of solitary oval lesion (herald patch) preceding a generalized rash by several days

OBJECTIVE

Initial lesion with central clearing and a scaly border (herald patch) may or may not be present
Symmetric maculopapular pink oval lesions with scaly appearance (collarette), usually located on trunk in caucasian or on extremities in black persons
Characteristic "Christmas tree" pattern may be evident on back with lesions aligned along cutaneous cleavage lines

ASSESSMENT

Pityriasis Rosea

PLAN

Reassurance that disease is not contagious, is self-limited, and will resolve without treatment in 6-8 weeks
Advise that artificial or natural sunlight may decrease severity
Soak in a tepid to cold Burrow solution (Domeboro), baking soda, or colloidal oatmeal (Aveeno bath) as needed for temporary relief of itching
An OTC oral antihistamine medication, e.g., diphenhydramine (Benadryl) may be necessary, especially at night, for sedation and relief of pruritis; Benadryl dosage according to package instructions
Recommend hydrocortisone OTC cream (e.g., Cort-aid, etc.) as per package instructions for itching

WARN REGARDING DROWSINESS EFFECT OF ANTIHISTAMINE THERAPY

Prevent secondary bacterial infection (clean, short nails)
Obtain syphilis serology if indicated by history

Referral indicators:

Evidence of secondary bacterial infection

Follow-Up:

As required for patient reassurance and/or with signs of complications

Reference:

Ferri's Clinical Advisor 2008

POISON IVY DERMATITIS
(Poison Oak, Poison Sumac)

SUBJECTIVE

Itching moderate to severe

Exposure to offending plant, contaminated clothing, smoke of burning plant, or to affected pet, commonly within preceding 24-48 hours

OBJECTIVE

Irregularly shaped, raised, erythematous lesions; vesicobullous and weeping, if severe

Linear streaks or scratch marks may be evident

ASSESSMENT

Contact Dermatitis Due to Poison Ivy, Poison Oak, Poison Sumac

PLAN

Soak affected area in colloidal oatmeal (Aveeno bath) for 20 minutes at least 4 times daily

Dry thoroughly and apply calamine lotion or OTC cortisone cream such as Cort-aid, etc. (as per package instructions), to lesions for itching

Discourage topical antihistamines

An OTC oral antihistamine medication, e.g., diphenhydramine, (Benadryl) may be judiciously used (according to package instructions) to interrupt the itch/scratch cycle and for sedation.

WARN REGARDING DROWSINESS EFFECT OF ANTIHISTAMINE THERAPY

Keep nails clean and short

Discourage scratching especially in mucosal areas to prevent secondary bacterial infection

HEALTH TEACHING:

Recognition of plants

Avoidance

Protect by wearing long sleeves and gloves

Cleansing of skin and clothing with soap and water within 5-30 minutes after suspected exposure

Warmth intensifies itching

Referral Indicators:

Extensive involvement or uncontrollable discomfort
Ingestion or inhalation of irritant
Mucosal involvement (mouth, eyelid, conjunctiva, anus, vagina)
Evidence of secondary bacterial infection (impetigo, pyoderma)

Follow-Up:

Patient/parent will be asked to contact health provider in 48-72 hours

Reference:

Ferri's Clinical Advisor 2008

PREVENTION OF VITAMIN DEFICIENCY
PRENATAL

PLAN

Recommend or provide an approved prenatal vitamin preparation that contains 27-30mg of elemental iron* and not exceeding 1 mg of folic acid.

> (*Elemental iron is the absorbable portion of the iron salt. For example, 20% of ferrous sulfate is absorbable, thus a 325 mg tablet of ferrous sulfate provides 65 mg of elemental iron. 33% of ferrous fumarate is absorbable, thus a 300mg tablet of ferrous fumarate provides 100mg of elemental iron. Ferrous gluconate provides 12% elemental iron.)

Advise to take one vitamin tablet daily during pregnancy, for 6 weeks postpartum and during lactation.
Refer to local health department nutrition provider and WIC if appropriate.

Health Teaching

Instruct patient to take vitamin with food to avoid nausea and vomiting.
Vitamins with iron may cause stools to darken.
Counsel on the importance of iron-rich foods.
May require further iron supplementation via the obstetrical provider if iron deficiency anemia develops.

Referral Indicators

All pregnant women are to be assessed for presumptive eligibility for TennCare and referred to an obstetrical provider.
WIC if eligible HUGS
if eligible Dental if
eligible

Follow-up

Prenatal vitamins should be resupplied through the obstetric provider if possible.
TennCare will pay for prenatal vitamins with a prescription.

Reference

National Institute of Health website http://ods.od.nih.gov/factsheets/iron.asp

SARCOPTES SCABIEI (Scabies)

BACKGROUND

Scabies is found worldwide and affects people of all races and social classes. Scabies is an infestation of the skin by the human itch mite (*Sarcoptes scabiei* var. *hominis*). The microscopic scabies mite burrows into the upper layer of the skin where it lives and lays its eggs. The most common symptoms of scabies are intense itching and a pimple-like skin rash. The scabies mite usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies.
The incubation period in a person who has never had scabies before is 4-6 weeks while in a person who has had scabies before, symptoms usually appear much sooner (1-4) days after exposure. It is important to remember than an infested person can spread scabies during this time, even if he/she does not have symptoms yet.
Institutions such as nursing homes, extended-care facilities, and prisons are often sites of scabies outbreaks. Child care facilities also are a common site of scabies infestations.

SUBJECTIVE

Intense itching (pruritus) of affected area, especially at night
A pimple-like (papular) itchy rash that can include tiny blisters (vesicles) and scales.

The itching and rash each may affect much of the body or be limited to common sites such as:

- Fingers and webbing between the fingers
- Skin folds around the wrists, elbows, and knees
- Armpits
- Area surrounding the nipples (particularly in women)
- Waist
- Male genitalia (penis and scrotum)
- Lower buttocks and upper thighs
- Sides and bottoms of the feet

OBJECTIVE

Small vesicle may be visible at point of entrance of the mite
Tiny burrows sometimes are seen on the skin; these are caused by the female scabies mite tunneling just beneath the surface of the skin. These burrows appear as tiny raised and crooked (serpiginous) grayish-white or skin-colored lines on the skin surface.
They are found most often in the webbing between the fingers, in the skin folds on the wrist, elbow, or knee, and on the penis, breast, or shoulder blades.
The head, face, neck, palms, and soles often are involved in infants and very young children, but usually not adults and older children.

ASSESSMENT

Sarcoptes Scabiei (scabies) – suspected

PLAN

Treatment of choice is Permethrin Cream 5%

Treatment is recommended for household members and sexual contacts, particularly those who have had prolonged direct skin-to-skin contact with the infested person within the preceding month. All members of the household should be treated at the same time to prevent reinfestation

Instruct children and adults

- Read the package instructions carefully before use
- Thoroughly wash and dry skin
- Massage permethrin (Elimite 5% cream) into the skin from the head to the soles of the feet paying special attention to creases in the skin, hands, feet, between fingers and toes, underarms, and groin. Scabies rarely infests the scalp of adults
- The hairline, neck, side of the head, and forehead may be infested in older people and in infants
- Infants should be treated on the scalp, side of the head, and forehead. Do not use around eyes, including eyelashes or eyebrows
- Leave the permethrin cream on the skin for 8 to 14 hours.
- Wash off by taking a shower or bath.
- Put on clean clothes.
- Itching may continue for up to 4 weeks after treatment

Contraindications include:

- Known hypersensitivity to Pyrethroid or pyrethrin or chrysanthemums

Precautions (requiring physician consultation or referral) include:

- Infants under 2 months of age
- Pregnant or nursing women

Adverse reactions include:

- Mild and transient burning and stinging
- Pruritus
- Infrequent erthyema, numbness, tingling and rash

Health Teaching:

Treatment may temporarily exacerbate pruritis, edema, and erythema

One application is usually curative but that itching may persist for several weeks post-treatment

An OTC oral antihistamine medication, diphenhydramine (Benadryl), may be judiciously used to interrupt the itch/scratch cycle, or for sedation; warn regarding drowsiness effect of antihistamine therapy

May need to apply topical corticosteroid preparation if itching persists

Skin sores that become infected should be assessed by a physician for treatment

Children should be allowed to return to childcare or school after treatment has been completed

Teach mode of transmission- prolonged direct skin-to-skin contact. Animals do not spread human scabies. Although very uncommon, scabies can be spread by sharing a towel or item of clothing that has been used by a person with scabies

Teach prevention of spread – environmental controls and personal hygiene
Scabies mites do not survive more than 2-3 days away from human skin. Bedding, clothing and towel used by a person with scabies can be decontaminate by machine washing in hot water and drying using the hot cycle. Items that can not be washed can be decontaminated by removing from any body contact for 72 hours.

Environmental treatment is unnecessary

Referral Indicators:
Infants under 2 months of age
Pregnant or nursing women

Follow-Up
Patient/parent will be asked to contact health provider if recurrence of symptoms after 2 weeks

REFERENCES

http://www.cdc.gov/parasites/scabies/gen_info/index.html

Goldstein, BG & Goldstein, AO, Patient Information: Scabies (Beyond the Basics), In: UpToDate, Ofori, AO (Ed), UpToDate, Waltham, MA 2013

Red Book, Report of the Committee on Infectious Diseases, 27th Edition. 2006

SEBORRHEIC DERMATITIS (Cradle Cap)

SUBJECTIVE

Family history of allergic conditions
Occurrence of scales on scalp

OBJECTIVE

Inflammation of forehead and face
Scaling, crusting of the scalp

ASSESSMENT

Seborrheic Dermatitis (Cradle Cap)

PLAN

Use Baby Oil immediately before shampooing to loosen crust
Wash scalp with antiseborrheic shampoo, (e.g., Head and Shoulders, Selsun Blue) every 2 to 3 days (avoid contact with eyes)
Use a small soft brush to gently loosen crusts while shampooing

Referral Indicators:

No response to treatment in 7 days
Area other than scalp involved

Follow-Up:

Patient/parent will be asked to contact health provider if no improvement in one week

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

SMOKING CESSATION COUNSELING AND TREATMENT PROTOCOL

General Information

All health department patients aged 13 or older receiving clinical services should be asked the basic tobacco data questions; if applicable, be asked to complete the Patient Tobacco Survey; and receive evaluation and smoking cessation counseling from a provider according to the 5 As or 5 Rs guideline and protocol. All patients to receive pharmaceutical treatment should be seen by an RN or referred to an APN or MD/DO.

SUBJECTIVE: Patient has completed the Patient Tobacco Survey and states a willingness to quit smoking. If patient does not state a desire to quit smoking today, counsel according to the **Patient Not Willing to Make Quit Attempt Protocol (5 Rs).**

Contraindications:
See **Patient Willing to Make Quit Attempt Smoking Cessation Protocol** and **Pharmacotherapies for Smoking Cessation (Appendix A)**

OBJECTIVE: Blood
Pressure Pulse
Respirations
Weight
Date of last menstrual period (LMP)

ASSESSMENT: Desires smoking cessation
Has no contraindication to treatment
Assess history according to **Patient Willing to Make Quit Attempt Smoking Cessation Protocol** and **Pharmacotherapies for Smoking Cessation (Appendix A)**

PLAN: 1) Patient using tobacco and states willingness to quit, counsel according to **Patient Willing to Make Quit Attempt Smoking Cessation Protocol (5 As)**

a. For treatment with nicotine gum or nicotine lozenge, refer **to Patient Willing to Make Quit Attempt Smoking Cessation Protocol** and **Pharmacotherapies for Smoking Cessation (Appendix A)**

Note: Refer to Pharmacotherapies for Smoking Cessation (Appendix A) – for precaution/ contraindications, adverse effects, dosage/ directions, and duration of available therapies. Dosing for nicotine gum and lozenge vary. Only nicotine gum, nicotine lozenge, and Chantix® to be stocked at this time.

b. RN may initiate an order for nicotine replacement therapy (NRT) products only

c. Refer to APN or MD for questions or concerns related to issuing nicotine gum or nicotine lozenges
d. Refer to APN or MD for patient to be treated with Chantix®
e. Give appropriate smoking cessation counseling materials
f. Refer to 1-800-Quit Now (1-800-784-8669)

2) Patient uses tobacco but is not willing to quit, counsel according to **Patient Not Willing to Make Quit Attempt Smoking Cessation Protocol (5 Rs)**

Follow-up for re-supply visits:

At a minimum, assess and document the following:

i. Assess Blood Pressure, Pulse, Respirations, Weight, and LMP

ii. Assess pharmacotherapy use and screen for side effects
   a. Any **significant** changes in mood or behavior including erratic or aggressive behavior
      Patients who experience **significant** side effects, in particular **significant** mood and/or behavior changes including erratic and/or aggressive, should be instructed to:
      i. Stop the medication immediately
      ii. Immediately contact the health care provider
   b. Significant drowsiness due to quitting or medication
      Patients should use caution when driving or operating machinery until they know how quitting smoking and the medication may affect them
   c. Any other side effects or general concerns
   d. Alcohol/illicit drug use

   If **negative** for **"any significant changes in mood or behavior, including erratic or aggressive behavior,"** Æ the **RN may re-supply the pharmacotherapy according to protocol for nicotine gum or nicotine lozenge, or following written order of APN or MD/DO for Chantix®**

   If **positive** for **"any significant changes in mood or behavior including erratic or aggressive behavior,"** Æ the RN must consult a physician immediately, either on-site or by phone, to determine current medical plan (including assessment for crisis intervention).

   e. For patients on Chantix® who are making reasonable progress toward quitting and are felt to be committed by the provider, it will be acceptable with provider discretion to continue these patients on another three months of pharmacotherapy, provided the patient is enrolled for counseling with the QuitLine

iii. Repeat "**Patient Pharmacotherapy Counseling"** from **Section 4.f.v** of **Patient Willing to Make Quit Attempt Smoking Cessation Protocol.**

iv. Provide Practical Counseling

a. Congratulate success and review benefits derived from cessation
b. If relapse, obtain recommitment to abstinence (learning experience – Average 6-10 quit attempts before successful)
c. Identify problems encountered (barriers or triggers) and anticipate future challenges
d. Help patient identify additional sources of support- Tennessee Tobacco Quit Line
e. Consider providing or referring to more intensive counseling:
    i. Appropriate for those willing to participate
    ii. May be group, individual, or telephone

v. At the discretion of the provider, committed patients who are already in the program may be restarted on treatment if they previously failed to complete a three month treatment regimen, provided the patient is enrolled for counseling with the QuitLine

If no problems are identified during the assessment, the RN may re-supply the pharmacotherapy according to protocol for nicotine gum or nicotine lozenge, or following written order of APN or MD/DO for Chantix®

Problems will be referred to the APN or MD/DO.

Patient Willing to Make Quit Attempt
Smoking Cessation Protocol

All health department patients aged 13 or older receiving clinical services should be asked the basic tobacco data questions. If applicable, patients will be asked to complete the Patient Tobacco Survey, and receive evaluation and smoking cessation counseling from their provider according to the 5 As or 5 Rs guideline and protocol. All patients to receive pharmacologic treatment should be seen by or referred to an RN, APN, or MD/DO.

1) ASK

"Do you use any kind of tobacco now?" (Asked by office assistant)

If Yes Æ give Patient Tobacco Survey to complete and discuss with nurse/provider

If No Æ second question by office assistant **"Have you ever used any kind of tobacco?"**

If Yes Æ give self-assessment form to complete and discuss with nurse/provider
If No Æ apply non-tobacco user identification to chart (blank sticker)

2) ADVISE – By RN, APN, MD/DO, or DDS/DMD

a) Tell patient importance of stopping tobacco use now and that you want to help

b) Emphasize that it is the most important health step that they can take

c) Give reasons of improved health for self and loved ones (second-hand smoke):

Parents – increased respiratory infections in children; poor role model for health

New smokers – easier to stop now

Adolescents – decreased athletic performance

Pregnant women – preterm birth, low birth weight, reduced oxygen levels, respiratory problems, and increased hospital stays for infants while mother goes home

Asymptomatic – 2x risk of stroke, 6x risk of oral cancer, 10x risk of larynx cancer and COPD, 12x risk of lung cancer and CAD, 5-8 year shorter life span

Symptomatic – URIs, gum disease, dyspnea, ulcers, angina, claudication, osteoporosis, esophagitis, shortened enjoyment of life (e.g. retirement and grandchildren)

Negative social impact – costly, bad breath, stained teeth, facial wrinkles

3) ASSESS – By RN, APN, MD/DO, or DDS/DMD

Ask – "Are you thinking about quitting within the next 6 months?"

If Yes, ask if thinking about quitting within 30 days – if yes, start the "quit plan"

If No, continue to ask and offer assistance at every visit. Refer ***to "Patient Not Willing to Make Quit Attempt Smoking Cessation Protocol"*** **(5 Rs intervention)**.

4) ASSIST – Provide counseling by RN, APN, MD/DO, or DDS/DMD and pharmacotherapy (when indicated) by RN, APN, or MD/DO.

a) Help with a **Quit Plan**

- Set a quit date (ideally within 2 weeks)
- Enlist support of family, friends, co-workers
- Identify smoking triggers/habits and ways to avoid or mitigate triggers
- Remove tobacco products from environment
- Anticipate challenges (nicotine withdrawal typically peaks within 1-3 weeks after quitting)

b) Provide Practical Counseling

- Encourage total abstinence as ultimate goal
- Anticipate set-backs (a "slip" is not a failure)
- Review past experience with quit attempts
- Advise limiting or stopping alcohol use (strongly associated with relapse)
- Encourage cessation in other household members

c) Advise that provider and staff are available for support

- Give patient information (available throughout office) and give Health Department number

d) Assist with outside support system

- Give patient Tennessee **Tobacco QuitLine number (1-800-784-8669)** and if patient willing, initiate Tennessee Tobacco Quit Line fax referral (may be faxed as a batch at the end of the day or on the following day)
- Tell **prenatal patients** that the Tennessee Tobacco Quit Line provides coaches specifically trained to help pregnant women

e) Refer to APN or MD/DO for treatment today, or RN may provide nicotine replacement therapy (NRT) products today, or schedule an appointment

f) **Pharmacotherapy** – If appropriate, pharmacotherapy provided by RN, APN or MD/DO after patient's medical history and physical assessment

Note: Refer to Pharmacotherapies for Smoking Cessation (Appendix A) – for precaution/ contraindications, adverse effects, dosage/ directions, and duration of available therapies. Dosing for nicotine gum and lozenge vary. Only nicotine gum, nicotine lozenge, and Chantix® to be stocked at this time.

Chantix® should **not** be routinely prescribed for the following patients**:

- ¾ pregnant females
- ¾ lactating females
- ¾ patients with current or significant past history of psychiatric disorders
- ¾ patients with **significant** changes in mood and behavior *including* erratic and/or aggressive behavior
- ¾ patients who refuse to discontinue alcohol/illicit drug use while taking Chantix®

****Careful review of the patient's medical history and clinical judgement by a physician (MD/DO) may warrant going off protocol. Justification for this decision must be thoroughly documented in the medical record.**

At a minimum, all patients being considered for pharmacotherapy must have an assessment documented in the medical record to include the following:

i. Past Medical History/Review of Systems

a. Psychosocial: Current or past history of psychiatric disorders; Current or past history of **significant** changes in mood or behavior including erratic or aggressive behavior; Current alcohol/illicit drug use
b. Oropharynx: TMJ disease; dentures
c. Resp: Asthma; COPD
d. CV: MI; MI within 2 weeks; Angina; Arrythmias
e. GI: DM; insulin
f. Renal: Renal disease/renal impairment
g. GU: Last menstrual period; Pregnancy
h. Other: Breast feeding female

ii. Medications

a. All current medications including psychiatric medications, alternative medications, vitamins, herbal supplements, and OTCs
b. Screen for use of: Insulin; asthma medications; anticoagulants (*e.g.* warfarin)

iii. Allergies

iv. Physical Assessment

At a minimum, include the following and highlight the damage that can be done to each body system**:**

a. Vital signs: Heart rate, Respiratory rate, Blood pressure, Weight
b. Systems: Oropharynx, Lungs, Heart

v. Patient Pharmacotherapy Counseling

a. Patients receiving smoking cessation medication must be given the Health Department's 24-hour on-call number

b. Patients who experience **significant** side effects, in particular **significant** mood and/or behavior changes including erratic and/or aggressive, should be instructed to:
   i. Stop the medication immediately
   ii. Immediately contact the health care provider

c. Patients should use caution when driving or operating machinery until they know how quitting smoking and the medications may affect them

d. If the patient is receiving Chantix®, provide the patient with the teaching tool "How to Start Taking Chantix®"

5) ARRANGE – by RN, APN, MD/DO, or other trained staff

a) For patients receiving pharmacotherapy, place patient in patient tracking system

b) For patients receiving pharmacotherapy or other intensive smoking cessation counseling, schedule return visit by end of first month during initial visit

c) Advise patient to call Health Department with any questions or problems with medications, or any other concerns

d) Follow-up visits for resupply: At a minimum, assess and document the following:

i. Pharmacotherapy use and screen for side effects
   a. Any **significant changes in mood or behavior** including erratic or aggressive behavior
   b. **Significant drowsiness** due to quitting or medication
   c. Any other side effects or general concerns
   d. Alcohol/illicit drug use

If **negative** for **"any significant changes in mood or behavior including erratic or aggressive behavior,"** Æ then the RN may resupply the pharmacotherapy following written order of an APN or MD/DO.
RN may initiate an order for nicotine replacement therapy (NRT) products only

If **positive** for **"any significant changes in mood or behavior including erratic or aggressive behavior,"** Æ then the RN must consult with a physician immediately, either on-site or by phone, to determine current medical plan (including assessment for crisis intervention).

e. For patients receiving pharmacotherapy who are making reasonable progress toward quitting and are felt to be committed by the provider, it will be acceptable with provider discretion to continue these patients on another three months of pharmacotherapy, provided the patient is enrolled for counseling with the QuitLine

ii. Repeat "**Patient Pharmacotherapy Counseling**" from **Section 4.f.v**

iii. Provide Practical Counseling

a. Congratulate success and review benefits derived from cessation
b. If relapse, obtain recommitment to abstinence (learning experience – Average 6-10 quit attempts before successful)
c. Identify problems encountered (barriers or triggers) and anticipate future challenges
d. Help patient identify additional sources of support – Tennessee Tobacco QuitLine
e. Consider providing or referring to more intensive counseling:
    i. Appropriate for those willing to participate
    ii. May be group, individual, or telephone

iv. At the discretion of the provider, committed patients who are already in the Program may be restarted on treatment if they previously failed to complete a three month treatment regimen provided the patient is enrolled in the QuitLine

Patient Tobacco Survey (TSA), Clinical Documentation, and Data Management

a) Review the patient section of the Patient Tobacco Survey (Appendix B). If necessary, assist patient in completing the patient section of the survey.

b) Answer questions P1, P2, and P3.

c) Question P4 should be answered with the best clinical judgment at the time of this visit. The answer to question P4 may change on subsequent visits.

Current smoker, not willing to quit

Current smoker, willing to quit

- Include in this category any patient who has quit for less than 30 days and will not be starting treatment

Current smoker, starting treatment or in treatment (*any combination* of the following: Smoking Cessation Program, QuitLine, tobacco cessation pharmacotherapy such as NRT or Chantix®)

- Include in this category any patient who has received from the Health Department any counseling, QuitLine referral/recommendation, and/or pharmacotherapy for tobacco cessation and has subsequently quit for less than 90 days

Former Smoker -- Completed Health Department treatment

- A patient who has received from the Health Department any combination of counseling, QuitLine referral/recommendation, and or pharmacotherapy for tobacco cessation and has quit for 90 days or greater

Former smoker

- A patient identified at the first tobacco visit who has not smoked for 30 days or greater
- NOTE: A patient identified at the first tobacco visit who has quit for less than 30 days would be classified either as a "Current smoker, willing to quit" or a "Current smoker, starting treatment or in treatment"

Never smoked

- A patient identified at the first tobacco visit who has never smoked
- Include in this category any patient who has never smoked and only used smoke-less tobacco

Unable to determine

- A patient who has refused to answer questions pertaining to tobacco use and smoking

Not determined

- A patient who is not screened due to participation in mass vaccination clinics or in group classes (*e.g.* Quick WIC or WIC classes)

d) Perform medical history and physical exam. Document required findings pertinent to smoking cessation pharmacotherapy in SOAP note or on "**Tobacco Cessation Clinical Form: Initial Visit and Resupply Visit**" (Appendix C).

References:

Clinical Practice Guideline – "Treating Tobacco Use and Dependence"
US Department of Health and Human Services, Public Health Service, June 2000

Clinical Guidelines in Family Practice (Fourth Edition), Uphold and Graham 2003

Tennessee Tobacco QuitLine – http://health.state.tn.us/tobaccoquitline.htm

Facts and Comparisons 4.0, Wolters Kluwer Health, Inc., 2007

FDA: Early Communication about an Ongoing Safety Review – Varenicline (Marketed as Chantix®). November 20, 2007, updated February 1, 2008

FDA: Public Health Advisory – Important Information on Chantix® (varenicline). February 1, 2008, updated May 16, 2008

Pfizer: Medication Guide, Chantix® (varenicline) Tablets – May 2008

Pfizer: Package Insert, Chantix® (varenicline) Tablets – May 2008

Patient Not Willing to Make Quit Attempt
Smoking Cessation Protocol

1) **ASK** – "Do you use any kind of tobacco now?" (Asked by office assistant)

If Yes – give self-assessment form to complete and discuss with nurse/provider

If No – second question by office assistant "Have you ever used any kind of tobacco?"

If Yes – give self-assessment form to complete and discuss with nurse/provider

If No – apply non-tobacco user identification to chart (blank sticker)

2) **ADVISE** – By RN, APN, MD/DO, or DDS/DMD

a) Tell patient importance of stopping tobacco use now and that <u>you want to help</u>

b) Emphasize that it is the most important health step that they can take

c) Give reasons of improved health for self and loved ones (second-hand smoke):

Parents – increased respiratory infections in children; poor role model

New smokers – easier to stop now

Adolescents – decreased athletic performance

Pregnant women – preterm birth, low birth weight, reduced oxygen levels, respiratory problems, and increased hospital stays for infants while mother goes home

Asymptomatic – 2x risk of stroke, 6x risk of oral cancer, 10x risk of larynx cancer and COPD, 12x risk of lung cancer and CAD, 5-8 year shorter life span

Symptomatic – URIs, gum disease, dyspnea, ulcers, angina, claudication, osteoporosis, esophagitis, shortened enjoyment of life, retirement and grandchildren

d) Negative social impact – costly, bad breath, stained teeth, facial wrinkles

3) ASSESS – by RN, APN, MD/DO, or DDS/DMD

Ask – "Are you thinking about quitting in the next six months?" - NO

4) ASSIST – by RN, APN, MD/DO, or DDS/DMD

a) Patient may be unwilling to quit for the following reasons

Patient Not Willing to Make Quit Attempt (Continued)

Misinformation

Concern about the effects of quitting

Demoralization from previous unsuccessful quit attempts

b) Assist with outside support system

Give patient Tennessee Tobacco Quit Line number (1-800-784-8669) and if patient willing, initiate Tennessee Tobacco Quit Line fax referral (may be faxed as a batch at the end of the day or on the following day)

Tell prenatal patients that the Tennessee Tobacco Quit Line provides coaches specifically trained to help pregnant women.

c) Use **5 Rs** motivational intervention:

Relevance – encourage patient to tell you why quitting would be personally relevant to him/her (ask them to be as specific as possible)

Risks – ask patient to identify potential negative consequences of tobacco use (acute and long-term disease risks and environmental risks)

Rewards – ask patient to identify potential benefits of stopping tobacco use (i.e. improved health, food tastes better, improved sense of smell, save money, better self-image, stop worrying about quitting, be good example to children, have healthier babies and children, perform better in physical activities, and reduce wrinkling/aging of skin)

Roadblocks – ask patient to identify barriers and note elements of treatment that could address barriers (i.e. withdrawal symptoms, fear of failure, weight gain, lack of support, depression, and enjoyment of tobacco)

Repetition – motivational intervention should be repeated every time an unmotivated patient presents to the Health Department (therefore, every tobacco user must be identified on every visit)

Patient Tobacco Survey (TSA) and Data Management

a) Review the patient section of the Patient Tobacco Survey (Appendix B). If necessary, assist patient in completing the patient section of the survey.

b) Answer questions P1, P2, and P3.

c) Question P4 should be answered with the best clinical judgment at the time of this visit. The answer to question P4 may change on subsequent visits.

Patient Not Willing to Make Quit Attempt (Continued)

Current smoker, not willing to quit

Current smoker, willing to quit

- Include in this category any patient who has quit for less than 30 days and won't be starting treatment

Current smoker, starting treatment or in treatment (*any combination* of the following: smoking cessation program, quit line, tobacco cessation aid such as NRT or Chantix®)

- Include in this category any patient who has received from the Health Department any counseling, Quit Line referral/recommendation, and/or pharmacotherapy for tobacco cessation and has subsequently quit for less than 90 days

Former Smoker -- Completed Health Department treatment

- A patient who has received from the Health Department any combination of counseling, Quit Line referral/recommendation, and or pharmacotherapy for tobacco cessation and has quit for 90 days or greater

Former smoker

- A patient identified at the first tobacco visit who has not smoked for 30 days or greater
- NOTE: A patient identified at the first tobacco visit who has quit for less than 30 days would be classified either as a "Current smoker, willing to quit" or a "Current smoker, starting treatment or in treatment"

Never smoked

- A patient identified at the first tobacco visit who has never smoked
- Include in this category any patient who has never smoked and only used smoke-less tobacco

Unable to determine

- A patient who has refused to answer questions pertaining to tobacco use and smoking

Not determined

- A patient who is not screened due to participation in mass vaccination clinics or in group classes (*i.e.* Quick WIC or WIC classes)

Patient Not Willing to Make Quit Attempt (Continued)

References:

Clinical Practice Guideline – "Treating Tobacco Use and Dependence"
US Department of Health and Human Services, Public Health Service, June 2000

Clinical Guidelines in Family Practice (Fourth Edition), Uphold and Graham 2003

Tennessee Tobacco Quit Line – http://health.state.tn.us/tobaccoquitline.htm

Appendix A

Pharmacotherapies for Smoking Cessation[a]

Medication	Availability	Precautions / Contraindications	Adverse Effects	Dosage / Directions	Duration	Cost / Day[b]
Varenicline	Chantix® (prescription only)	Pregnancy (Category C), breast-feeding Not recommended in patients < 18 years of age. Caution in patients with renal impairment. **See additional precautions below.**[c]	Nausea/Vomiting Constipation/Gas Insomnia Abnormal dreams Headache	Days 1-3 – 0.5 mg once daily; Days 4-7 – 0.5 mg twice daily; Days 8 through end of treatment – 1 mg twice daily	12 weeks (if successful, additional 12 weeks recommended)	$4.49 (based on dose-pack)
Nicotine Gum[d]	Nicorette®, Nicorette® Mint (OTC only)	Pregnancy (Category C)[e] Recent (< 2 weeks) MI, unstable angina, serious underlying arrhythmias, TMJ disease, difficult to use with dentures	Increased heart rate Increased blood pressure Mouth soreness Dyspepsia Increased salivation	1-24 cigs/day – 2 mg gum[fg]; 25+ cigs/day – 4 mg gum [fg] Either dosage up to 24 pcs/day	Up to 12 weeks [fg]	$5.03 – 2 mg or 4 mg (based on 10 pieces per day)
Nicotine Lozenge[d]	Commit® (OTC only)	Pregnancy (Category C)[e] Recent (< 2 weeks) MI, unstable angina, serious underlying arrhythmias	Increased heart rate Increased blood pressure Hiccoughs Heartburn Nausea	1st cig ≤ 30 min. of waking – 4 mg loz.[gh]; 1st cig > 30 min. of waking – 2 mg loz.[gh] Either dosage at least 9 loz./day x first 6 wks	Up to 12 weeks [gh]	$5.14 – 2 mg or 4 mg (based on 10 lozenges per day)
Nicotine Patch[d]	Nicoderm CQ® (OTC only)	Pregnancy (Category D)[e] Recent (< 2 weeks) MI, unstable angina, serious underlying arrhythmias, acute and/chronic skin disorders.	Local skin reaction Insomnia	>10 cigs/day – 21 mg/24 hours; ≤10 cigs/day – 14 mg/24 hours start here x 6 weeks then 7mg x 2 weeks; 7 mg/24 hours	Weeks 1-6 Weeks 7-8 Weeks 9-10	$3.58 all strengths
Nicotine Inhaler[d]	Nicotrol® Inhaler (prescription only)	Pregnancy (Category D)[e] Recent (< 2 weeks) MI, unstable angina, serious underlying arrhythmias, underlying reactive airway disease.	Local irritation of mouth and throat Insomnia	6-16 cartridges/day	Up to 6 months	$11.11 (based on 10 cartridges per day)
Nicotine Nasal Spray[d]	Nicotrol NS® (prescription only)	Pregnancy (Category D)[e] Recent (< 2 weeks) MI, unstable angina, serious underlying arrhythmias, underlying chronic nasal disorders (rhinitis, nasal polyps, sinusitis), severe reactive airway disease.	Nasal irritation Insomnia	8-40 doses/day	3-6 months	$5.62 (based on 12 doses per day)
Bupropion SR	Zyban® (prescription only)	Pregnancy (Category B), concomitant therapy with meds known to lower seizure threshold (e.g., antipsychotic/ depressants, theophylline, lithium, etc.) MAO inhibitor in previous 14 days, abrupt discontinuing of alcohol or sedatives, Hx of seizure, or eating disorder.	Insomnia Dry mouth	150 mg every morning x 3 days, then 150 mg twice daily Begin treatment 1-2 weeks pre-quit.	7-12 weeks maintenance up to 6 months	$5.18 (based on twice a day dosing)

[a] Information contained within this table is not comprehensive. See package insert for additional information.
[b] Prices are based on Average Wholesale Price (AWP) February 2008.
[c] **Monitor** for behavior and mood changes, and have patients contact healthcare provider if they experience behavior or mood changes. Patients should use caution when driving or operating machinery until they know how quitting smoking with Chantix® may affect them. *FDA: Early Communication About an Ongoing Safety Review – Varenicline (Marketed as Chantix®), February 1, 2008.* Choose quit date and start treatment approximately 1 wk prior to quit date.
[d] Age less than 18 years (unless ≥ 100 pounds and with parental/guardian consent only may use Nicotine Replacement Therapy (NRT)). RN or APN may request MD/DO consult as needed.
[e] Unless after 20 weeks under special circumstances may use NRT. RN or APN may request MD/DO consult as needed.
[f] Chew gum slowly until it tingles, then park it between the cheek and gum for 30 minutes. When tingling is gone instruct patient to repeat process.
[g] One pc of gum or loz. every 1-2 hrs for wks 1-6; 1 pc of gum or loz. every 2-4 hrs for wks 7-9; 1 pc gum or loz. every 4-8 hrs for wks 10-12. No food or drink 15 min. before or while chewing gum or using lozenge. Do not smoke during treatment.
[h] Do not use > 1 lozenge at one time or continuously. Do not use > 5 lozenges in 6 hrs, or > 20 lozenges/day. Do not chew or swallow lozenge.

TINEA CORPORIS (Ringworm)

SUBJECTIVE

Round or oval patch(es) on body
Usually asymptomatic, but may itch

OBJECTIVE

Ring-shaped, erythematous, scaling patch(es) with central clearing and distinct border(s) which are often raised
Lesions may be located on face, trunk, or extremities

ASSESSMENT

Tinea Corporis (Ringworm)

PLAN

Instruct to bathe with soap and water
Apply wet dressing (water); allow to air dry 2 to 3 times daily to assist with debridement
Apply topical antifungals, such as clotrimazole 1% cream (Lotrimin), miconazole, or tolnaftate (Tinactin) cream to affected area morning and evening until lesion clears and for 2 weeks after clearing
Discontinue treatment if condition worsens
Simultaneous treatment of affected family members and pets
Avoid contact with infected animals
Do not share clothing or towels with others
Avoid community baths, showers, pools, sauna's, etc.

Referral Indicators:

Severe or extreme involvement (oral antifungal antibiotic therapy required)
Lesions on face or head (hair loss), eyes
No response to local treatment or worsening of condition
Secondary bacterial infection

Follow-Up:

Patient/parent will be asked to contact health provider if no improvement in one week

Reference

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

TINEA CRURIS (Jock Itch, Gym Itch)

SUBJECTIVE

Marked itching of groin and upper thighs and under breast
Rash (varies in color from red to brown)
Oozing red rash
Scaly rash
Obesity

OBJECTIVE

Lesions consist of erythematous macules with sharp margins, cleared centers, and active, spreading peripheries in intertriginous areas; may be vesicle formation at the borders
Bilateral fan-shaped rash
May have associated tinea infection of feet

ASSESSMENT

Tinea Cruris (Jock Itch)

PLAN

Instruct to keep area clean and dry but avoid over bathing and excessive use of soap on skin while infected (blow dry with a hair dryer)
Advise to wear loose fitting, non-rough textured cotton clothing
Avoid conditions that cause sweating in affected areas
Instruct to change clothing frequently and launder in hot, soapy water
Instruct to apply topical over the counter antifungal preparation such as clotrimazole, miconazole, and tolnaftate (Tinactin) to the affected areas and surrounding skin twice daily for several weeks and at least 7 days after the rash has cleared; do not use steroids
Advise that the use of a bland, absorbent powder may be helpful adjuvant to therapy (apply evenly)
Recommend sitz baths to relieve itching of the anogenital area
Check for pubic lice

Health Teaching:

Mode of transmission - directly through contact with infected lesions or indirectly through contact with contaminated articles such as towels and shorts
Use separate towel to dry infected area
Dry feet last

Referral Indicators:

Patient will be asked to contact health provider if no response to treatment in 2- 3 days

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

TINEA VERSICOLOR

SUBJECTIVE

Patches on the skin that will not tan
Usually asymptomatic, but may burn or itch

OBJECTIVE

Hypo- or hyperpigmented round or oval macules or scaly patches on upper trunk (commonly chest, back, neck, and arms) which are unaffected by sunlight
Prevalent in older children and adolescents

ASSESSMENT

Tinea Versicolor

PLAN

Bathe and dry thoroughly prior to treatment
Appropriate therapy may include one of the following:

- A topical selenium sulfide suspension (Selsun or Exsel) applied daily x 7 consecutive days; rinse off after 10 minutes; if not cleared in one month, have patient repeat treatment
- Lotions, ointments, or creams containing 3-6% salicylic acid twice daily for 2-4 weeks
- Topical Miconazole, clotrimazole or ketoconazole cream twice daily for 2-4 Weeks

Use not indicated during pregnancy
Repigmentation may take months; reoccurrence is common
Treat other family members concurrently if symptomatic

Referral Indicators:

Extensive involvement with acute inflammation or exudation
No response to treatment after 3 weeks
Pregnancy

Follow-Up:

Patient will be asked to contact health provider if no improvement in 3 weeks

Reference

Ferri's Clinical Advisor 2008

TESTING FOR TB INFECTION:
Tuberculin Skin Testing (TST) or
Interferon-gamma Release Assay (IGRA)

GENERAL INFORMATION

Refer to **World Health Organization (WHO) list of TB Incidence by Country, 2014** at the end of this protocol for identification of TB-endemic countries.

Routine testing for TB infection with either TST or IGRA should not be performed for patients who are assessed to be at "LOW RISK" for tuberculosis.

IGRA is the preferred test for persons who have been previously vaccinated with Bacillus Calmette-Guérin (BCG); however, TST is not contraindicated for BCG-vaccinated individuals.

Targeted testing for TB infection may be performed to identify persons with increased risk of having TB infection who would benefit from treatment.

NOTE: A decision to test is a decision to treat. Consult Tennessee Tuberculosis Elimination Program (TTBEP) Central Office staff prior to starting a targeted testing initiative.

SUBJECTIVE

Evaluate/Document TB Risk Status:

Complete the "***TB Risk Assessment Tool***" (**TB RAT**) for all persons (child, adolescent or adult) who meet one or more of the following criteria:

- Being considered for TB infection testing, **OR**
- Had a cough ≥ 2-3 weeks **AND** at least one of the following additional symptoms: fever, night sweats, weight loss, or hemoptysis; **OR**
- "High- risk" for TB *(see **TABLE 1**)*; **OR**
- Responds "YES" to any of the questions on the "***TB Risk Assessment Questionnaire***" *(see **TABLE 2**)*

Pregnant women should be considered for TB infection testing only if they have a specific risk factor for TB infection (Note: There is no evidence that the TST or IGRA have adverse effects on the pregnant mother or fetus).

TABLE 1. Groups at High Risk for TB Infection (Immediate test for TB infection required)

1. Close contacts of a person known or suspected to have TB disease (i.e., those sharing the same household or other enclosed environments)
2. Foreign-born persons from TB-endemic countries (see **WHO list)§**
3. Health care workers who serve high-risk clients (use TST for annual testing)§
4. Mycobacterial laboratory workers (use TST for annual testing)
5. Persons with HIV infection or AIDS (in adults, use IGRA if possible)*
6. Persons with medical conditions or treatments that place them at high risk for progression to TB disease if infected with *M. tuberculosis* (includes diabetes, silicosis, leukemia or lymphoma, cancer of the head and neck or lung, immunosuppressive condition or therapy, end-stage kidney disease, gastrectomy or jejunoileal bypass, weigh < 90% of ideal body weight, pre/post-transplant (all tissue/solid organs requiring current anti-rejection medication), untreated/inadequate TB treatment [without a documented positive TB test result], diagnosed with TB infection within the past 2 years [without a documented positive TB test result], and smoking)**
7. Persons who inject or use illicit drugs§
8. Residents, staff, or volunteers who work or have ever worked in high-risk congregate settings (e.g., homeless shelters or correctional facilities)***§
9. Children under 18 years of age exposed to adults in high-risk categories
10. Persons who are currently or have ever been homeless§
11. Persons with radiographic or clinical findings suggesting TB disease
12. Residence or prolonged travel in a TB-endemic country (see **WHO list**)§
13. Other high-risk populations as locally defined by the Department of Health (designation as a locally-defined high-risk population will be based on the incidence of TB disease and infection for that specific area or population, and may include some medically underserved populations)

* All persons newly diagnosed with HIV infection should be tested for TB infection as soon as possible. Annual testing for TB infection is recommended only for HIV-infected patients who are at high risk of repeated or ongoing exposure to those with active TB.

** Once a negative test is documented for patients in this group, no repeat testing is necessary unless the patient has a new risk factor for TB exposure.

*** Residents, staff, or volunteers who work or have ever worked in a high-risk congregate setting are at high-risk for TB infection. TST should be used as the method of testing for any persons required to have annual testing. Children/youth in DCS custody residing in a congregate care setting (i.e., where testing for TB infection is required as long as the child/youth remains in the congregate care setting) should receive a TST (not IGRA) for the annual testing.

§Patients in these groups should receive initial testing for TB. Patients should be screened for symptoms and NEW risk factors for exposure or progression upon subsequent visits. If no new risk factors are present, testing for TB should not be done.

If a patient comes to the health department requesting a TST for employment, administer the TB RAT. If the patient is determined to be "low risk," provide documentation that they do not need a skin test. If the TB RAT identifies an additional high risk factor, (for example, travel to a TB endemic country, has been homeless, etc.) then the health department may test using the TST method.

Uninsured and/or health department patients who are identified as "high risk" according to PHN Protocol 3.460, Table 1, #6, including patients needing TB testing prior to implementation of a medication or treatment, should be tested at the health department for TB infection using the IGRA. However, insured patients who have been referred to the health department by their private provider for TB testing with an IGRA prior to implementation of a medication or treatment should be referred back to their providers for the IGRA. The health department does not function as an outside lab.

Consult with the Regional Health Officer, Regional TB physician or staff at the TB Elimination Program Central Office for clarification or questions.

TABLE 2. TB Risk Assessment Questionnaire (Administer to Children & Adolescents)

1. Are you or your child in close contact of a person with TB?
2. Are you or your child foreign-born or an immigrant or refugee from a country where TB is common (refer to **WHO list**)
3. Have you, your child, or any household member traveled to a country where TB is common (refer to **WHO list**) in the last 12 months?
4. Do you or your child have a medical condition or treatment of a medical condition that suppresses the immune system?
5. Do you or your child have HIV infection, or is he/she considered at risk for HIV infection?
6. Are you or your child exposed to the following individuals?
   - HIV-infected, homeless individuals, residents of nursing homes, institutionalized adolescents or adults, users of illicit drugs, incarcerated adolescents or adults, or migrant farm workers

If respondent reports "YES" to any of the above, you must complete a "*TB Risk Assessment Tool" (TB RAT).*

For **children and adolescents** who present for an EPSDT, administer the "***TB Risk Assessment Questionnaire***" (see **TABLE 2** above). If testing for TB infection is indicated, use the TST method.

OBJECTIVE

TST may be given on the same day as live virus vaccines (e.g., MMR and Varicella); however, if not given on the same day, TST should be delayed **at least 4 weeks** (28 days) after administration of a live virus vaccine (Note: Delaying the TST will remove the concern of any theoretical suppression of PPD reactivity from the vaccine).

Inject 0.1 ml PPD intradermally into the volar (palm side) surface of the left forearm; the scapula area may be used as an alternative site for persons who cannot receive the TST in the lower arm.

Two-step TST (initial visit) all persons who are required to receive serial testing for TB infection (e.g., health care or correctional facility workers) in order to ascertain a reliable baseline. Refer to "***TST Two-Step Protocol 3.470***"

NOTE: IGRA is not recommended by CDC for serial testing (those who require annual testing for TB infection).

TABLE 3. TTBEP Recommendations for TST for Infants, Children and Adolescents[§§]

Children for whom immediate TST or IGRA is indicated:

- Contacts of persons with confirmed or suspected contagious TB (contact investigations)
- Children with radiographic or clinical findings suggesting TB disease
- Children immigrating from countries with endemic TB (see **WHO list**), including international adoptees
- Children with travel histories to countries with endemic TB (see **WHO list**) and substantial contact with indigenous people from such countries

Children who should have annual TST:

- Children infected with HIV (TST only)

Children at increased risk of progression to active TB disease:

- Children with other medical conditions, including diabetes mellitus, chronic renal failure, malnutrition, congenital or acquired immunodeficiencies, and children receiving tumor necrosis factor (TNF) antagonist deserve special consideration. Without recent exposure, these children are not at increased risk of acquiring TB infection. Underlying immune deficiencies associated with these conditions theoretically would enhance the possibility for progression to severe TB disease. Initial histories of potential exposure to TB should be included for all of these patients. If these histories or local epidemiologic factors suggest a possibility of TB exposure, immediate and periodic TST or IGRA should be considered.
- An initial TST or IGRA should be performed before initiation of immunosuppressive therapy, including prolonged steroid administration, use of TNF-alpha antagonists, or other immunosuppressive therapy in any child requiring these treatments.

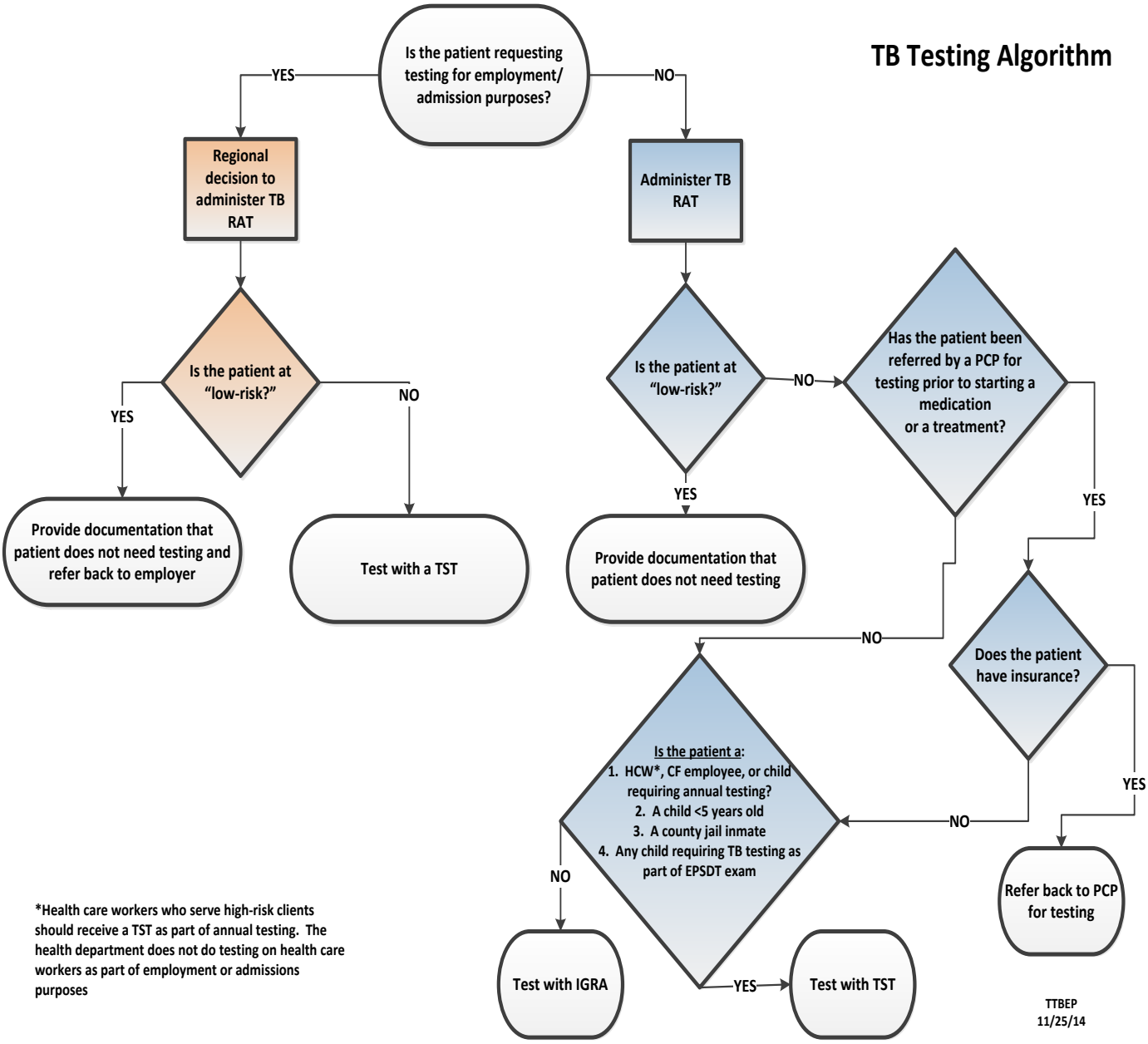
[§§] Adapted from AAP Tuberculin Skin Test (TST) Recommendations for Infants, Children, and Adolescents (2012 Red Book, Table 3.76, page 740)

IGRA blood samples should be collected per TB Elimination Program guidelines and laboratory protocol.
Refer to TB Elimination Program guidelines and Lab Manual for QuantiFERON®-TB Gold In-Tube assay collection and processing procedures.

IGRA method should **NOT** be used for the following patients**:**

a) Children <5 years of age
b) Any child, regardless of age, requiring TB testing as part of the EPSDT exam
c) Any person disposition as "low-risk" through the TB Risk Assessment Tool (TB RAT)
d) Health Care Workers (HCWs) and those who require annual testing
e) Persons requesting TB testing for employment purposes (excludes eligible health department employees)

EXCEPTION: An IGRA may be used for testing persons meeting criteria "b" "c" or "d" above *IF* identified during a contact investigation as at risk for recent TB exposure.



*Health care workers who serve high-risk clients should receive a TST as part of annual testing. The health department does not do testing on health care workers as part of employment or admissions purposes

ASSESSMENT

Read TST results within 48-72 hours. Palpate with the pads of fingertips for the presence or absence of induration (i.e., a hard, dense, raised formation); **do not measure any soft swelling or redness** that may be present at the site. The transverse diameter of the induration is measured across the forearm from the "thumb side" of the arm to the "little finger side" of the arm.

Record TST measurement in millimeters (mm) only

Interpret TST results (i.e., "positive" vs "negative") in accordance with **TABLE 4**, ***"Interpretation of TST results by Risk Group"***

A "**negative"** TST result (i.e., no induration present) in a person who returns for TST reading and interpretation more than 72 hours after placement **is not** considered valid; a repeat TST placement is required.

A "**positive**" TST result (i.e., induration is present) in a person who returns for TST reading and interpretation more than 72 hours after placement should be measured and documented in millimeters. A repeat TST is not necessary as a positive reaction may persist for up to one week after placement.

For persons with TST results interpreted as "**negative**" who undergo repeat TST placement, **an increase in induration diameter of ≥10mm within a period of 2 years** should be considered a "**TST conversion**" indicative of recent infection with *M. tuberculosis*; such persons should be clinically evaluated for TB infection or active TB disease.

> NOTE: As long as there is no history of prior severe reaction or allergy to the TB skin test, the TST may be repeated if the initial results are questionable or if there is no documentation of a prior result measured in millimeters (mm).

IGRA

Receipt of an IGRA result (i.e., QFT-GIT) can take between 3-5 days. The qualitative result will be indicated on the laboratory form as "**Positive**," "**Negative**" or "**Indeterminate**." Patients for whom the IGRA result is "Indeterminate" should have an IGRA of the same type repeated within 1-2 weeks.

TABLE 4. Interpretation of TB Test Results, By Risk Group

1. **IGRA:**
   - A **"Positive"** qualitative result noted on the laboratory form is an indication of infection with *M. tuberculosis*. It does not indicate when the infection occurred nor does it indicate if the infection has progressed to active TB disease.
   - A **"Negative"** qualitative result indicates the person's immune system did not detect the presence of *M. tuberculosis* when the specimen was drawn. If TB exposure has been recent, a repeat IGRA is indicated 8-10 weeks after he/she no longer has contact with the active case of TB, or 8-10 weeks after the person with active TB is no longer considered contagious.
   - TST is preferred/recommended for children <5 years of age

2. **TST Reaction > 5 mm of induration – Interpret as "Positive" if:**
   - HIV-infected persons
   - Recent contacts of persons with TB disease
   - Fibrotic changes on chest radiograph consistent with prior TB
   - Immunosuppressed patients, including those with organ transplants, those receiving the equivalent of ≥15 mg per day of prednisone for at least 1 month, chemotherapy, TNF-alpha antagonists, etc.*

3. **TST Reaction > 10 mm of induration – Interpret as "Positive" if:**
   - All foreign-born persons (recent immigrants within past 5 years) from high- prevalence countries
   - Injection drug users
   - Residents and employees of the following high-risk congregate settings: Prisons and jails, nursing homes and other long-term care facilities, hospitals and other health care facilities, residential facilities for patients with acquired immunodeficiency syndrome (AIDS), or homeless shelters
   - Mycobacteriology laboratory personnel
   - Persons with the following clinical conditions: silicosis, diabetes mellitus, chronic renal failure, some hematologic disorders (e.g., leukemias and lymphomas), other specific malignancies (e.g., carcinoma of the head or neck and lung), weight loss of ≥10% of ideal body weight, history of gastrectomy or jejunoileal bypass surgery
   - Children younger than 4 years of age
   - Infants, children, and adolescents exposed to adults at high-risk

4. **TST reaction > 15 mm of induration – Interpret as "Positive" if:**
   - Person with no risk factors for TB[†]

* The risk of TB in patients treated with corticosteroids increases with higher dose and longer duration.

[†] For persons who are otherwise at low risk and are tested at the start of employment, a reaction of ≥ 15mm induration is considered "positive."

PLAN

Children < 4 years of age who are exposed to a person with active TB and have a negative initial TST must be:

> **Referred** promptly to the TB clinic for evaluation and possible treatment of LTBI, regardless of the TST result. Treatment can be stopped if, upon re-testing at 8-10 weeks after last exposure to the infectious TB case, the child's second TST remains negative.
>
> **Re-tested** with TST 8-10 weeks after he/she no longer has contact with the active case of TB, or 8-10 weeks after the person with active TB is no longer considered contagious.

If a TB test is "positive" (TST with induration present) or "Positive" (IGRA), refer the child promptly to the medical provider or regional TB clinic for evaluation to rule out active TB disease and consideration of treatment for TB infection.

Repeat TST as indicated (see **TABLE 3:** ***Recommendations for Serial TST in Children***).

Adults who are exposed to a person with active TB and have a negative initial TST/IGRA must be

> **Referred** to the TB clinic for evaluation by medical provider if patient is immunocompromised or has symptoms of TB
>
> **Re-Tested** with same method initially used for testing (TST or IGRA) 8-10 weeks after last exposure

If a TB test is "positive" (TST with induration present) or "Positive" (IGRA), refer the patient promptly to the medical provider or regional TB clinic for evaluation to rule out active TB disease and consideration of treatment for TB infection.

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Report of the Committee on Infectious Diseases. Elk Grove Village, IL, 2012

WHO List: TB Incidence by Country, 2014

Country	PTBMIS Code	Incidence	
Afghanistan	001	High	
Albania	002	Low	
Algeria	003	High	
American Samoa	004	Low	
Andorra	005	Low	
Angola	006	High	
Anguilla	007	Low	
Antartica	008	No data	
Antigua and Barbuda	009	Low	
Argentina	010	Low	
Armenia	224	High	
Aruba	251	Low	
Australia	011	Low	
Austria	012	Low	
Azerbaijan	225	High	
Bahamas	013	Low	
Bahrain	014	Low	
Bangladesh	015	High	
Barbados	016	Low	
Belarus	226	High	
Belgium	017	Low	
Belize	018	Low	
Benin	019	High	
Bermuda	020	Low	
Bhutan	021	High	
Bolivia (Plurinational State of)	022	High	
Bonaire, Saint Eustatius and Saba	253	Low	
Bosnia and Herzegovina	227	High	
Botswana	023	High	
Bouvet Island	024	No data	
Brazil	025	High	
British Indian Ocean Territories	026	No data	
British Virgin Islands	027	Low	
Brunei Darussalam	028	High	
Bulgaria	029	Low	
Burkina Faso (Upper Volta)	247	High	
Burma (Myanmar)	030	High	
Burundi	031	High	

Cambodia (Kampuchea)	228	High	
Cameroon	032	High	
Canada	033	Low	
Cape Verde	034	High	
Cayman Islands	035	Low	
Central African Republic	036	High	
Chad	037	High	
Chile	038	Low	
China	039	High	
China (Taiwan)	040	No data	
China, Hong Kong SAR	087	High	
China, Macao SAR	116	High	
Christmas Island	041	No data	
Cocos (Keeling) Islands	042	No data	
Colombia	043	Low	
Comoros	044	Low	
Congo	045	High	
Cook Islands	046	Low	
Costa Rica	047	Low	
Cote d'Ivoire (Ivory Coast)	098	High	
Croatia	229	Low	
Cuba	048	Low	
Curacao	255	Low	
Cyprus	049	Low	
Czech Republic	230	Low	
Czechoslovakia	050	No data	
Democratic People's Republic of Korea (North Korea)	106	High	
Democratic Republic of the Congo	257	High	
Denmark	051	Low	
Djibouti	052	High	
Dominica	053	Low	
Dominican Republic	054	High	
East Germany	071	Low	
Ecuador	055	High	
Egypt	056	Low	
El Salvador	057	High	
England (United Kingdom of Great Britain and Northern Ireland)	204	Low	
Equatorial Guinea	058	High	
Eritrea	259	High	
Estonia	231	Low	
Ethiopia	059	High	
Falkland Islands	060	No data	
Faroe Islands	061	No data	
Federated States of Micronesia	245	High	

Fiji	062	High	
Finland	063	Low	
France	064	Low	
French Guiana	065	No data	
French Polynesia	066	Low	
French Southern and Antartic Lands	067	No data	
Gabon	068	High	
Gambia	069	High	
Georgia	232	High	
Germany	246	Low	
Germany (East)	071	Low	
Germany (West)	072	Low	
Ghana	073	High	
Gibraltar	074	No data	
Gilbert Islands (Kiribati)	105	No data	
Great Britain (United Kingdom of Great Britain and Northern Ireland)	204	Low	
Greece	075	Low	
Greenland	076	High	
Grenada	077	Low	
Guadeloupe	078	No data	
Guam	079	High	
Guatemala	080	High	
Guinea	081	High	
Guinea-Bissau	082	High	
Guyana	083	High	
Haiti	084	High	
Heard and McDonald Islands	085	No data	
Honduras	086	High	
Hong Kong (China, Hong Kong SAR)	087	High	
Hungary	088	Low	
Iceland	089	Low	
India	090	High	
Indonesia	091	High	
Iran (Islamic Republic of)	092	Low	
Iraq	093	High	
Iraq-Sauid Arabia Neutral Zone	094	No data	
Ireland	095	Low	
Israel	096	Low	
Italy	097	Low	
Ivory Coast (Cote d'Ivoire)	098	High	
Jamaica	099	Low	
Japan	100	Low	
Johnston Atoll	101	No data	
Jordan	102	Low	

Kazakhstan	233	High	
Kenya	104	High	
Kiribati (Gilbert Islands)	105	High	
Korea, Democratic People's Republic of (North Korea)	106	High	
Korea, Republic of (South Korea)	107	High	
Kosovo	248	No data	
Kuwait	108	Low	
Kyrgyzstan	234	High	
Lao People's Democratic Republic (Laos)	109	High	
Laos (Lao People's Democratic Republic)	109	High	
Latvia	235	High	
Lebanon	110	Low	
Lesotho	111	High	
Liberia	112	High	
Libya (Libyan Arab Jamahiriya)	113	High	
Libyan Arab Jamahiriya	113	High	
Liechtenstein	114	No data	
Lithuania	236	High	
Luxembourg	115	Low	
Macao (China, Macao SAR)	116	High	
Macedonia (The Former Yugoslav Republic of Macedonia)	219	High	
Madagascar	117	High	
Malawi	118	High	
Malaysia	119	High	
Maldives	120	High	
Mali	121	High	
Malta	122	Low	
Marshall Islands	261	High	
Martinique	123	No data	
Mauritania	124	High	
Mauritius	125	Low	
Mexico	126	High	
Micronesia (Federated States of)	245	High	
Midway Islands	127	No data	
Moldova (Republic of Moldova)	238	High	
Monaco	128	Low	
Mongolia	129	High	
Montenegro	239	Low	
Montserrat	130	Low	
Morocco	131	High	
Mozambique	132	High	
Myanmar (Burma)	030	High	
Namibia	133	High	
Nauru	134	High	

Navassa Island	135	No data	
Nepal	136	High	
Netherlands	137	Low	
Netherlands Antilles	138	No data	
New Caledonia	139	Low	
New Hebrides	140	No data	
New Zealand	141	Low	
Nicaragua	142	High	
Niger	143	High	
Nigeria	144	High	
Niue	145	Low	
Norfolk Island	146	No data	
North Korea (Democratic People's Republic of Korea)	106	High	
Northern Ireland (United Kingdom of Great Britain and Northern Ireland)	204	Low	
Northern Mariana Islands	147	High	
Norway	148	Low	
Oman	149	Low	
Pakistan	150	High	
Palau	263	High	
Panama	151	High	
Papua New Guinea	152	High	
Paracel Islands	153	No data	
Paraguay	154	High	
Peru	155	High	
Philippines	156	High	
Pitcairn Islands	157	No data	
Poland	158	Low	
Portugal	159	Low	
Puerto Rico	160	Low	
Qatar	161	Low	
Refused Information	998		
Republic of Korea (South Korea)	107	High	
Republic of Moldova	238	High	
Reunion	162	No data	
Romania	163	High	
Russian Federation (Russia)	240	High	
Rwanda	164	High	
Saint Christopher and Nevis (Saint Kitts and Nevis)	165	Low	
Saint Kitts and Nevis (Saint Christopher and Nevis)	165	Low	
Samoa (Western Samoa)	216	Low	
San Marino	170	Low	
Sao Tome and Principe	171	High	
Saudi Arabia	172	Low	
Senegal	173	High	

Serbia	241	Low	
Seychelles	174	Low	
Sierra Leone	175	High	
Singapore	176	High	
Sint Maarten (Dutch part)	265	Low	
Slovakia	267	Low	
Slovenia	242	Low	
Solomon Islands	177	High	
Somalia	178	High	
South Africa	179	High	
South Korea (Republic of Korea)	107	High	
South Sudan	183	High	
Spain	180	Low	
Spratly Islands	181	No data	
Sri Lanka	182	High	
St. Helena	166	No data	
St. Lucia	167	Low	
St. Pierre and Miquelon	168	No data	
St. Vincent and the Grenadines	169	High	
Sudan	183	High	
Suriname	184	Low	
Svalbard and Jan Mayen	185	No data	
Swaziland	186	High	
Sweden	187	Low	
Switzerland	188	Low	
Syria (Syrian Arab Republic)	189	Low	
Syrian Arab Republic (Syria)	189	Low	
Taiwan	040	Low	
Tajikistan	243	High	
Tanzania (United Republic of Tanzania)	190	High	
Thailand	191	High	
The Former Yugoslav Republic of Macedonia	219	High	
Timor-Leste	269	High	
Togo	192	High	
Tokelau	193	Low	
Tonga	194	Low	
Trinidad and Tobago	195	Low	
Trust Terriroty of the Pacific Islands	196	No data	
Tunisia	197	Low	
Turkey	198	Low	
Turkmenistan	244	High	
Turks and Caicos Islands	199	High	
Tuvalu	200	High	
Uganda	201	High	

Ukraine	223	High	
Union of Soviet Socialist Republics	202	No data	
United Arab Emirates	203	Low	
United Kingdom of Great Britain and Northern Ireland	204	Low	
United Republic of Tanzania	190	High	
United States Mis Pacific islands	206	No data	
United States of America	205	Low	
Unknown	999		
Upper Volta	207	High	
Uruguay	208	Low	
US Virgin Islands	212	Low	
Uzbekistan	246	High	
Vanuatu	271	High	
Vatican City	209	No data	
Venezuela	210	Low	
Viet Nam	211	High	
Wake Island	213	No data	
Wallis and Futuna Islands	214	Low	
West Bank and Gaza Strip	070	Low	
West Germany	072	Low	
Western Sahara	215	No data	
Western Samoa (Samoa)	216	High	
Yemen (Aden)	217	High	
Yemen (Sana)	218	High	
Yugoslavia	219	No data	
Zaire	220	No data	
Zambia	221	High	
Zimbabwe (S. Rhodesia)	222	High	
	denotes high TB incidence country		
	denotes no TB incidence from WHO		

TUBERCULIN SKIN TESTING, TWO STEP PROCEDURE

GENERAL INFORMATION

Two-step testing is done to detect waning sensitivity to infection with *Mycobacterium tuberculosis*

A person entering the health care field (with potential for direct patient contact) must be two stepped regardless of age unless they can show documented proof within past 12 months of a PPD skin test

IGRAs are not recommended for those who require serial testing annually (health care workers, correctional facility employee, child requiring serial testing)**.**

SUBJECTIVE:

Complete TB/LTBI Risk Assessment Tool at initial visit
(Note: Not to be used for Health Department employees)

OBJECTIVE:

Inject 0.1 ml PPD intradermally into the volar (palm side) surface of the left forearm; the scapula area may be used as an alternative site for persons who cannot receive the TB skin test in the lower arm.

ASSESSMENT:

Read the tuberculin skin test in **48 to 72 hours**:

Palpate with the pads of your fingertips for the presence or absence of induration (a hard, dense, raised formation); **do not measure any soft swelling or redness** that may be present at the site. The diameter of the induration is measured across the forearm from the thumb side of the arm to the "little finger side" of the arm or vice versa by measuring the transverse diameter of induration.

Record TST results in millimeters only; do not record as positive or negative
A **non-reactive** TST result (i.e., no induration present) in a person who returns for TST reading and interpretation more than 72 hours after placement **is not** considered valid; repeat TST placement is required.

Interpret TST results (i.e., "reactive" vs. "non-reactive") as outlined below:
"Interpretation of TST results by Risk Group."

1. **TST Reaction ≥5 mm of induration**
   - HIV-infected persons
   - Recent contacts of patients with TB disease
   - Fibrotic changes on chest radiograph consistent with prior TB

- Immunosuppressed patients, including those with organ transplants, those receiving the equivalent of ≥15 mg per day of prednisone for at least 1 month, chemotherapy, TNF-alpha antagonists, etc.*

2. **TST Reaction ≥10 mm of induration**
   - All foreign-born persons (recent immigrants within past 5 years) from high prevalence countries
   - Injection drug users
   - Residents and employees of the following high-risk congregate settings: Prisons and jails, nursing homes and other long-term care facilities, hospitals and other health care facilities, residential facilities for patients with acquired immunodeficiency syndrome (AIDS), or homeless shelters
   - Mycobacteriology laboratory personnel
   - Persons with the following clinical conditions: silicosis, diabetes mellitus, chronic renal failure, some hematologic disorders (e.g., leukemia and lymphoma), other specific malignancies (e.g., carcinoma of the head or neck and lung), weight loss of ≥10% of ideal body weight, history of gastrectomy or jejunoileal bypass surgery.
   - Children younger than 4 years of age or infants, children, and adolescents exposed to adults at high-risk
3. **TST Reaction ≥15 mm of induration**
   - Person with no risk factors for TB

If the initial reading is non-reactive, repeat the skin test one to three weeks after the first test. If the initial reading is reactive, do not proceed to second test.

A **reactive** TST result (i.e., induration is present) in a person who returns for TST reading and interpretation more than 72 hours after placement should be measured and documented in millimeters.

If second test has no significant induration, consider it non-reactive, depending on clinical situation, and record measurement in millimeters

For persons with TST results interpreted as "**non-reactive**" who undergo repeat TST placement, an increase in induration diameter of ≥10mm within a period of 2 years should be considered a TST conversion indicative of infection with *M. tuberculosis*; such persons should be clinically evaluated for LTBI or active TB disease.

Note: TB/LTBI Risk Assessment Tool does not need to be completed twice unless a patient returns to the clinic at a later time and it is determined that they have a new exposure or risk factors, in which case another TB/LTBI Risk Assessment Tool should be completed

PLAN:

All reactive tuberculin skin test should be referred to a private physician or to a tuberculosis clinic for a chest radiograph and further evaluation

Document results in record in millimeters, even if negative, and give results in writing to patient

REFERENCES:

American Academy of Pediatrics, 2012:736-759.

American Academy of Pediatrics. Tuberculosis. In: Pickering LK, Baker C, Kimberlin DW, Long SS, eds. 2012 *Red Book:*

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Report of the Committee on Infectious Diseases. Elk Grove Village, IL

TUBERCULOSIS, CASE OR SUSPECT (INITIAL VISIT)

SUBJECTIVE

Symptoms may include the following:

- Cough >2 weeks
- Hemoptysis
- Chest pain
- Fever
- Referral from physician
- Chills
- Night sweats
- Weight loss
- Fatigue

OBJECTIVE

- Productive cough
- Thin, pale
- HIV status
- Respirations normal or labored
- Documented weight loss
- Jaundice, yellow eyes
- Positive or negative tuberculin skin test (TST)
- Positive, negative or indeterminate IGRA (Indeterminate should be repeated)
- Positive or negative smear, cultures, or culture pending
- Abnormal chest X-ray
- Other diagnostic tests/results

Baseline measurement from TB clinic to include CMP, CBC with platelets and differential, and HIV. (Routine laboratory monitoring for toxicity is generally not needed in individuals with normal baseline.)

Clinical information from other providers, hospital

ASSESSMENT

Tuberculosis suspect (culture report not available)

Tuberculosis case (culture report or nucleic acid amplification test result is positive, indicate site of infection)

Latent Tuberculosis Infection (LTBI)

PLAN

Have patient wear surgical mask if symptomatic; nurse must wear n-95 mask

Initial Nursing Assessment:

Face to face contact will be made within 24 hours of notification of new infectious (sputum smear positive or cavitary on chest x-ray) TB suspect/case; this contact may be in the home, office, hospital, or other facility

Explain contact investigation and begin identifying contacts

Face to face contact visit will be made within 3 working days of notification of a newly diagnosed case or suspect who is:

sputum smear negative,
culture pending or culture positive,
abnormal chest x-ray non-cavitary

Records should be obtained within 24 hours of report of suspect

Conduct Home Assessment:

If the initial visit is not a home visit, nurse should make a home visit to assess the home environment within 3 working days from notification; preferably the home visit should be made prior to patient's discharge from hospital, but no later than 24 hours after discharge from a hospital (see TB Guidelines)

Nurse must ensure that no immunosuppressed persons or children <4 years of age are in the home if an infectious patient is being discharged home

Provide Screening Evaluation:

Consider psychosocial, cultural background, and language/literacy level

Provide interpreter services as needed

Complete TB/LTBI Risk Assessment Tool (if not done previously) and evaluate history, including onset and duration of symptoms and signs for TB (as listed above) Evaluate for possible pregnancy

Screen for any contraindications to anti-tuberculosis drugs (using PH 2040, Screening and Monitoring Forms)

Observe patients and family's ability and availability of resources to cope, adherence to medications regimen, and compliance with follow-up

If being treated by private physician, obtain record of physical exam, chest X-ray report, significant lab tests (sputum cultures, liver functions, and WBC) and medication orders

Ascertain whether MD will follow or if Health Department to follow; if Health Department to follow, refer to TB Clinic

Assure that a focused physical exam and chest X-ray have been performed by TB clinic MD/NP; if not done, refer back to TB clinic

Begin contact investigation

If patient is hospitalized, notify hospital of isolation discharge requirements

If patient is discharged from hospital, obtain and send copy of all records (notes, lab, and radiology reports, physician orders, and medication sheets) to regional TB clinic

Obtain and Document the Following Information:

Physician referral of suspect, case, or orders for anti-TB drugs

Known contacts

HIV status/other TB risk factors
PPD skin test history (including measurement) or previous IGRA test (including dates and results)
Previous history of –
- Tuberculosis disease
- TB infection (LTBI)
- Administration of anti-TB medications

Symptoms including –
- Date of first symptom
- Weakness, weight loss, anorexia
- "Flu-like" episode, chills, fever
- Productive cough, chest pain, blood in sputum
- Night sweats

Other health problems including –
- HIV or immunosuppression
- Diabetes mellitus
- Liver or kidney disease
- History of alcohol or drug abuse
- Current medications (including OTCs and herbal medicines)
- LMP
- Allergies
- Other evaluation by private MD, other providers, or health care facility
- Special patient needs

Treatment:

Instruct on home isolation precautions until no longer infectious, or place patient on isolation if indicated
Measure height, weight, and vital signs initially.
Obtain weight and vital signs monthly
Directly observed therapy (DOT) is the standard of care for all TB cases
Issue anti-tuberculosis drugs as prescribed by TB clinic physician (only those medications approved by TB clinic MD may be issue)
If on ETHAMBUTOL perform visual acuity (Snellen chart) and Red/Green color discrimination monthly; if patient wears glasses, check vision with glasses and note this in record
If STREPTOMYCIN or an AMINOGLYCOSIDE (Capreomycin, Amikacin) is to be used, obtain BUN and creatinine; patient should be questioned at baseline and monthly about possible hearing loss or tinnitus, and monitor vestibular function using the Romberg at baseline and monthly
At treatment initiation, if not drawn in TB clinic, draw CMP, CBC with platelets and differential

and HIV (if not known); all labs to be reviewed by the TB physician

Issue 3 sputum containers, dated and numbered (if pulmonary TB or to rule out pulmonary TB) with instructions for collecting in AM

Collect first sputum specimen in clinic in person by sputum induction using 3% sodium chloride.

Issue patient 2 prelabeled and dated cans for use the next 2 consecutive days for natural sputum collection

Complete all required fields on lab requisition

DOT worker should pick up sputums at home on the day of collection for mailing to the lab from the local health department

Perform Contact Investigation (see TB Guidelines)

All high-risk contacts should be tested within 7 working days

Completion of initial medical assessments of high-risk contacts should be completed within 10 working days of contact identification.

Document all contact information on PH 1631, "TB Contact Record"

NOTE: IGRA test is preferred for baseline testing for contacts ≥5 years of age.

All contacts should receive an IGRA or TST if they have a documented negative PPD or IGRA history.

All high-risk contacts (from all environments) that have a positive IGRA or Positive TST are to have a chest X-ray and evaluation by an MD or APN.

Contacts that have an initial negative TST or IGRA but are at risk of progression to active TB (i.e., children < 4, immunosuppressed persons, pregnant women, dialysis patients, HIV+, etc.) are to have a chest X-ray and evaluation by an MD or APN as soon as possible.

All contacts with an initial negative IGRA or TST should have a repeat IGRA or TST at 8-10 weeks after contact is broken (last exposure) with the suspect/case; only one IGRA or TST is needed if contact has been broken for more than 10 weeks when initially tested.

NOTE: Use consistent method of testing for evaluation of a contact

Example:

- if IGRA is drawn initially, then at 8-10 weeks, IGRA will be repeated
- if Tubersol PPD is placed initially, then at 8-10 weeks, a second PPD will be placed using Tubersol
- if Aplisol PPD is placed initially, then at 8-10 weeks, a second PPD will be placed using Aplisol

Any contact that has an **indeterminate** IGRA is to be retested within 1-2 weeks.

Consult with regional TB nurse/physician for preventative therapy on ALL children who are close contacts of infectious or potentially infectious cases of TB, regardless of skin test results.

Document on contact record (PH 1631).
When contact investigation is completed, send a copy of PH 1631 to Regional TB office.

Provide Follow-up
If patient is being followed by Health Department TB physician, schedule monthly return appointments to TB clinic.
If patient is being followed by a private provider, schedule monthly visit with PHN to issue medication(s) and document any medication side effects.
Obtain monthly office visit medical record notes from private provider prior to monthly PHN visit at health department.

For patients with active TB:
- Ensure DOT as ordered by physician until regimen is completed
-Assess for side effects each time DOT is given
-Weigh at every TB clinic visit
-Ensure baseline labs and sputum culture results are in chart
-Report any symptoms suggesting toxicity promptly to the treating physician and obtain appropriate lab specimens as ordered
-If on ETHAMBUTOL, perform monthly vision checks including visual acuity and color red/green discrimination
-If on STREPTOMYCIN or an AMINOGLYCOSIDE (Capreomycin, Amikacin), perform monthly Romberg and hearing evaluation (see TB Guidelines)
-Repeat liver testing if indicated (underlying liver disease, alcohol use symptoms) or as ordered by physician
-Issue sputum containers (set of 3) at least monthly but should be more frequently if patient is infectious; three sputum cultures must be obtained at one month and two months as ordered by physician (document reason if unable to obtain and notify Regional TB clinic), remind physician to order at 2 months if not done
-Sputum cultures must be done every month until patient has 3 consecutive negative cultures for 2 consecutive months
-When culture sent to outside labs, contact private provider or lab to ensure culture and sensitivity are ordered and that culture isolate is sent to state lab
-Send a copy of completed drug monitoring sheet to the regional TB clinic monthly
-Ensure TB clinic is aware of all culture and sensitivity results

Provide Referral:
Current medication intolerance and/or adverse reactions
Abnormal laboratory findings
Pregnancy
Non-adherence

REFERENCES

CDC. Core curriculum on TB: What the Clinician Should Know, 5th Ed., 2011.

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Report of the Committee on Infectious Diseases. Elk Grove Village, IL

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TUBERCULOSIS, Treatment of Tuberculosis Infection (TBI)

Tuberculosis Infection (TBI) is an asymptomatic state in persons who are infected with Mycobacterium tuberculosis and have future risk of developing active TB, but is not currently infectious to others.

SUBJECTIVE:
History of positive Mantoux skin test or positive IGRA
Physician referral
History of positive HIV status
Previous treatment for TBI
Contact to TB case or suspect
Risk factor(s) for TB on TB/TBI Risk Assessment Tool (RAT)
Clinical information from other providers if applicable

OBJECTIVE:
Positive tuberculin skin test
Positive IGRA
Normal chest x-ray
No symptoms of TB

ASSESSMENT:
Positive tuberculin skin test
Positive IGRA
Immunosuppressed with known contact to TB case/suspect regardless of TST results
Child <5 years and contact to TB case/suspect regardless of TST results
Pregnant and contact to TB case/suspect regardless of TST results
Diabetic patients with a documented positive test or positive IGRA who cannot prove that they have completed adequate TBI treatment should be assessed for new risk factors

PLAN:
<u>Provide Screening Evaluation:</u>
Complete TB/TBI Risk Assessment Tool (TB RAT)
Provide TB testing, if appropriate
Make appointment for patient with the regional TB clinic for evaluation if not previously done and/or consult with TB clinic staff
Notify TB clinician of any patient with TB symptoms
Patient will be evaluated by clinician in TB clinic
Obtain records from other providers
Obtain medical history
Record any allergies or previous adverse reactions to medications

Assess and document all current medications (prescription, OTCs, or home remedies)
Assess and document history of substance abuse (alcohol or drugs)

Treatment:
Obtain written medical order by clinician for appropriate anti-tuberculosis medication

Obtain copy of last office visit progress note if seen by private provider

Consult with regional TB clinic regarding special circumstances (obtain approval from Regional TB clinician to adhere to medication orders from private providers; review chart to assure appropriateness)

Monitor for possible contraindications prior to initiating drug therapy, especially liver disease or factors that may contribute to liver disease (i.e., liver toxic medications, and alcohol abuse) and document on drug monitoring form (notify TB clinic of any contraindications)

If patient is a child, notify regional clinic for recommendations and/or specific orders

- All children <5 years of age who are contacts to TB cases/suspects are to receive TBI therapy until 10 week follow-up skin test is negative (window therapy)
- Children (≤18 years of age) are to receive directly observed preventive therapy (DOPT) throughout TBI treatment
- All patients receiving 3HP therapy regardless of age are to receive DOPT weekly therapy throughout TBI treatment

	Daily Regimen **Isoniazid (INH) Rifampin (RIF)**	**Weekly Regimen** **Isoniazid (INH)-Rifapentine (RPT)** **(aka "3HP")**
	INH daily or twice weekly for 6 or 9 months Twice weekly regimen must be DOPT RIF daily for 4 or 6 months See 2015 TB manual Table III-3 for more information.	All patients receiving the 3HP regimen will receive DOPT To ensure there are no immediate side effects, the initial dose of medication will be issued in the health department clinic All subsequent doses may be given in the field setting
LABS	CMP **and** CBC with platelets & without differential; HIV (if not already drawn) for patients with: chronic liver disease suspected liver disorder immunosuppressed pregnant or within 3 months postpartum Regular alcohol use Consider a urine pregnancy test for women of childbearing age, if applicable. Hold DOPT and notify clinician if pregnancy is suspected.	Adults ≥18 years of age: obtain baseline CMP, CBC with platelets & without differential (if not already done) HIV screen (if status unknown). Consider a urine pregnancy test for women of childbearing age, if applicable. Hold DOPT and notify clinician if pregnancy is suspected.

	Daily Regimen **Isoniazid (INH) Rifampin (RIF)**	**Weekly Regimen** **Isoniazid (INH)-Rifapentine (RPT)** **(aka "3HP")**
Issuing medication	Issue **only** one (1) month supply of medication If patient is going out of town for an extended period, consult with TB clinic regarding dispensing more than a one-month supply of medications If patient buying medication, obtain name of pharmacy and monitor monthly pick-up	Issue **only** one (1) weekly dose of medication Ideally, doses should be spaced 7 days apart with a minimum of 5 days between doses No less than three (3) doses or more than five (5) doses should be given in any 28 day period
What to do if treatment gets behind schedule or is deferred	If patient has stopped medication or not picked up a resupply for: *Less than 2 months* Carefully assess for signs/symptoms of active TB; if assessment is negative, the nurse may restart the medication If there are signs/symptoms of TB disease, the PHN notifies the TB clinician for further orders *Greater than 2 months* IF patient stopped TB medication; has not picked up medication re-supply OR TBI therapy is deferred for any reason (e.g., until after pregnancy, after completion of rehab, patient returns from travel, etc.), the patient **must** be reevaluated by the TB clinician in TB clinic (including a clinical exam and CXR) before restarting medication	If the patient misses three (3) doses within any 28 day period, the regimen should be discontinued and not restarted

Provide Health Teaching:

Discuss specific drug dosage, the anticipated benefits and possible side effects (especially liver toxicity)

Educate patient on whom to contact (give name and number) if side effects develop, including contact for holidays and weekends (emergency room,etc.)

Provide "*Patient Medication Instruction Sheet*"

Advise patient to stop the drug if adverse reactions occur. Provide name and number of person to contact for instructions.

Educate patient about the importance of disclosing any other medications (prescription, over- the-counter, or home remedies) including use of alcohol or drugs
Educate patient about adverse effects of alcohol use with TBI medications
Educate women of child-bearing age need barrier method (e.g., condom, diaphragm, etc.) even if using a hormonal family planning (FP) method (rifampin daily regimen and 3HP weekly regimen only)
Educate patient about the importance of keeping appointments and date of next clinic visit

Provide Documentation:
Send a copy of medical record, prescriptions and test results to regional TB clinic
Document patient's verbalized understanding of risks/benefits and willingness to take TBI treatment
Document TB/TBI education materials given
Document treatment completion or reasons not completed

Provide Follow up:

	Daily Regimen **Isoniazid (INH) Rifampin (RIF)**	**Weekly Regimen** **Isoniazid (INH)-Rifapentine (RPT)** **(aka "3HP")**
Issuing Medication	Issue only one (1) month supply of drugs as ordered by clinician	Issue only one (1) week dose of drugs as ordered by clinician
Monitoring for Signs/Symptoms	Monitor for contraindications and signs/symptoms of adverse reactions while on medication and before each monthly re-supply. Notify TB clinic of any signs/symptoms.	Monitor for contraindications and signs/symptoms of adverse reactions while on therapy and before issuing each dose. Notify TB clinic of any signs/symptoms.
LABS Follow-up laboratory monitoring is not routinely indicated for most patients but may be ordered at the clinician's discretion.	Routine laboratory monitoring (CMP **and** CBC with platelets & without differential) during therapy is required only when: • Baseline measurements are abnormal • Patient has signs/symptoms of adverse reactions or • Patient is at risk for liver toxicity (e.g., underlying liver disease, taking other medications metabolized by the liver) All abnormal lab results will be referred to the TB clinician or private physician for review.	Routine laboratory monitoring (CMP **and** CBC with platelets & without differential) during therapy is required only when: • Baseline measurements are abnormal • Patient has signs/symptoms of adverse reactions or • Patient is at risk for liver toxicity (e.g., underlying liver disease, taking other medications metabolized by the liver) All abnormal lab results will be referred to the TB clinician or private physician for review.

Contact patient if appointment not kept
Provide all other follow-up according to current TB Manual

Provide Referral:

Refer patient to private physician or tuberculosis clinic:

- SGOT/SGPT > 3x ULN with symptoms, or > 5x ULN even without symptoms, or any\abnormal bilirubin
- Symptoms of adverse reactions or drug toxicity (fill out the FDA 3500 voluntary form and send to the State TB Medical Director for review)
- Patient develops symptoms of active tuberculosis

REFERENCES:

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American Academy of Pediatrics. Tuberculosis. In: Pickering LK, Baker C, Kimberlin DW, Long SS, eds. 2012 Red Book

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CDC. Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis: Recommendations from the National Tuberculosis Controllers Association and CDC MMWR 2005; 54 (No. RR-15, 1-37

CDC. Guidelines for Using the QuantiFERON-TB Gold Test for Detecting *Mycobacterium tuberculosis* Infection, United States MMWR 2005; 54 (No. RR-15,1-37)

CDC. Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection. MMWR 2000;49:1-51

CDC. Updated Guidelines for Using Interferon Gamma Release Assays to Detect *Mycobacterium tuberculosis* Infection–United States, 2010. MMWR 2010;59(RR-5);1-25

Tennessee Department of Health, Tuberculosis Program Manual, 2015

CDC. Recommendations for the Use of an Isoniazid-Rifapentine Regimen with Direct Observation to Treat Latent *Mycobacterium tuberculosis* infection, United States MMWR 2011; 60: 1650-1653.

Villarino ME, Scot NA et al. for the International Maternal Pediatric and Adolescent AIDS Clinical Group and the TB Trials Consortium. Treatment for Preventing Tuberculosis in Children and Adolescents: A Randomized Clinical Trial of a 3-Month, 12-Dose Reigmen of a Combination of Rifapentine and Isoniazid. *JAMA Pediatr*. Published online January 12, 2015. Doi: 10.1001/jamapediatrics.2014.3158;E1-9.

Bliven-Sizemore EE, Sterling, TR, et al, for the TB Trials Consortium. Three Months of Weekly Rifapentine Plus Isoniazid is Less Hepatotoxic than Nine Months of Daily Isoniazid for Treatment of LTBI. Int J Tuberc Lung Dis 19 (9); 1 September 2015; 1039-1044. Published Online 10 August 2015. doi: http://dx.doi.org/10.5588/ijtld.14.0829.

URTICARIA (Hives)

SUBJECTIVE

Itchy, red welts present on skin either singly or in crops
Often exposure to aggravating substance reported, i.e., drug, food, insect bites, inhalant, or in association with an infection

OBJECTIVE

Erythematous, raised plaques of varying size, with distinct borders - may coalesce
May involve trunk and/or extremities
Often evidence of scratching

ASSESSMENT

Urticaria Reaction (Hives)

PLAN

Critical to **R/O ANAPHYLAXIS** with complete and immediate physical assessment - if evidence of hypotension, tachycardia, coughing, anxiety, dyspnea, wheezing, vomiting or cyanosis, refer to emergency treatment protocol; if symptoms began within last 2 hours, patient should be observed in clinic for a minimum of 30 minutes for development of further signs and symptoms

Mild Urticaria:

Assess etiology (diet history, drug history, insect bites), and counsel on avoidance of allergen
Use of oral antihistamine, i.e., Diphenhydramine HCL or Chlorpheniramine maleate syrup (as directed); Benadryl dosage according to packet-instructions.

WARN REGARDING DROWSINESS EFFECT OF ANTIHISTAMINE THERAPY

Treat pruritis with colloidal oatmeal (Aveeno bath)
Cut and clean nails to help prevent infection

Referral Indicators:

Anaphylaxis reaction after stabilization
Any evidence of respiratory involvement
Widespread urticaria, intense pruritis, or angioedema producing deeper, larger wheels, usually on hands, feet, lips, and eyelids
Evidence of secondary bacterial infection
Chronic or recurrent urticaria

Follow-Up:

Closely monitor response to treatment
Immediate assessment warranted if reaction reoccurs

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006
Ferri's Clinical Advisor 2008

VARICELLA (Chickenpox)

SUBJECTIVE

Fever, chills, headache, malaise
Itchy rash - first appears on trunk, later on face, neck, and extremities

OBJECTIVE

Discrete lesions; progress from macule to papule to vesicle to scab; appear in crops; various forms are present simultaneously; crusted vesicles
Rash generally follows active case exposure in about 14 days

ASSESSMENT

Varicella (chickenpox)

PLAN

Advise chickenpox is extremely contagious - keep away from others; communicable from one to two days prior to onset of symptoms until all lesions have crusted over (usually about six days after appearance of rash); incubation period 14-21 days

Keep in house and out of school until all lesions are crusted or dry

Bathe with soap and water, lukewarm baking soda baths, or colloidal oatmeal (Aveeno baths)
Cut fingernails short and encourage not to scratch; apply calamine or caladryl lotion to lesions for itching
Recommend diphenhydramine (Benadryl) if needed; dosage according to package instructions; warn regarding drowsiness
Use acetaminophen for elevated temperature,
CAUTION - DO NOT USE ASPIRIN (REYE'S SYNDROME)
Antibiotics not needed routinely

Referral Indicators:

Patients receiving steroid or immunosuppressive therapy or are immunocompromised
Patients with malignant disease
Newborns
Development of cough, shortness of breath, pneumonia, bleeding problems, or central nervous system symptoms (i.e., Reye's Syndrome, encephalitis)
Secondary bacterial infections
Significant eye involvement
For those wishing to be treated with Acyclovir

Follow-Up:

In routine cases, no follow-up required
Varicella vaccine available for those 12 months and older

Reference:

Mayo Clinic, Guide To Self-Care, Fifth Edition 2006

SECTION IV: IMMUNIZATIONS

4.010 – 4.290

COMVAX
(Haemophilus b Conjugate (Meningococcal Protein Conjugate) and Hepatitis B (Recombinant Vaccine)

GENERAL INFORMATION:

Hepatitis B vaccine is available in combination with *Haemophilus influenzae* type b (Hib) vaccine as Comvax® (by Merck). It is licensed for use when either or both antigens are indicated and the other antigen is not contraindicated. Because premature Hib vaccination can cause non-response to subsequent doses ("immunotolerance") of Hib vaccine, instead of immunity, no Hib-containing vaccine should ever be administered before 6 weeks of age. Comvax may be used to complete the hepatitis B vaccine series in all infants, including those whose mothers are or may be infected with hepatitis B virus (HBsAg positive or HBsAg status unknown). (For additional information, see HIB and Hepatitis protocols)

Contraindications and precautions
Severe allergic reaction to vaccine component or following a prior dose
Moderate or severe acute illness
Age younger than 6 weeks

Adverse events may include:
Swelling, redness and/or pain
Systemic reactions infrequent, serious adverse reactions rare

PLAN
Have accompanying adult read "Vaccine Information Statement"/"Vaccine Information Materials"
Counsel regarding benefits, side effects, and management

Administration of Vaccine:
RECOMMENDED SCHEDULE

Age		Volume and Route	Minimum	Minimum interval
2 months	Primary dose	0.5ml IM	6 weeks	
4 months	Primary dose	0.5ml IM		4 weeks after dose 1
12-15 months	Booster dose	0.5ml IM	12 months	8 weeks after dose 2

OFF SCHEDULE AND MIXING WITH OTHER HIB AND HEPATITIS B VACCINE
Children who have started the vaccine with Comvax or PedvaxHIB may complete the series with PedvaxHIB and/or Comvax following the 2 –dose primary series with a third dose as a booster after the first birthday (remember to administer Hepatitis B with PedvaxHIB)

If it is necessary to change vaccine type (by switching to a different type of Hib vaccine, such as ActHIB® or Pentacel® by Sanofi Pasteur), then three (3) doses of any combination constitute the primary series. In such cases, either vaccine may be used for the booster (4th dose), regardless of what was administered in the primary series (remember to administer a hepatitis B vaccine, if necessary, when using a Hib vaccine other than Comvax)

DELAYED VACCINE SCHEDULES

VACCINE	AGE STARTING HIB AND HEP B SERIES	RECOMMENDED CATCH-UP FOR OLDER CHILDREN
Hepatitis B	Birth (no Hib given)	Follow routine Comvax schedule above. Final valid Hep B dose is the booster dose (a 4-month dose is too early to be a valid 3rd Hep B).
Comvax	Starting at 12-14 months	Give 2 doses of Comvax two (2) months apart and the third hepatitis B vaccine six (6) months after first Comvax
Comvax	Starting at 15-59 months	Give one dose of Comvax; give second hepatitis B at least 4 weeks later, and 3rd (final) dose at least 8 weeks after the second dose and at least 16 weeks after the Comvax dose;* only one dose of Hib vaccine is required at this age

*The accelerated catch up schedule is recommended whenever children are behind on their shots.

NOTE

-If a child is **greater than 59 months of age**, Hib-containing vaccine is not normally indicated
-Older children, if at **high risk** (e.g., sickle cell, post splenectomy, immunodeficient), may receive Hib-containing vaccine with a health department physician or APN order
-Comvax may be given **simultaneously with all other vaccines**
-Comvax may be **interchangeable** with other Hib and Hepatitis B vaccine, but the total number of doses changes if switching brands of Hib vaccines (see schedule above)
-Advise to wait in clinic 20 minutes after injection
-Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine
-Instruct parent to contact Health Department if adverse reaction occurs (complete VAERS form)

Referral Indicators:

Severe allergic (anaphylactic) hypersensitivity to any component of the vaccine

Follow-up:

Return for next Comvax at appropriate intervals

REFERENCES:

"Epidemiology and Prevention of Vaccine-Preventable Diseases, Department of Health and Human Services, Centers for Disease Control and Prevention, 10th Edition, February 2008

DIPHTHERIA, TETANUS TOXOID & ACELLULAR PERTUSSIS VACCINE (DTaP)

GENERAL INFORMATION

DTaP vaccine may be used for children **as early as 6 weeks through 6 years** of age (**up to 7th birthday**)

The **1st, 2nd, and 3rd doses** of DTaP should be **separated by a minimum of 4 weeks** (28 days)

For **4th dose** of DTaP, child must be **at least 12 months of age, and less than 7 years of age, and, at least 6 months (180 days) since 3rd dose** of DTaP

The **5th dose** of DTaP may be administered **any time after the fourth birthday and at least 6 months since the 4th dose** of DTaP vaccine (any brand of DTaP may be used for the 5th dose)

If a child has a **valid contraindication to Pertussis vaccine, DT should be used to complete the series:**

- If a child is **12 months of age or older** when the first dose of DT vaccine is given (as DTaP or DT), then a total of **three doses** of DT (third dose 6-12 months after the second) are needed to complete the primary DT series
- If the first dose is given **before 12 months**, **four primary doses** are required to complete the DT series

Contraindications to giving the vaccine include the following:

An immediate anaphylactic reaction to a vaccine or following a previous dose of vaccine containing any of the components of DTaP (diphtheria, tetanus, or pertussis)

Encephalopathy within 7 days of administration of previous dose of DTP or DTaP

The following precautions, although not considered contraindications, should be carefully evaluated concerning the risks and benefits of vaccination for individuals who experienced any one of the following adverse reactions:

- Temperature of 105°F or higher within 48 hours (with no other identifiable cause) after vaccination with DTaP/DTP
- Collapse or shock-like state (hypotonic-hyporesponsive episode) within 48 hours after vaccination with DTaP/DTP
- Persistent, inconsolable crying lasting 3 hours or more, occurring within 48 hours after vaccination with DTaP/DTP
- Convulsions, with or without fever, within 3 days after vaccination with DTaP/DTP

Defer vaccination of children with moderate to severe acute illness until they are well

NOTE: Stable/resolved neurologic condition (i.e., controlled epilepsy, cerebral palsy, or developmental delay), or a family history of convulsions in first-degree family members (parents or siblings) is not a contraindication for DTaP.

If a child has any of the following conditions, vaccination should be delayed until the child has been evaluated, treatment initiated, and the condition stabilized: (1) an evolving neurologic disorder (uncontrolled epilepsy, infantile spasms, progressive encephalopathy); (2) a history of seizures which has not been evaluated; or, (3) a neurologic event which occurs between doses of pertussis containing vaccine.

Adverse events include the following:

Local reactions (erythema, induration), increased risk of injection site swelling following 4th or
5th dose (not harmful, resolves spontaneously), nodule at injection site
Hypersensitivity reactions (Arthus-type)
Fever and systemic symptoms are uncommon
Severe systemic reactions are rare

PLAN

Ask parent or guardian about the medical history and recent health status of the child to determine the existence of any contraindications
Ask parent or guardian about adverse reaction after previous dose
Counsel regarding benefits, side effects, and management.
Recommend that parent may administer acetaminophen if a fever develops and the child is uncomfortable. If the child does not show signs of discomfort, medication is not necessary.
Have accompanying adult read "Vaccine Information Statement" (VIS)

Administer 0.5 cc DTaP vaccine INTRAMUSCULARLY according to recommended schedule:

VACCINE	DOSE #	AGE	MINIMUM AGE	MINIMUM INTERVAL
DTaP	Primary 1	2 months	6 weeks	
	Primary 2	4 months		at least 4 weeks since dose #1
	Primary 3	6 months		at least 4 weeks since dose #2
	Primary 4	12-18 months	12 months	at least 6 months since dose #3, but less than 7 years of age
	Booster (5)	4-6 years	any time after 4th birthday	at least 6 months since dose #4: not recommended if #4 given on or after 4th birthday

Advise to wait in clinic for 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date that vaccine and VIS were given, name, address, and title of person administering vaccine
Instruct parent to contact Health Department if adverse reaction occurs (complete form)

Referral Indicators:

Unstable neurological conditions
Allergic hypersensitivity to any component of the vaccine
Severe reaction to previous DTaP/DTP
If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed
Undiagnosed seizure disorder
Refer for Tdap at 11-12 years

Follow-up:

Return for next DTaP, Tdap, or Td at appropriate interval
If child was **6 years and 6 months of age or older when DTaP #3** was given, **no additional DTaP or DT is indicated** because DTaP #4 must be given at least 6 months after DTaP #3, but before the 7th birthday
The **5th dose is omitted if DTaP #4 was given on or after the 4th birthday**
The **5th dose is given if DTaP #4 was given prior to the 4th birthday, AND it has been at least 6 months since DTaP was given, AND the child is at least4 years old but less than 7 years old**
After completion of series, refer for Tdap at 11-12 years (if 5 years since last DTP or DtaP) and subsequently for Td every 10 years

REFERENCES:

Current PDR Packet Instructions
National Childhood Vaccine Injury Act
"Epidemiology and Prevention of Vaccine-Preventable Diseases", Centers for Disease control and Prevention, DHHS, Current Addition
Current ACIP recommendations

DIPHTHERIA AND TETANUS TOXOID, PEDIATRIC
DT (Pediatric)

GENERAL INFORMATION

DT is indicated in situations when there is documented history of severe reaction to previous DTaP/DTP:

Fever of 105° F or greater (≥40.5˚C) (by any measurement route) not due to another identifiable cause within 48 hours of previous dose
Collapse or shock-like state within 48 hours or more of previous dose
Persistent, inconsolable crying or screaming for 3 or more hours within 48 hours of previous dose
Convulsions (seizures) with or without fever within 3 days of a previous DTaP dose
Encephalopathy

Contraindications to DT vaccine include the following:
A history of neurologic reaction following previous dose of DT
A history of severe allergic reaction (acute respiratory distress or collapse) to any vaccine containing diphtheria or tetanus antigen (e.g., DT or DTaP)
Moderate to severe acute illness

PLAN

Document medical contraindications to DTP/DTaP
Have accompanying adult read "Vaccine Information Statement" (VIS) and "Vaccine Information Material"
Counsel regarding benefits, side effects, and management
Administer 0.5 cc DT (Pediatric) vaccine INTRAMUSCULARLY according to recommended schedule:

VACCINE	DOSE #	AGE
DT/DTaP	Primary 1	2 months
	Primary 2	4 months (or at least 4 weeks since dose #1)
	Primary 3	6 months (or at least 4 weeks since dose #2)
	Primary 4[1]	12-18 months (must be at least 12 mos but less than 7 yrs of age, and at least 6 mos since dose #3)
	Booster (5)[1,2]	4-6 years (any time after 4th birthday, but at least 6 mos since dose #4 and before 7th birthday)
TDAP or TD	Booster	11-12 years

[1] If Dose #1 is given at or after age 12 months, Dose #4 acts as a booster and should be given at age 4-6 years, Dose #5 is not recommended.
[2] If Dose #4 is given after the 4th birthday, Dose #5 is not recommended.

Provide statement regarding medical exemption in accordance with HIPAA guidelines (state that the child is exempt, but do not state the medical condition requiring exemption)
Advise parent that child is not protected from pertussis
Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot-number of the vaccine administered, date vaccine and VIS were given, date of VIS version and name, address, and title of person administering vaccine
Instruct parent to contact Health Department if adverse reaction occurs (complete appropriate form)

Referral Indicators:

Neurologic conditions associated with vaccine use Allergic hypersensitivity to any component of the vaccine History of severe reaction to previous dose of DT (Pediatric)
If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed
Vaccination of children with moderate to severe acute illness should be deferred until condition improves

Follow-up:
The child should return for the next scheduled dose according to the table above
When the series is completed, the child should return for a booster dose of Tdap or Td (per the Tdap protocol) at age 11-12 years.

REFERENCES

"Epidemiology and Prevention of Vaccine - Preventable Diseases" Centers for Disease Control and Prevention, DHHS, Jan. 2004

DIPHTHERIA, TETANUS TOXOID, ACELLULAR PERTUSSIS, INACTIVATED POLIO VACCINE (DTaP-IPV) (Kinrix®, by GSK)

GENERAL INFORMATION

Kinrix® (DTaP-IPV booster), by GSK, is licensed as a single dose by the FDA as the fifth dose in the diphtheria, tetanus, and acellular pertussis (DTaP) vaccine series and the fourth dose in the inactivated poliovirus vaccine (IPV) series in children 4 through 6 years of age.
Kinrix may be used in children who have already received 4 or more doses of IPV prior to the 4th birthday.
Kinrix® may be used once as the DTaP-IPV booster dose routinely administered between ages 4 and 6 years. If inadvertently administered as part of the primary series before age 4, it may still be used as the single 4-6 year old booster.

Contraindications to giving the vaccine include the following:
Kinrix® is not licensed for use before the 4th birthday or after the 7th birthday
An immediate anaphylactic reaction following a previous dose of vaccine containing any of the components of DTaP or IPV (diphtheria, tetanus, pertussis or poliomyelitis) or any vaccine components, including neomycin and polymixin B.
Encephalopathy within 7 days of administration of previous dose of DTP or DTaP
An unstable, progressive neurologic disorder (see note)
Children with a severe (anaphylactic) allergy to latex should not receive Kinrix® in the pre-filled vaccine formulation. The single dose vial preparation is latex free.

The following precautions, although not considered contraindications, should be carefully evaluated concerning the risks and benefits of vaccination for individuals who experienced any one of the following adverse reactions:

- Temperature of 105°F or higher within 48 hours (with no other identifiable cause) after vaccination with DTaP/DTP
- Collapse or shock-like state (hypotonic-hyporesponsive episode) within 48 hours after vaccination with DTaP/DTP
- Persistent, inconsolable crying lasting 3 hours or more, occurring within 48 hours after vaccination with DTaP/DTP
- Convulsions, with or without fever, within 3 days after vaccination with DTaP/DTP
- Guillain-Barre Syndrome occurring within 6 weeks of a previous dose of a tetanus toxoid- containing vaccine.

Defer vaccination of children with moderate to severe acute illness until they are well

NOTE: Stable/resolved neurologic condition (i.e., controlled epilepsy, cerebral palsy, or developmental delay), or a family history of convulsions in first-degree family members (parents or siblings) is not a contraindication for DTaP. If a child has any of the following conditions, vaccination should be delayed until the child has been evaluated, treatment initiated, and the condition stabilized: (1) an evolving neurologic disorder (uncontrolled epilepsy, infantile spasms, progressive encephalopathy); (2) a history of seizures which has not been evaluated; or, (3) a neurologic event which occurs between doses of pertussis containing vaccine.

Adverse events include the following:
Local reactions (injection site pain, swelling or redness)
Nodule at injection site
Hypersensitivity reactions (Arthus-type)
Fever
Drowsiness, loss of appetite
Severe systemic reactions are rare

PLAN

- Ask parent or guardian about the medical history and recent health status of the child to determine the existence of any contraindications
- Ask parent or guardian about adverse reaction after previous dose
- Counsel regarding benefits, side effects, and management; recommend that parent may administer acetaminophen if a fever develops and the child is uncomfortable. If the child does not show signs of discomfort, medication is not necessary.
- Have accompanying adult read "Vaccine Information Statement" (VIS)
- Administer vaccine INTRAMUSCULARLY
- Advise to wait in clinic for 20 minutes after injection
- Record manufacturer and lot number of the vaccine administered, date that vaccine and VIS were given, name, address, and title of person administering vaccine
- Instruct parent to contact Health Department if adverse reaction occurs (complete VAERS form)

Referral Indicators:
Unstable neurological conditions
Allergic hypersensitivity to any component of the vaccine
Severe reaction to previous DTaP/DTP or IPV
If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed
Refer for Tdap at 11-12 years

Follow-up:

After completion of series, refer for Tdap at 11-12 years

REFERENCES:
KINRIX™ (Diphtheria and Tetanus Toxoids and Acellular Pertussis Adsorbed and Inactivated Poliovirus Vaccine) by GSK. Package Insert, last revised July 2014.

"Epidemiology and Prevention of Vaccine-Preventable Diseases", Centers for Disease Control and Prevention, DHHS, 13th edition.
http://www.cdc.gov/vaccines/pubs/pinkbook/index.html#toc#toc. Last accessed May 21, 2015.

DIPHTHERIA, TETANUS TOXOID & ACELLULAR PERTUSSIS, INACTIVATED POLIO, HAEMOPHILUS INFLUENZAE TYPE B COMBINATION VACCINE: DTaP-IPV- Hib (PENTACEL® BY SANOFI PASTEUR)

GENERAL INFORMATION

Pentacel® (DTaP-IPV-Hib) vaccine is licensed for use as doses 1 through 4 of DTaP, IPV and Hib vaccine series in children **42 days through 4 years** of age (**up to 5th birthday**)

DTaP-IPV-Hib is *not* licensed for use as the 5th dose in the DTaP series.

The vaccine consists of lyophilized ActHIB reconstituted with liquid DTaP-IPV.
The **1st, 2nd, and 3rd doses** of DTaP-IPV-Hib should be **separated by a minimum of 4 weeks**(28 days)
For **4th dose** of DTaP-IPV-Hib, the child must be **at least 12 months of age, and less than 5 years of age, and, at least 6 months (180 days) since 3rd dose** of DTaP

Contraindications to giving the vaccine include the following:
An immediate anaphylactic reaction following a previous dose of vaccine containing any of the components of DTaP-IPV-Hib
Encephalopathy within 7 days of administration of previous dose of any pertussis containing vaccine
No pertussis-containing vaccine should be given to a child with a progressive neurological disorder (see Note below)

The following precautions, although not considered contraindications, should be carefully evaluated concerning the risks and benefits of vaccination for individuals who experienced any one of the following adverse reactions:
Temperature of 105°F or higher within 48 hours (with no other identifiable cause) after vaccination with DTaP/DTP
Collapse or shock-like state (hypotonic-hyporesponsive episode) within 48 hours after vaccination with DTaP/DTP
Persistent, inconsolable crying lasting 3 hours or more, occurring within 48 hours after vaccination with DTaP/DTP
Seizures, with or without fever, within 3 days after vaccination with DTaP/DTP
Guillain-Barre syndrome within 6 weeks of a previous dose of a tetanus toxoid-containing vaccine

Defer vaccination of children with moderate to severe acute illness until they are well

NOTE: Stable/resolved neurologic condition (e.g., controlled epilepsy, cerebral palsy, or developmental delay), or a family history of convulsions is not a contraindication for DTaP.

If a child has any of the following conditions, vaccination should be delayed until the child has been evaluated, treatment initiated, and the condition stabilized: (1) an evolving neurologic disorder (uncontrolled epilepsy, infantile spasms or progressive encephalopathy); (2) a history of seizures which has not been evaluated; or, (3) a neurologic event which occurs between doses of pertussis containing vaccine.

Adverse events include the following:
Local reactions (pain, redness, swelling at injection site)
Increased chance of injection site swelling following 4th dose (not harmful, resolves spontaneously)
Nodule at injection site
Hypersensitivity reactions (Arthus-type)
Fever
Severe systemic reactions are rare

PLAN

Ask parent or guardian about the medical history and recent health status of the child to determine the existence of any contraindications
Ask parent or guardian about adverse reaction after previous dose
Counsel regarding benefits, side effects, and management; recommend that parent may administer acetaminophen if a fever develops and the child is uncomfortable. If the child does not show signs of discomfort, medication is not necessary.
Have accompanying adult read "Vaccine Information Statement" (VIS)
Reconstitute vaccine according to manufacturer's instructions
Administer vaccine INTRAMUSCULARLY according to recommended schedule:

VACCINE	DOSE #	AGE
DTaP-IPV-Hib	1	2 months (minimum age 6 weeks)
	2	4 months (or at least 4 weeks since dose #1)
	3	6 months (or at least 4 weeks since dose #2)
	4	12-18 months (must be at least 12 mos but less than 5 yrs of age, and at least 6 mos since dose #3)

Advise to wait in clinic for 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date that vaccine and VIS were given, name, address, and title of person administering vaccine
Instruct parent to contact Health Department if adverse reaction occurs (complete VAERS form)

Referral Indicators:

Unstable neurological conditions
Allergic hypersensitivity to any component of the vaccine
Severe reaction to previous DTaP, IPV, Hib or other vaccine component
If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed
If history of more than one seizure, consult with patient's private physician or public health physician
Refer for DTaP 5th dose and IPV final dose at age 4-6 years – The complete primary IPV series requires that the final dose be given on or after the 4th birthday. A 5th dose of IPV is necessary if the 4th dose was administered more than 4 days before the 4th birthday.

Follow-up:

Return for next DTaP appropriate interval
The 5th dose is omitted if DTaP #4 was given on or after the 4th birthday
The child will need a final dose of IPV after the 4th birthday (or up to 4 days before)

REFERENCES:

Diphtheria and Tetanus Toxoids and Acellular Pertussis Adsorbed, Inactivated Poliovirus and Haemophilus b Conjugate (Tetanus Toxoid Conjugate) Vaccine (Pentacel®) by Sanofi Pasteur. Package Insert. June 2008.

MMWR, Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis (Tdap) Vaccine from the Advisory Committee on Immunization Practices (ACIP), January 14, 2011/60(01);13-15.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm?s_cid=mm6001a4_w

GENERIC INJECTIONS

GENERAL INFORMATION

Patient presents to health department with a written order from their Primary Care Physician or other private physician requesting administration of a specific injection.
Patient may have received one injection, without side effects, from the private provider
The order must be current (within 6 months) and include the dosage, route (IM, SC), frequency and duration. The order must also be approved by the health officer.

PLAN

Health Officer will review and approve all private physicians' orders requesting injections for appropriateness

Approval will be granted for a maximum 6 months (time frame dependent on specific injection and/or individual circumstances)

Patient to provide own medication

Read medical insert regarding administration and side effects of the medication

Administer medication as ordered by physician

Counsel on side effects

Give return appointment

Rotate injection sites on return appointments

Renew physician orders as indicated

HAEMOPHILUS *INFLUENZAE* type b CONJUGATE VACCINE (Hib)

GENERAL INFORMATION

Contraindications and Precautions include the following:

Anaphylactic reaction to a vaccine component or following a prior dose of that vaccine
Moderate or severe acute illness
Children younger than 6 weeks of age

Adverse events include the following:

Swelling, redness and/or pain
Systemic reactions infrequent, serious adverse reactions rare

ACIP Recommended Population

- All infants, including those born premature should receive a primary series conjugate Hib vaccine (separate or in combination), beginning at 2 months of age.
- The number of doses in the primary series depends on the type of vaccine used.
  - -A primary series of PRP-OMP (PedvaxHIB) vaccine is two doses;
  - -PRP-T (ActHIB) requires a three-dose primary series (see table).

A booster is recommended at 12-15 months regardless of which vaccine is used for the primary series.

No further dose is needed if ANY dose is given at age15 months or later.

One dose of Hib vaccine should be administered to persons who have functional or anatomic asplenia or sickle cell disease or are undergoing elective splenectomy if they have not previously received Hib vaccine. Hib vaccination 14 or more days before splenectomy is suggested. Recipients of a hematopoietic stem cell transplant should be vaccinated with a 3-dose regimen 6 to 12 months after a successful transplant, regardless of vaccination history; at least 4 weeks should separate doses. Administer with health department MD or APN order. (See **Table 2)**

Federally-purchased Hib vaccine is available only to children eligible for the Vaccines for Children (VFC) Program.

Administration of Vaccine:
Appropriate age for Hib: at least 2 months old, but less than 5 years (minimum age 6 weeks)
Appropriate time interval since last Hib
Children who have started the 3 dose primary series of vaccinations with ActHib vaccine may complete the primary series with Pedvax HIB but will still need a total of 3 doses in the primary series. The dose administered routinely after age 12 months is a booster dose.

PLAN
Ask patient/guardian about contraindications
Have patient/guardian read Vaccine Information Statement
Counsel regarding benefits, side effects, and management

NOTE: This vaccine is lyophilized and must be reconstituted with the diluent that is provided with the vaccine; NO OTHER DILUENT CAN BE USED; reconstitute with

entire content of diluent vial and inject the entire amount of the reconstituted vial; this is a single unit dose and must be administered within 24 hours of reconstitution
Advise to wait in clinic for 20 minutes after injection
Document vaccine administration on the immunization clinic record
Instruct patient/guardian to contact Health Department if adverse reaction occurs

Vaccine	Age beginning primary series	Primary series	Booster	Minimum interval
PRP-T (ActHib) 0.5cc IM	2-6 months	3 doses, 2 months apart	12-15 months	4 weeks between dose 1 and dose 2, 4 weeks between dose 2 and dose 3, 8 weeks between dose 3 and booster dose
	7-11 months	2 doses 2 months apart	12-15 months	
	12-14 months	1 dose	2 months later	
	15-59 months	1 dose	----	
PRP-OMP (Pedvax HIB) 0.5 cc IM	2-6 months	2 doses, 2 months apart	12-15 months	4 weeks between dose 1 and dose 2 8 weeks between dose 2 and booster dose
	7-11 months	2 doses, 2 months apart	12-15 months	
	12-14 months	1 dose	2 months later	
	15-59 months	1 dose	---	

NOTE:
• If child is greater than 59 months of age, Hib vaccine is not routinely indicated
• Ideally, the same brand of vaccine should be used throughout the entire vaccination series; however, where it is necessary to change the types of vaccine, a child 2-6 months of age seen for the primary series should receive three doses of Hib vaccine (i.e., child receives 1 dose ActHIB should then receive 2 doses of Pedvax HIB or if child receives 2 doses of ActHIB should then receive 1 dose of Pedvax HIB for primary series; child would then get booster at 12-15 months)
• Hib vaccines may be given simultaneously at different injection sites with all other vaccines.
• Hiberix brand PRP-T vaccine is approved only for the booster dose of the Hib series among children 12 months of age and older

[2] The number of doses in the PCV series depends on age

Referral Indicators:
Allergic hypersensitivity to any component of the vaccine

Follow-up:

If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed
Return at appropriate interval according to schedule

TABLE 2. Guidance for *Haemophilus influenzae* type b (Hib) vaccination in high-risk groups

High-risk group*	Hib vaccine guidance
Patients aged <12 mos	Follow routine Hib vaccination recommendations
Patients aged 12–59 mos	If unimmunized or received 0 or 1 dose before age 12 mos: 2 doses, 8 wks apart If received ≥2 doses before age 12 mos: 1 dose 8 wks after last dose If completed a primary series and received a booster dose at age ≥12 mos: no additional doses
Patients aged <60 months undergoing chemotherapy or radiation therapy†	If routine Hib doses administered ≥14 days before starting therapy: revaccination not required If dose administered within 14 days of starting therapy or given during therapy: repeat doses starting at least 3 mos following therapy completion
Patients aged ≥15 mos undergoing elective splenectomy	If unimmunized:§ 1 dose prior to procedure¶
Asplenic patients aged >59 mos and adults	If unimmunized:§ 1 dose
HIV-infected children aged ≥60 mos	If unimmunized:§ 1 dose
HIV-infected adults	Hib vaccination is not recommended
Recipients of hematopoietic stem cell transplant, all ages	Regardless of Hib vaccination history: 3 doses (at least 4 wks apart) beginning 6–12 mos after transplant

* Persons with functional or anatomic asplenia, HIV infection, immunoglobulin deficiency including immunoglobulin G2 subclass deficiency, or early component complement deficiency, recipients of a hematopoietic stem cell transplant, and those receiving chemotherapy or radiation therapy for malignant neoplasms.
† Some experts suggest conducting serologic testing for these patients (**Source:** Rubin LG, Levin MJ, Ljungman P, et al. 2013 IDSA clinical practice guideline for vaccination of the immunocompromised host. Clin Infect Dis 2013;[Epub ahead of print] doi: 10.1093/cid/cit684).
§ Patients who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after 14 months are considered unimmunized.
¶ Some experts suggest vaccination at least 14 days before the procedure (**Sources:** CDC. General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices [ACIP]. MMWR 2011;60[No. RR-2]; CDC. Recommendations of the Advisory Committee on Immunization Practices

REFERENCES

"Epidemiology and Prevention of Vaccine - Preventable Diseases", 12th Edition, Centers for Disease Control and Prevention, Department of Health and Human Services, May 2011

ACIP Adult Immunization Schedule footnote, 2014

HEPATITIS A VACCINE

GENERAL INFORMATION

Hepatitis A disease is a serious liver infection caused by the Hepatitis A virus (HAV). HAV is found in the stool of persons with Hepatitis A. It is not often fatal, but is highly contagious with transmission occurring primarily by the fecal-oral route.

Hepatitis A vaccine is inactivated and contains no live organisms; Hepatitis A vaccine is not licensed for children younger than 1 year of age. Hepatitis A vaccine may be administered simultaneously with other vaccines.

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine.

Recommended Populations who should be vaccinated include:

- All children 12-23 months
- Previously unvaccinated children 23 months through 18 years of age
- Any person requesting protection from Hepatitis A virus infection
- Members of households planning to adopt a child, or care for a newly arriving adopted child, from a country where hepatitis A is common (see www.cdc.gov/travel).
- People who use street drugs.
- Men who have sex with men

- International travelers (refer)
- Persons working with hepatitis A-infected non-human primates (refer)
- Persons who work with hepatitis A in research laboratories (refer)

- Persons who have blood clotting-factor disorders or chronic liver disease (health department MD or APN order)

Contraindications to giving the vaccine include the following:

Persons with a history of severe reaction to a prior dose of hepatitis A vaccine or to any hepatitis A vaccine component

Precautions (risks and benefits of vaccination should be carefully evaluated for individuals under the following circumstances):

Moderate to severe acute illness (defer until illness resolves)

Adverse Reactions:

Severe allergic reaction to vaccine (rare)
Injection site soreness, tenderness, redness, swelling (common)
Fatigue, fever, malaise, anorexia, nausea, headache (systemic)

PLAN

1. Ask patient/guardian about contraindications
2. Have patient/guardian read Vaccine Information Statement
3. Administer the appropriate pediatric or adult formulation of the vaccine according to manufacturer instructions
4. Counsel regarding side effects of vaccine
5. Advise patient or parent/guardian to return for the second dose in 6-12 months
6. Advise to wait in clinic for 20 minutes after injection
7. Document vaccine administration on the immunization clinic record
8. Instruct patient/guardian to contact Health Department if adverse reaction occurs

Dosage:

VAQTA (Merck) **or** HAVRIX (GlaxoSmithKline) hepatitis A vaccines:

Pediatric Formulation (ages 12 mos. to 19 years), 2 doses required
Administer 0.5 cc IM
Administer second dose 6-12 months later.

Adult Formulation (≥19 years), 2 doses required
Administer 1.0 cc IM
Administer second dose 6-12 months later.

TWINRIX Combination Hepatitis A and B vaccine (GlaxoSmithKline):
(Licensed for adults ≥18 years only, 3 doses required)
Administer 1.0 cc IM,
Administer second dose 1 month after the first dose.
Administer third dose 6 months after the first dose.

Referral Indicators:

If vaccine is indicated for liver disease or blood clotting factor disorder[1], written order from health department MD or APN is needed
Severe reaction to previous vaccine (consult MD)

REFERENCES

CDC. Epidemiology and Prevention of Vaccine-Preventable Diseases. 12th edition, May 2012: pp 101-114.
http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-a.html#who

CDC. Advisory Committee on Immunizations Practices (ACIP) Recommended Immunization Schedule for Adults Aged 19 years and older - United States, 2013. MMWR, February 1, 2013/62(01);9-19.
http://www,cdc,gov/mmwr/preview/mmwrhtml/su6201a3.htm

[1] Per Advisory Committee on Immunization Practices (ACIP) guidelines, hemophilia is not a contraindication for any vaccination, but administration should be done in consultation with a health department physician to minimize the risk of hematoma formation

HEPATITIS A INACTIVATED, HEPATITIS B RECOMBINANT VACCINE (Twinrix®, GSK), Adult (age 18 years and up)

GENERAL INFORMATION

Twinrix® (inactivated hepatitis A and hepatitis B recombinant vaccine) is manufactured by GSK and licensed by the FDA for use in persons 18 years of age and up. It is typically given as a 3-dose series (although an alternative 4-dose schedule also is available).

Please consult current state or local health department policy concerning adults eligible to receive hepatitis A and B vaccines at the health department with or without a health department physician or nurse practitioner order.

In accordance with the general immunization guidelines of the CDC, Twinrix® may be used when protection against either disease is indicated and the other is not contraindicated. If the patient does not need vaccination against both hepatitis A and hepatitis B, then use Twinrix® only when the separate hepatitis A or B vaccine product is not available.

Twinrix® is not licensed for hepatitis A post-exposure prophylaxis (PEP).

Twinrix® may be used for anyone recommended for hepatitis A and B immunization, including, but not limited to:

Persons with chronic liver disease
Persons with an occupational risk of exposure to blood or body fluids and feces
Persons at risk because of sexual practices, including men who have sex with men
International travelers
Recreational injection drug users
Persons who are at increased risk for hepatitis A and are close contacts of persons with hepatitis B infection

Contraindications and precautions include the following:

Anaphylactic reaction to a previous dose of hepatitis A or B vaccine or vaccine component (including neomycin and yeast)
Moderate to severe febrile illness (defer until recovered)
Breast feeding are NOT contraindications if immunization is indicated
Give during pregnancy only if clearly indicated (Refer to a physician)
Persons with severe (anaphylactic) allergy to latex should not be given the vaccine in the pre-filled syringe preparation, which contains natural latex.
The single dose vial stopper is latex free and this preparation may be used for latex-allergic patients.

Administration of vaccine (see dosing schedule charts below):

Twinrix® may be administered simultaneously with any other vaccines; if not administered simultaneously, schedule next visit for deferred vaccine(s) at any time interval (does not have to be 30 days)

If any dose in the series is delayed, it should be administered when possible and the schedule resumed; DO NOT RE-START SERIES

PLAN

Read Vaccine Information Statement (VIS)

Draw up vaccine in accordance with package insert instructions

Administer vaccine IM using deltoid

Advise patient to wait 20 minutes for observation before leaving clinic

Counsel patient to return for next scheduled dose

Advise patient to report any suspected adverse events to the health department (health department to complete and submit VAERS form if necessary)

Recommended Schedule

ROUTINE	ROUTINE SCHEDULE	ALTERNATE	ALTERNATE SCHEDULE
Dose 1	1st visit	Dose 1	1st visit
Dose 2	1 month after 1st dose	Dose 2	7 days after 1st dose
Dose 3	6 months after 1st dose	Dose 3	21 days after 1st dose
		Dose 4	12 months after 1st dose

*doses administered more than 4 days earlier than any minimum interval are considered invalid

Referral Indicators:

Contraindications or precautions as noted

Return at appropriate interval

REFERENCES

GlaxoSmithKline. Prescribing Information. Twinrix (hepatitis A inactivated and hepatitis B recombinant vaccine). April 2007

CDC. A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Part II: Immunization of Adults. MMWR 2006;55(No. RR-16).

CDC. General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2006;55(No. RR-15).

HEPATITIS B RECOMBINANT VACCINE, Birth through 18 Years, Pre-Exposure

GENERAL INFORMATION

Immunization is recommended for the following target groups:

ALL infants, beginning with birth dose prior to hospital discharge
ALL patients18 years of age and under not previously vaccinated

Contraindications and precautions include the following:

Serious reaction to a previous dose of hepatitis B vaccine or vaccine component
Moderate to severe febrile illness (defer until resolved)

Administration of vaccine:

HBV may be administered simultaneously with other vaccines; if not administered simultaneously, schedule visit for deferred vaccine(s) at any time interval (does not have to be 30 days)
See table below for recommended infant and child schedules.
If the vaccination series is interrupted, it should be resumed as soon as possible; DO NOT RE-START SERIES

PLAN

If patient being evaluated for potential sexual, perinatal or blood exposure to a person with hepatitis B infection, evaluate possible need for HBIG according to section on hepatitis.
Read Vaccine Information Statement (VIS)
Administer vaccine IM using anterolateral thigh of infants and deltoid in all others according to dosage schedule for age (review specific package insert for dosage)

Recommended Schedule/Dosage for Infants/Toddlers

VACCINE Brand	DOSE	ROUTINE SCHEDULE	MINIMUM INTERVAL (accelerated schedule)*
Recombivax HB (Merck) 0.5 ml (5mcg) of Pediatric Formula, or	Dose 1	Birth	
	Dose 2	Age 1-2 months	4 weeks after 1st dose
Engerix-B (GSK) 0.5ml (10 mcg) of Pediatric Formula	Dose 3	Age 6-18† months	8 weeks after Dose 2 *and* 16 weeks after Dose 1 *and* minimum age of 24 weeks

*doses administered more than 4 days earlier than any minimum interval are considered invalid and do not count toward completion of hepatitis B series
† Infants whose mother is hepatitis B positive or of unknown status should receive the last vaccine dose at 6 months of age (12-15 months if Comvax® series is used)

Use of Combination Vaccines in Infants/Toddlers (see separate protocols for details)

VACCINE Brand	MAY BE USED FOR
Comvax (Merck) 0.5 ml (Hep B-Hib combination) **Pediarix (GSK)** DTaP-Hep B- IPV combination	Doses administered after age 6 weeks NOTE: The Comvax dose administered at age 4 months does not count toward hepatitis B series because it fails to meet minimum age/interval requirements

Recommended Schedule/Dosage for older children up to 18 Years of Age

VACCINE	OPTION	DOSE	RECOMMENDED SCHEDULE	MINIMUM INTERVAL
Recombivax HB (Merck) 0.5 ml (5mcg) of Pediatric Formula or **Engerix-B (GSK)** 0.5ml (10 mcg) of Pediatric Formula	**I**	Dose 1 Dose 2 Dose 3	First visit 1-2 months after 1st Dose 6 months after 1st Dose	 4 weeks 8 weeks after Dose 2 *and* 16 weeks after Dose 1
Recombivax HB (Merck) 1 ml (10 mcg) ONLY	**II** If age 11 through 15 years for <u>both</u> doses	Dose 1 Dose 2	First visit 4-6 months after 1st dose	4 months

<u>Referral Indicators</u>:

Contraindications as noted under "General Information"

Return at appropriate interval to complete immunization series

REFERENCES

CDC. "Epidemiology and Prevention of Vaccine-Preventable Diseases, 10th Edition", DHHS, January 2007

CDC. A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Part I: Immunization of Infants, Children and Adolescents. MMWR 2005;54(No. RR-16).

HEPATITIS B RECOMBINANT VACCINE, Adult (age 19 years and up) Pre-Exposure

GENERAL INFORMATION

Please consult current state or local health department policy concerning adults eligible to receive hepatitis B vaccine at the health department. Refer to the **current** Tennessee Immunization Program Policy on the use of Federal vaccine and any current guidance on the use of any special supplies of hepatitis B vaccine.

Immunization is recommended by CDC for the following unvaccinated persons:

ALL at risk adult patients (with ANY one of the following risk factors):

- All sexually-active persons not in long term, mutually-monogamous relationships
- History of more than one sex partner in the past 6 months
- Persons seeking evaluation or treatment of sexually transmitted infection
- History of injecting drug use or sexual partner(s) who use injecting drugs
- Men who have sex with men
- At risk (generally, household, sexual or needle-sharing) contacts of persons with Hepatitis B
- ALL persons served in HIV risk reduction, outreach activities
- Residents and staff of facilities for developmentally delayed persons
- Persons with end-stage renal disease, dialysis, HIV or chronic non-hepatitis B liver disease ALL adults with diabetes younger than age 60 years, generally as soon as possible after diagnosis
- Adults with diabetes aged 60 and over, with health department MD or APN order.
- ALL adults requesting vaccination against hepatitis B (no reported risk factor required)

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine.

Contraindications and precautions include the following:

- Anaphylactic reaction to a previous dose of hepatitis B vaccine or vaccine component
- Moderate to severe febrile illness (defer until recovered)
- Pregnancy or breast feeding are NOT contraindications if immunization is indicated

Administration of vaccine (see dosing schedule charts below):

- HBV may be administered simultaneously with any other vaccines; if not administered simultaneously, schedule next visit for deferred vaccine(s) at any time interval (does not have to be 30 days)
- If any dose in the series is delayed, it should be administered when possible and the schedule resumed; DO NOT RE-START SERIES

Immunocompetent persons are not recommended for booster doses. Immunocompetent persons who require serologic evidence of immunity with a documented remote history of hepatitis B immunization and a negative serology may receive a dose to stimulate an immune response and be retested for serologic evidence of immunity in 4 weeks.

PLAN

If patient being evaluated for potential sexual or blood exposure to a person with hepatitis B infection, evaluate possible need for HBIG according to section on hepatitis.
Read Vaccine Information Statement (VIS)
Educate about post-immunization serologic testing if in a group for whom testing is recommended (health care providers, sexual or neonatal contacts of persons with hepatitis B)
Draw up vaccine in accordance with package insert instructions
Administer vaccine IM using deltoid according to dosage schedule for age
Document vaccine administration on the immunization clinic record

Recommended Schedule/Dosage for Adults 19 Years of Age

VACCINE Brand	DOSE	ROUTINE SCHEDULE	MINIMUM INTERVAL (accelerated schedule)*
Recombivax HB (Merck) 0.5 ml (5mcg) Pediatric or Adult Formula, or	Dose 1	1st visit	
	Dose 2	4 weeks after 1st dose	4 weeks after 1st dose
Engerix-B (GSK) 0.5ml (10 mcg) of Pediatric Formula, or	Dose 3	~~4~~-6 months after 2nd dose	8 weeks after Dose 2 *and* 16 weeks after Dose 1
Engerix-B Adult formulation 1.0 ml (20 mcg)[3]			

*doses administered more than 4 days earlier than any minimum interval are considered invalid

Recommended Schedule/Dosage for Adults 20 Years of Age and Older

VACCINE	DOSE	SCHEDULE	MINIMUM INTERVAL (accelerated schedule)*
Recombivax HB (Merck) 1.0ml (10 mcg) of Adult Formula, or	Dose 1	1st visit	
	Dose 2	4 weeks after 1st dose	4 weeks after 1st dose
Engerix-B (GSK)1.0 ml (20mcg)	Dose 3	~~4~~-6 months after 2nd dose	8 weeks after Dose 2 *and* 16 weeks after Dose 1

*doses administered more than 4 days earlier than any minimum interval are considered invalid

[3] The adult formulation of Engerix-B may be used in adolescents, but the approved dose is 1.0 ml (20 mcg).

Recommended Schedule/Dosage for Hemodialysis and Immunocompromised Patients Aged20 Years or Older (<20 years, recommendations same as general population)

VACCINE	DOSE	SCHEDULE	MINIMUM INTERVAL (accelerated schedule)*
Recombivax HB (Merck): 1.0ml (40 mcg) of Dialysis Formulation, or	Dose 1 Dose 2 Dose 3 Booster	1st visit 4 weeks after 1st dose 6 months after 1st dose If annual serologic testing <10 mIU/mL	None given
Engerix-B (GSK): each dose requires 40 mcg. Use two doses of the 1.0 ml (20 mcg) Adult Formulation	Dose 1 Dose 2 Dose 3 Dose 4 Booster	1st visit 1 month after 1st dose 2 months after 1st dose 6 months after 1st dose If annual serologic testing <10 mIU/mL	None given

*doses administered more than 4 days earlier than any minimum interval are considered invalid

Referral Indicators:

Contraindications as noted under "General Information"

REFERENCES

CDC. "Epidemiology and Prevention of Vaccine-Preventable Diseases, 10th Edition", DHHS January 2007

CDC. A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Part II: Immunization of Adults. MMWR 2006;55(No. RR-16).

"Federally Funded Vaccines for Adults" memo from Dr. Kelly Moore and Dr. Tom Jaselskis, July 8, 2009

HERPES ZOSTER (SHINGLES) VACCINE
LIVE VACCINE (Zostavax)

GENERAL INFORMATION

Herpes Zoster vaccine is recommended by the Advisory Committee on Immunization Practices of the CDC as a single dose for adults 60 years of age and older.[1] It is not licensed for use under age 50. Vaccination is recommended by CDC irrespective of a patient's history of shingles in order to reduce the risk of recurrence.

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine.

Contraindications

History of severe allergic reaction (anaphylaxis) to any component of the vaccine, including neomycin or gelatin

Cancer: persons with leukemia, lymphoma or other malignancy affecting the bone marrow or lymphatic system. It may be given to persons with leukemia in remission who have not had chemotherapy or radiation in at least 3 months.

Persons with AIDS or other clinical manifestations of HIV infection

Persons on immunosuppressive therapy, including ≥20 mg/day of prednisone or equivalent for 2 or more weeks. Defer vaccination for at least 1 month after discontinuation.

Persons with cellular immunodeficiency

Persons undergoing stem cell transplants (may be considered at least 2 years after transplant)

Persons receiving recombinant human immune mediators and immune modulators (such as adalimumab, infliximab, etanercept). Defer vaccination for at least 1 month after discontinuation.

Precautions include the following:

Moderate to severe acute illness: postpone until recovery

Adverse events include the following:

Local reactions (erythema, pain or tenderness, and swelling)

Administration of Vaccine:

Give a single dose of Herpes Zoster vaccine for adults 60 years of age and older whether or not they report a prior episode of shingles.

This may be given simultaneously with any other vaccines indicated for the recipient. If not given simultaneously, live virus vaccines (e.g., MMR, yellow fever) must be administered at least 1 month apart.

PLAN

Have patient/guardian read Vaccine Information Statement/Vaccine Information Material
Counsel regarding benefits, side effects, and management
Administer unit dose of Herpes Zoster vaccine
subcutaneously Advise to wait in clinic 20 minutes after
injection
Document vaccine administration on the immunization clinic record
Instruct patient to contact Health Department if severe reaction occurs

Referral Indicators:

Person with contraindications as noted under "General Information"

Follow-Up:

All serious adverse events that occur after receipt of any vaccine should be reported to the Vaccine Adverse Event Reporting System (VAERS).

REFERENCE

CDC. Prevention of Herpes Zoster: Recommendations of the Advisory Committee
on Immunization Practices. May 15, 2008
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr57e0515a1.htm
Package insert 06/2011

HUMAN PAPILLOMAVIRUS (HPV) VACCINE: HPV4 and HPV9 (GARDASIL® or GARDASIL®9 by Merck)

GENERAL INFORMATION

Human Papillomavirus (HPV) is the most common sexually-transmitted virus in the United States, with over 40 known strains infecting the genital areas of men and women. It is transmitted through intimate skin to skin contact: about 80% of sexually-active men and women are infected with HPV at some point in their lives. Most HPV infections are undetectable and go away on their own without causing problems; however, certain HPV types can cause head and neck cancers and cancers of the cervix and anogenital areas. Each year in the US, HPV causes about 360,000 cases of genital warts, about 17,600 cancers in women and 7,300 cancers in men.

HPV vaccine is an inactivated vaccine, administered intramuscularly. There are two types made by Merck. Gardasil® (HPV4) is licensed by the Food and Drug Administration (FDA) for administration to males and females aged 9 years through 26 years; it protects against HPV 6 and 11 (causes of 90% of genital warts) and HPV 16 and 18 (causes of 65% of HPV-associated invasive cancers in men and women). Gardasil® 9 (HPV9) is currently licensed for females 9 through 26 years and males 9 through 15; however, the Advisory Committee on Immunization Practices (ACIP) recommends either brand in males through 26 for whom HPV vaccination is indicated. TDH protocols follow ACIP recommendations. HPV9 protects against 5 additional strains, protecting against an *additional* 14% of HPV cancers in females and 4% of HPV cancers in males. Both vaccines are given in a three-dose series. HPV vaccine has no effect on pre-existing infections; however, sexually active and HPV-infected patients for whom vaccination is recommended will benefit from protection against strains not yet acquired and should be vaccinated.

GlaxoSmithKline produces the HPV vaccine Cervarix®, which targets HPV 16 and 18. It is licensed for females 9-25 only, on the same schedule as HPV4 and HPV9. It is not widely used in the US and not typically stocked in health departments. If a woman has started the vaccine series with Cervarix®, any available HPV vaccine may be used to complete the series.

HPV vaccine may be simultaneously administered with other vaccines, including live virus vaccines. It is stored in standard refrigerated conditions at 2-8°C (35-46°F).

<u>To determine if a patient in an ACIP recommended group is eligible for free federal vaccine, refer to the current Tennessee Immunization Program Policy on the use of federal vaccine.</u>

Contraindications to giving the vaccine include the following:

Severe allergic (anaphylactic) reaction to a previous dose of HPV4 or HPV9 or any component (including yeast). The vaccine contains no preservatives.

Precautions:

Moderate to severe acute illness (defer until recovery) [Note: Low grade fever <100.5ºF or mild illnesses are not reasons for deferring immunization]

Pregnancy: the vaccine has not been associated with adverse events when given during pregnancy; however it is not recommended if recipient is known to be pregnant.

Special Situations (per ACIP):
Breastfeeding is not a precaution or contraindication to immunization
A history of abnormal Pap smears, genital warts or other HPV infection is not a precaution or contraindication to vaccination. Such persons can benefit from protection against strains they have not yet acquired. Recipients should be advised that the vaccine does not protect against any strains they have already acquired.

Adverse Reactions:
Soreness, swelling or redness around the injection site is common
Syncope (especially common in adolescents)

PLAN

ACIP Recommendations for Use of either HPV9 or HPV4:

Females
- Routine Recommendation: Give first dose to all pre-teens at age 11 or 12 years (may begin at 9 years).
- Catch-up vaccination of all females age 13 through 26 years who have not completed the series.
- Females who have initiated the series before turning 27 may complete the series even if past age 26.

Males
- Routine Recommendation: Give first dose to all pre-teens at age 11 or 12 years (may begin at 9 years).
- Catch-up vaccination of all males 13 through 21 years who have not completed the series.
- The vaccine *may* be given to older males 22-26 who have not completed the series.
- It is *recommended* for previously unvaccinated older males 22-26 who have sex with men or whose immune system is weakened by HIV infection, other illness or medication.
- Males who have initiated the series before turning 27 may complete the series even if past age 26.

If a person has already started a vaccine series with HPV4, continue to use HPV4 if available unless HPV9 is requested or HPV4 supplies have run out. Either HPV4 or HPV9 may be used to complete the series as health department clinics transition to HPV9.

	Recommended Interval	**Minimum Interval**
Dose 2	1 to 2 months after dose 1	4 weeks after dose 1
Dose 3	6 months after dose 1	12 weeks after dose 2 **and** 24 weeks after dose 1

- ✓ Counsel regarding HPV benefits, side effects, and management
- ✓ Ask parent/guardian or recipient about contraindications, precautions
- ✓ Have parent/guardian or recipient read Vaccine Information Statement
- ✓ Administer the 0.5 mL dose of vaccine intramuscularly according to manufacturer instructions
- ✓ Advise parent/guardian or recipient to return for the next dose at the appropriate interval
- ✓ Advise to wait in clinic for 20 minutes after administration of vaccine
- ✓ Record manufacturer and lot number of the vaccine administered, date vaccine and VIS given, address of facility, and name and title of person administering vaccine
- ✓ Instruct patient/guardian to contact Health Department if adverse reaction occurs

REFERENCES

Use of 9-Valent Human Papillomavirus (HPV) Vaccine: Updated HPV Vaccination Recommendations of the Advisory Committee on Immunization Practices, MMWR March 27, 2015; pp. 300-304. http://www.cdc.gov/mmwr/pdf/wk/mm6411.pdf

GARDASIL®9 [Human Papillomavirus 9-valent Recombinant Vaccine] Vaccine package insert, Merck, copyright 2014, Revised February 2015.

GARDASIL® [Quadrivalent Human Papillomavirus (Types 6, 11, 16, 18) Recombinant Vaccine] Vaccine package insert, Merck, copyright 2006, Revised June 2014.

Cervarix [Bivalent Human Papillomavirus (Types 16, 18) Vaccine, Recombinant] Prescribing Information, GlaxoSmithKline, copyright 2009. Revised February 2015. http://us.gsk.com/products/assets/us_cervarix.pdf

LIVE ATTENUATED INFLUENZA VACCINE (LAIV) (FluMist® by MedImmune)

GENERAL INFORMATION

General Recommendations for Seasonal Influenza Vaccination:

Beginning in 2013, CDC classifies influenza vaccine in 3 forms: inactivated influenza vaccine (IIV) and recombinant influenza vaccine (RIV, not in health departments), both administered by injection, and live-attenuated, intranasal vaccine (LAIV). See IIV protocol for persons who prefer it or who are ineligible for LAIV.

It is recommended that all persons aged 6 months and up be vaccinated each influenza season. IIV and LAIV are considered equally good options for children or adults age 2 through 49 for whom either vaccine is appropriate. IIV or LAIV may be used interchangeably for either dose,

No preference is expressed for LAIV or IIV for any person aged 2 through 49 years for whom either vaccine is appropriate. An age-appropriate formulation of vaccine should be used.

Children 6 months through 8 years who have previously received 2 or more total doses of trivalent or quadrivalent influenza vaccine as of July 1, 2015, need only one dose for 2015-16. The two previous doses do not need to have been given during the same season or consecutive seasons. Children 6 months through 8 years who have previously received only 1 dose or no doses of seasonal influenza vaccine, or have an unknown history, need two doses of vaccine to be fully protected for the 2015-2016 season.

All LAIV is quadrivalent (contains 4 influenza virus strains). The 2015-2016 LAIV quadrivalent vaccine has 3 new strains compared to last season. It has a new A/California/7/2009 (H1N1)-like virus, an A/Switzerland/9715293/2013 (H3N2)-like virus, and a B/Phuket/3073/2013-like (Yamagata lineage) virus; the unchanged strain is a B/Brisbane/60/2008-like (Victoria lineage) virus.

Begin vaccinating patients as soon as vaccine arrives; delaying vaccination **is not** recommended.

Seasonal LAIV indication:

LAIV is approved by the Food and Drug Administration (FDA) for use in healthy persons aged 24 months through 49 years who are not known to be pregnant.

Special situations:

LAIV may be co-administered with any other vaccine at the same visit. Live vaccines not given on the same day (e.g., varicella, MMR) should be administered at least 4 weeks apart. LAIV may be given to breastfeeding women and to close contacts of:

- pregnant women
- infants
- those with mild to moderate immunocompromise.

Because influenza antiviral medications (such as oseltamivir or zanamavir) reduce replication of influenza viruses, LAIV should not be given until 48 hours after stopping influenza antiviral therapy. Influenza antiviral medications should not be administered for 2 weeks after receipt of LAIV unless medically necessary.

LAIV should NOT be used for:

- Persons aged <2 years or >49 years
- Persons with contraindications listed in the package insert:
  Children aged 2 through 17 years who are receiving aspirin or aspirin-containing products
  Persons who have experienced severe allergic reactions (e.g., anaphylaxis) to the vaccine or any of its components, including egg protein, or to any previous dose of any influenza vaccine
- Pregnant women
- Immunocompromised persons
- Persons with a history of egg allergy
- Children aged 2 through 4 years who have a wheezing episode documented in the medical record in the past 12 months or whose parents answer yes to the question: "In the past 12 months, has a health care provider ever told you that your child had wheezing or asthma?"
- Persons who have taken influenza antiviral medications within the previous 48 hours.
- Persons who care for severely immunosuppressed persons who require a protective environment should not receive LAIV, <u>or</u> should avoid contact with such persons for 7 days after receipt.

Precautions (use IIV or refer):

- Asthma in persons aged 5 years and older, due to potential for post-vaccination wheezing;
- Moderate to severe acute illness with or without fever;
- History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine;
- Medical conditions which might predispose to higher risk for complications attributable to influenza, such as chronic pulmonary, cardiovascular [except isolated hypertension], renal, hepatic, neurologic, hematologic, or metabolic disorders [including diabetes mellitus].

Common Side Effects

Mild, transient symptoms, primarily nasal congestion (about 50%); 10% or fewer may have sore throat, headache, lethargy or transient low-grade fever.

PLAN

- Have recipient, parent, or guardian read Vaccine Information Statement (VIS)
- Counsel regarding benefits, side effects, and management
- Administer vaccine intranasal spray (0.1 ml in each nostril) according to manufacturer's Recommendation
- Remind that seasonal influenza vaccine is recommended annually.

- Advise the parent or guardian of recipients less than 9 years of age to return for a second dose in 4 weeks if the child has not previously received at least 2 doses of seasonal influenza vaccine before July 1, 2015.
- Advise that recipient should not use an antiviral medication within 2 weeks after LAIV administration unless medically necessary.
- Advise to wait in clinic 20 minutes after intranasal administration
- Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine
- Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate VAERS form: http://vaers.hhs.gov)

Recommended Schedule and Dosage of LAIV (FluMist®):

Age Group	Influenza Vaccination Status	Dosage Schedule
Children 24 months through 8 years	Has **not** had at least 2 seasonal influenza vaccine doses before July 1, 2015, **or not sure**	2 doses (each dose 0.1ml per nostril) given at least 4 weeks apart*
	Has had 2 or more seasonal influenza vaccine doses before July 1, 2015	1 dose (0.1 ml per nostril)
Other persons aged 9 through 49 years	n/a	1 dose (0.1 ml per nostril)

*IIV or LAIV may be used interchangeably for either dose, if appropriate.

Referral Indicators:
Persons with history of severe allergic reaction to components of vaccine (gelatin, gentamicin, arginine, egg protein) or a severe allergic reaction to a previous dose of influenza vaccine.
Persons who report egg allergy. Evaluate them for administration of IIV using the assessment tool in the IIV protocol.
Persons with history of Guillain-Barré syndrome within 6 weeks of administration of a previous dose of influenza vaccine.
Persons having moderate to severe acute febrile illness or illnesses with significant nasal congestion (until illness resolves)

REFERENCES
Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2015–16 Influenza Season. http://www.cdc.gov/mmwr/pdf/wk/mm6430.pdf Last accessed August 12, 2015.

FluMist® Quadrivalent, (Influenza Vaccine Live, Intranasal) Prescribing Information for 2014-2015 (MedImmune). http://www.medimmune.com/docs/default-source/default-document-library/product-and-patient-information-for-flumist-quadrivalent.pdf. Last accessed 8/12/2015.

INACTIVATED SEASONAL INFLUENZA VACCINE (IIV)

GENERAL INFORMATION

General Recommendations for Seasonal Influenza Vaccination:

CDC now classifies influenza vaccine in 3 forms: inactivated influenza vaccine (IIV) and recombinant influenza vaccine (RIV, FluBlok™, equivalent to IIV), administered by injection, and live-attenuated, intranasal vaccine (LAIV).Injectable and intranasal are considered equally good options for healthy children or adults aged 2 through 49 eligible to receive either (see LAIV protocol if preferred). IIV options may contain either three or four strains of influenza virus; the additional benefit of the fourth strain cannot be predicted. CDC expresses no preference for any influenza vaccine product for the 2015-16 season.

All 2015-2016 IIV options have 2 new strains compared to last season. All IIV options contain an unchanged A/California/7/2009 (H1N1)-like virus, a new A/Switzerland/9715293/2013 (H3N2)-like virus, and a new B/Phuket/3073/2013-like (Yamagata lineage) virus; quadrivalent IIV also contains a B/Brisbane/60/2008-like (Victoria lineage) virus unchanged from the previous season.

Children 6 months through 8 years who have had 2 or more total doses of trivalent or quadrivalent influenza vaccine as of July 1, 2015, only need one dose for 2015-16. The two previous doses do not need to have been given during the same season or consecutive seasons. Children 6 months through 8 years who have previously received 0-1 dose of seasonal influenza vaccine, or have an unknown history, need two doses of vaccine to be fully protected for the 2015-2016 season.

Begin vaccinating patients as soon as vaccine arrives for the season; delaying vaccination **is not** recommended.

Centers for Disease Control and Prevention (CDC) recommendations:

CDC recommends annual influenza vaccine for ALL persons without medical contraindications, aged 6 months or older.

Contraindications (should not receive influenza vaccine):

- Children less than 6 months of age.
- History of severe allergic reaction to any component of the vaccine.
- History of allergy to eggs, refer to Figure 2.

Precautions:

Persons with history of Guillain-Barré syndrome within 6 weeks of administration of a previous dose of influenza vaccine (refer for further evaluation, this is not a contraindication)
Persons having moderate to severe acute febrile illness (until illness resolves)

PLAN

- Have recipient, parent, or guardian read Vaccine Information Statement (VIS)
- Counsel regarding benefits, side effects, and management (see figure below for assessment of persons who report egg allergy)
- Administer vaccine injection according to manufacturer's recommendation
- Remind that seasonal influenza vaccine is recommended annually.
- Advise the parent or guardian of recipients less than 9 years of age to return for a second dose in 4 weeks if the child has not previously received at least 2 doses of seasonal influenza vaccine before July 1, 2015.
- Advise to wait in clinic 20 minutes after injection
- Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine
- Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate VAERS form)

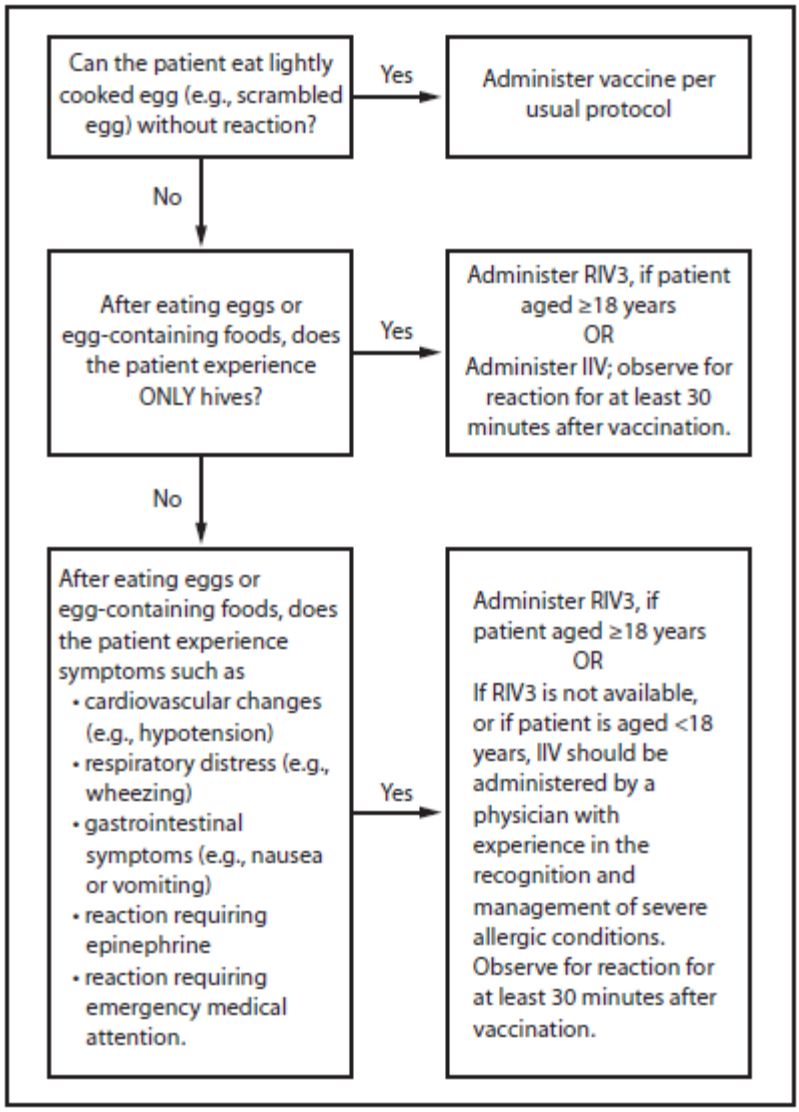
Recommended Schedule and Dosage of Seasonal Inactivated Influenza Vaccine (IIV):

Age Group	Influenza Vaccination Status	Dosage Schedule
Children 6 months through 35 months	Has **not** had at least 2 seasonal influenza vaccine doses before July 1, 2015 **or not sure**	2 doses (each dose 0.25 ml, IM) at least 4 weeks apart*
	Has had 2 or more seasonal influenza vaccine doses before July 1, 2015	1 dose (0.25 ml, IM)
Children 36 months through 8 years	Has **not** had at least 2 seasonal influenza vaccine doses before July 1, 2015, **or not sure**	2 doses (each dose 0.5 ml, IM) at least 4 weeks apart*
	Has had 2 or more seasonal influenza vaccine doses before July 1, 2015	1 dose (0.5 ml, IM)
All others 9 years and up	Not relevant	1 dose (0.5 ml, IM)

*IIV or LAIV may be used interchangeably for either dose, if appropriate.

Use the following table to screen all patients who report allergy to egg:

FIGURE 2. Recommendations regarding influenza vaccination of persons who report allergy to eggs*† — Advisory Committee on Immunization Practices, United States, 2015–16 influenza season



Abbreviations: IIV = inactivated influenza vaccine, trivalent or quadrivalent; RIV3 = recombinant influenza vaccine, trivalent.

* Persons with egg allergy may tolerate egg in baked products (e.g., bread or cake). Tolerance to egg-containing foods does not exclude the possibility of egg allergy (Erlewyn-Lajeunesse et al., Recommendations for the administration of influenza vaccine in children allergic to egg. BMJ 2009;339:b3680).

† For persons who have no known history of exposure to egg, but who are suspected of being egg-allergic on the basis of previously performed allergy testing, consultation with a physician with expertise in the management of allergic conditions should be obtained prior to vaccination. Alternatively, RIV3 may be administered if the recipient is aged ≥18 years.

REFERENCES

Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2015–16 Influenza Season. http://www.cdc.gov/mmwr/pdf/wk/mm6430.pdf Last accessed August 12, 2015.

MEASLES, MUMPS, RUBELLA VACCINE (MMR)

GENERAL INFORMATION – MMR is a live virus vaccine that is administered subcutaneously. MMR vaccine may be stored in the refrigerator or freezer and should be used within 8 hours of reconstitution.

Contraindications and Precautions, include the following:

- Severe allergic (e.g., anaphylaxis) reaction to vaccine component, such as gelatin or Neomycin, or to a previous dose of MMR vaccine (Refer)
- Moderate to severe acute illness (wait until resolving)
- Pregnancy (if known, testing is not required before vaccinating)
- Known severe immunodeficiency (e.g., from hematologic or solid tumors; receiving chemotherapy; congenital immunodeficiency; or, patients with HIV and severe immunocompromise) (Refer)
  - Patients currently on long term immune suppression therapy: has had ≥14 days of ≥2 mg/kg/day (or, ≥20 mg/day) of prednisone, or equivalent.
    (Defer vaccination until high dose therapy has been stopped for 1 month).
- Recent (within 11 months) antibody-containing blood product (specific interval depends upon the blood product – see CDC's General Recommendations on Immunization for details)
- MMR vaccine may be given on the same day as other live virus vaccines (e.g. varicella) however, if not given on the same day, they must be separated by 4 weeks (28 days).
- If not given on the same day, wait 4 weeks from date of MMR vaccine to administer TST.
- History of thrombocytopenic purpura or thrombocytopenia (low platelet count) (Refer)

Note: The following are NOT contraindications or precautions to MMR vaccination: egg allergy; breast feeding or pregnant household contact; oral low dose, short course or inhaled steroid use.

Adverse events

Common: Susceptible recipients may develop the following mild symptoms caused by measles vaccine virus replication 5 to 12 days after immunization:

- 1-2 days of fever of 103°F or higher (5-15%)
- rash (5%)
- Joint symptoms (pain or inflammation) with onset 1-3 weeks after vaccination and lasting up to 3 weeks (up to 25% of adult females, uncommon in children and males)

Rare:

- severe allergic reaction (e.g., anaphylaxis)
- pain in arms and legs 1-3 weeks after vaccination
- thrombocytopenia
- parotitis
- deafness
- encephalopathy

ACIP Recommended Populations

NOTE: ***See current policy from the Tennessee Immunization Program for guidance concerning which recommended persons are eligible for federally funded vaccine***

All children (2 doses)
Adults born in 1957 or later (at least 1 dose if no acceptable history of disease), with emphasis on certain groups at higher risk of infection or complication:
Women of childbearing age (who have never had MMR or who lack serologic evidence of immunity)
Unvaccinated HIV patients without evidence of severe immunocompromise
College students (2 doses required by state law for full time students in TN)
International travelers (total of 2 doses, [§]federal vaccine only for ages 6 months through 18 years)
Healthcare workers (2 doses or evidence of immunity)
Vaccinate susceptible persons age 6 months and up within ≤72 hours of exposure to measles

Administration of Vaccine:
Give first dose at 12-15 months of age
Give second dose at 4-6 years***** (recommended if born after 1957)
MMR vaccine may be given simultaneously with all other vaccines; if MMR and varicella (or another live virus vaccine) are not administered at the same visit, they should be separated by at least 28 days

For children traveling outside the United States:
6-11 months: 1 MMR before travel (because it gives less than ideal protection, this extra dose does not count toward the 2 dose routine MMR series).
12 months or up: should get 2 doses of MMR before travel (28 days apart, minimum interval).
Two doses after 12 months of age completes the MMR series.*

Vaccine is not needed if patient has laboratory evidence of immunity to all three (measles, mumps and rubella). However, if any is negative, documentation of 2 MMR doses is needed.

PLAN

Have patient or accompanying adult read Vaccine Information Statement
Counsel regarding benefits, side effects, and management
Counsel females of childbearing age to avoid pregnancy for 28 days post vaccination (document LMP)

*****The 2nd dose of MMR is recommended routinely at 4-6 yrs of age but may be administered during any visit, provided at least 1 month has elapsed since receipt of the 1st dose and that both doses are administered beginning at or after 12 months of age.

Administer unit dose of MMR subcutaneously
Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine (National Childhood Vaccine Injury Act)
Instruct patient to contact Health Department if adverse reaction occurs

NOTE: Any dose of MMR vaccine given earlier than 4 days before the 1st birthday will not count as one of the routine two-dose series; persons who have not received 2 doses of measles mumps and rubella-containing vaccines, such as those who received only a monovalent measles vaccine or combined Measles/Rubella (MR) vaccine should complete a 2 dose series of MMR.

Referral indicators (in addition to contraindications or precautions listed above):
Uncontrolled neurological conditions, such as uncontrolled seizures
Active untreated tuberculosis

Follow-Up:

If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed.
Return at appropriate interval according to schedule

REFERENCES

Manufacturer Packet Inserts.
National Childhood Vaccine Injury Act, 1986.
Epidemiology and Prevention of Vaccine-Preventable Diseases. Department of Health and Human Services, Centers for Disease Control and Prevention, 12th Ed., May 2011.

MENINGOCOCCAL B CONJUGATE VACCINES (BEXSERO™, TRUMENBA™)

GENERAL INFORMATION

Meningococcal B ("MenB") disease is caused by bacteria (Neisseria meningitis, serogroup B) that infect the bloodstream and the linings of the brain and spinal cord, causing serious illness. MenB disease is rare, with about 50-60 cases and 5-10 deaths occurring each year among persons 11-23 years of age in the United States. MenB disease is spread the same way as other strains of meningococcal disease and has the same clinical presentation, but is not prevented by the quadrivalent meningococcal conjugate vaccines (MCV4) routinely recommended for preteens and teens to prevent infection with serogroups A, C, Y and W-135. Infection is spread by direct contact with infected individuals (e.g., sharing a glass or cigarette, or kissing), or via droplets of respiratory secretions (e.g., coughing or sneezing). Symptoms include the sudden onset of fever, chills, severe headache, stiff neck, rash, nausea, vomiting and lethargy.

MenB vaccines are inactivated and contain no live organisms. They provide short-term protection against MenB invasive disease. MenB vaccine may be given at the same time as other immunizations, including MCV4, if needed.

Meningococcal B Vaccines (MenB-FHbp and MenB-4C)

There are 2 MenB vaccines: MenB-FHbp (Trumenba™ by Pfizer) is FDA-licensed age 10 years through 25 years and administered as a 3-dose series at 0-, 2- and 6-month schedule. MenB-4C (Bexsero™ by Novartis) is FDA-licensed for ages 10 through 25 years as a two-dose series at least 1 month apart. **The two vaccines are not interchangeable**; a series must be completed with the same product.

Because MenB disease is so rare, it is not possible to state precisely the effectiveness of the vaccines. Vaccines were designed to protect against common strains but will not prevent all cases of MenB disease. Immunity is short-term, not more than a few years.

The Advisory Committee on Immunization Practices (ACIP) publishes recommendations for use of licensed vaccines. In cases where the published ACIP recommendation differs from the label, the ACIP recommendation takes priority as the standard of care.

ACIP Recommendations:

A MenB vaccine series **should be given** to the following persons aged 10 years and older (including those over 25) because of their increased risk of meningococcal B disease:

- Persons with persistent complement component deficiencies (including deficiencies of C3, C5-9, properidin, factor D, factor H, or who are taking eculizumab [Soliris])
- Persons with anatomic or functional asplenia (including sickle cell disease)
- Microbiologists routinely exposed to isolates of Neisseria meningitidis

- Persons identified as at increased risk because of a serogroup B meningococcal disease outbreak (as defined by public health in collaboration with the CDC).

A MenB vaccine series **may be given** to adolescents and young adults aged 16 through 23 years to provide short-term protection against most strains of serogroup B disease, with administration preferred at age 16-18 years.

Only a single series is indicated. Revaccination of persons who have already completed a series of MenB vaccine is not currently recommended.

Contraindications to giving the vaccine include the following:

- Persons under 10 years of age.
- Severe allergic reaction to a previous dose of either vaccine or a component of the vaccine.

Precautions include the following:

- Pregnancy: MenB-FHbp or MenB-4C should be administered only if clearly needed (refer to health officer or nurse practitioner for evaluation of need)
- MenB-4C (Bexsero) only: pre-filled syringe tip caps contain natural latex which may cause allergic reaction in latex-sensitive individuals.
- Immunization should be deferred during the course of a moderate to severe illness unless clearly needed (refer to health officer or nurse practitioner for evaluation of need)

Common Adverse Reactions include the following:

Mild injection site pain and redness
Mild systemic reactions such as headache, fatigue and muscle pain
For severe systemic reactions following vaccination, follow instructions on the Vaccine Information Statement to report to Vaccine Adverse Event Reporting System (VAERS)

PLAN

Vaccinate according to the following table. VFC-eligible patients under 19 years of age may receive VFC vaccine. All others should receive non-federal vaccine.

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine. VFC-eligible patients who should or who may receive the vaccine are eligible for VFC MenB vaccines.

High risk, ages 10 and up: SHOULD be vaccinated	**MenB-FHbp (Trumenba)**	**MenB-4C (Bexsero)**
Persons with persistent complement component deficiencies (including deficiencies of C3, C5-9, properidin, factor D, factor H, or who are taking eculizumab [Soliris])	3 doses (0-, 2-, 6-months)	2 doses (4 weeks apart)
Persons with anatomic or functional asplenia (including sickle cell disease)	3 doses (0-, 2-, 6-months)	2 doses (4 weeks apart)

Cont., High risk, ages 10 and up: SHOULD be vaccinated	**MenB-FHbp (Trumenba)**	**MenB-4C (Bexsero)**
Microbiologists routinely exposed to isolates of Neisseria meningitidis	3 doses (0-, 2-, 6-months)	2 doses (4 weeks apart)
HIV-infected persons age 11 through 18 years	3 doses (0-, 2-, 6-months)	2 doses (4 weeks apart)
Persons identified as at increased risk because of a serogroup B meningococcal disease outbreak (as defined by public health in collaboration with the CDC).	3 doses (0-, 2-, 6-months)	2 doses (4 weeks apart)
MAY be vaccinated: Average risk, ages 16 through 23 years (preferably 16-18 years)	3 doses (0-, 2-, 6-months)	2 doses (4 weeks apart)

Ask patient/guardian about contraindications
Have patient/guardian read Vaccine Information Statement
Administer a single dose of vaccine **INTRAMUSCULARLY**
Document vaccine administration on the immunization clinic record
Advise to wait in clinic for 20 minutes after injection
Instruct patient/guardian to contact Health Department if adverse reaction occurs

Health Teaching:

Provide current Vaccine Information Sheet (VIS) about meningococcal B disease and the benefits of vaccination
If the vaccine is used in persons receiving immunosuppressive therapy, the expected immune response may not be obtained
Educate recipients about the importance of receiving the complete series.

Referral:

Pregnancy (to confirm that immunization without delay is clearly needed)
Military recruits
Microbiologists occupationally exposed to isolates of N. meningitidis
Travelers (to a travel clinic)

REFERENCES

BEXSERO® (Meningococcal Group B Vaccine) Suspension for intramuscular injection. Prescribing Information, Novartis, 2015.

TRUMENBA™ [neisseria meningitidis serogroup b recombinant lp2086 a05 protein variant antigen and neisseria meningitidis serogroup b recombinant lp2086 b01 protein variant antigen injection, suspension] Prescribing Information, Pfizer, January 2015.

MMWR, Use of Serogroup B Meningococcal Vaccines in Persons Aged ≥10 Years at Increased Risk for Serogroup B Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices, 2015. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, June 12, 2015 / 64(22);608-612. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6422a3.htm

MMWR, Use of Serogroup B Meningococcal Vaccines in Adolescents and Young Adults: Recommendations of the Advisory Committee on Immunization Practices, 2015. October 23, 2015 / 64(41);1171-6. http://www.cdc.gov/mmwr/pdf/wk/mm6441.pdf#page=11

MENINGOCOCCAL VACCINE
MENINGOCOCCAL CONJUGATE VACCINE
(MENACTRA™, MENVEO™)

GENERAL INFORMATION

Meningococcal disease is caused by bacteria (Neisseria meningitidis) that infect the bloodstream and the linings of the brain and spinal cord, causing serious illness. Meningococcal disease is rare in the United States, but is now the leading cause of bacterial meningitis in children. Of people with meningococcal disease, 10% die and 11-19% of survivors have permanent disabilities (such as mental retardation, hearing loss, and loss of limbs). Meningococcal disease is most likely to occur in infants and toddlers, although the type (serogroup B) that causes most disease in this age group is not preventable by vaccine. After infancy, the next period of increased risk is from 16-21 years. Infection is spread by direct contact with infected individuals (e.g., sharing a glass or cigarette, or kissing), or via droplets of respiratory secretions (e.g., coughing or sneezing). Symptoms include the sudden onset of fever, chills, severe headache, stiff neck, rash, nausea, vomiting and lethargy.

Meningococcal vaccine is inactivated and contains no live organisms. The vaccine is designed to prevent infections from serogroups A, C, Y and W-135. Protective antibody levels may be achieved within 7-10 days after vaccination. Meningococcal vaccine may be given at the same time as other immunizations, if needed.

Meningococcal Conjugate Vaccine (MCV4)

There are 2 MCV4 vaccines: Menactra™ by Sanofi Pasteur (licensed age 9 months through 55 years) and Menveo™ by Novartis (licensed age 24 months through 55 years)

Immunity is expected to last 3-5 years following a single dose.

MCV4 is recommended for routine use in preteens and certain individuals who are at elevated risk for meningococcal disease and are between 2 and 55 years of age

Where MCV4 is not available, Meningococcal Polysaccharide Vaccine (MPSV4, Menomune™) is an acceptable substitute for some, not all, persons for whom MCV4 is recommended; refer to Meningococcal Polysaccharide vaccine (MPSV4, Menomune) protocol as needed for additional information. <u>MCV4 is always preferred to MPSV4</u>.

<u>ACIP Recommended Populations</u> include the following:

Adolescents (First dose routinely for children 11 through 12 years and as catch up for any children 13 through 18 years not previously vaccinated with MCV4)

College freshmen in dormitories, including those through age 21 who enroll in college and present for vaccine before moving on campus, if not previously vaccinated or booster indicated

Persons age 2 through 55 years who have anatomic or functional asplenia or terminal complement component deficiencies, including such persons who had received one dose of MPSV4 three (3) or more years earlier (with health department physician order)

Persons age 2 through 55 years who travel to, or reside in, countries in which N. meningitidis is hyperendemic or epidemic, particularly if contact with local populations is prolonged

Military recruits (Health departments should refer)
Microbiologists routinely exposed to isolates to N. meningitidis (Health departments refer)

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine.

Contraindications to giving the vaccine include the following:
Persons under 2 years or over 55 years of age
If known to be pregnant, consult with health officer or refer to medical provider
Hypersensitivity to any component of the vaccine, including diphtheria toxoid
Menactra only: hypersensitivity to dry natural latex (contained in vaccine vial stopper)
Note: Menveo packaging does not contain latex.

Precautions include the following:
Immunization should be deferred during the course of any moderate to severe illness
Anyone who has ever had Guillain-Barre Syndrome

Adverse Reactions include the following:
COMMON
Mild injection site pain and redness (within 1 -2 days of vaccination)
Mild systemic reactions such as headache and malaise (within 7 days of vaccination)
RARE
Fever (within 7 days of vaccination) or severe systemic reaction

PLAN
Vaccinate according to the following table [Use federally-funded vaccine, in accordance with current guidance for its use (see cover letter). If state or locally-purchased vaccine is available, persons ineligible for federally-funded vaccine may be vaccinated in accordance with local policy]:

Risk group	**First dose (age in years)**	**Booster dose (age in years)§**
Persons aged 11 through 18 years	11 through 12	16 (catch up dose through age 18)*
	13 through 15	16 through 18*
	16 or older	**-none-**
HIV-infected persons age 11 through 18 years	11 through 12 (primary 2-dose series, at least 8 weeks apart*)	16 (catch up dose through age 18)* ¥
	13 through 15 (primary 2-dose series, at least 8 weeks apart*)	16 through 18*¥
	≥16 (primary 2-dose series, at least 8 weeks apart*)	**-none-**
Persons aged 2 through 55 years with persistent complement component deficiency (such as C5-C9, properidin or factor D) or asplenia (functional or anatomic)	At earliest opportunity (primary 2-dose series, at least 8 weeks apart)	Every 5 years following the second primary series dose.

Risk group	**First dose (age in years)**	**Booster dose (age in years)§**
Persons age 2-55 years with prolonged increased risk for exposure to N. meningitidis**	1 dose	If aged 2 through 6 years, after 3 years, *if still at increased risk* If aged 7 years or older, after 5 years *if still at increased risk*
§ Minimum interval between primary and booster doses of vaccine is 8 weeks		
***** To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine.**.**		
¥Calculate need for booster dose based upon age at receipt of the second dose in the primary 2-dose series.		
***Microbiologists routinely working with Neisseria meningitidis and travelers or residents of countries where meningococcal disease is hyperendemic or epidemic.*		

If using Menveo, reconstitute product according to manufacturer package insert prior to administration.

Administer a single dose of vaccine, 0.5 ml **INTRAMUSCULARLY**

Ask patient/guardian about contraindications
Have patient/guardian read Vaccine Information Statement
Document vaccine administration on the immunization clinic record
Advise to wait in clinic for 20 minutes after injection
Instruct patient/guardian to contact Health Department if adverse reaction occurs

Health Teaching:

Provide current Vaccine Information Sheet (VIS) about meningococcal disease and the benefits of vaccination

If the vaccine is used in persons receiving immunosuppressive therapy, the expected immune response may not be obtained

Educate recipients for whom a booster dose is recommended about the timing and importance of the booster dose

Referral:

Pregnancy
Military recruits
Microbiologists occupationally exposed to isolates of N. meningitidis
Travelers (to a travel clinic)

REFERENCES

Menactra® [Meningococcal (Groups A, C, Y and W-135) Polysaccharide Diphtheria Toxoid Conjugate Vaccine] package insert, Sanofi Pasteur (Aventis Pasteur), April 2008

MENVEO® [Meningococcal (Groups A, C, Y and W-135) Oligosaccharide Diphtheria CRM197 Conjugate Vaccine] package insert, Novartis, January 2011

MMWR, Prevention and Control of Meningococcal Disease, Recommendations of the Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, May 27, 2005/Vol.54/No. RR-7

MMWR, Notice to Readers: Recommendation from the Advisory Committee on Immunization Practices (ACIP) for Use of Quadrivalent Meningococcal Conjugate Vaccine (MCV4) in Children Aged 2--10 Years at Increased Risk for Invasive Meningococcal Disease. December 7, 2007 / 56(48);1265-1266

MMWR, Updated Recommendations for the Use of Meningococcal Conjugate Vaccines – Advisory Committee on Immunization Practices (ACIP) 2010, January 28, 2011. http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf

MENINGOCOCCAL VACCINE
MENINGOCOCCAL POLYSACCHARIDE VACCINE
(MENOMUNE)

GENERAL INFORMATION

Meningococcal disease is caused by bacteria (Neisseria meningitidis) that infect the bloodstream and the linings of the brain and spinal cord, causing serious illness. Every year in the United States, 1,400 to 2,800 people get meningococcal disease. Ten to 14 percent of people with meningococcal disease die, and 11-19 percent of survivors have permanent disabilities (such as mental retardation, hearing loss, and loss of limbs). Infection is spread by direct contact with infected individuals (e.g., sharing a glass or cigarette, or kissing), or through the air via droplets of respiratory secretions (e.g., coughing or sneezing). Symptoms include the sudden onset of fever, chills, severe headache, stiff neck, rash, nausea, vomiting and lethargy.

Meningococcal vaccine is inactivated and contains no live organisms. Different strains of the meningococcus are more likely to produce disease and the vaccine is designed to prevent infections from groups A, C, Y and W-135. Serogroup B is the most common cause of meningococcal disease in children < 1 year of age; no vaccine is yet available to offer protection against serogroup B. Protective antibody levels may be achieved within 7-10 days after vaccination. Meningococcal vaccine may be given at the same time as other immunizations, if needed.

Meningococcal Polysaccharide Vaccine (Menomune)

Licensed in 1981
It is manufactured by Sanofi Pasteur and is marketed as **MENOMUNE™**
Immunity expected to last 3-5 years following a single dose
It may be administered to persons 2 years of age and older
Menomune should only be administered to persons aged 11-55 years when Meningococcal Conjugate Vaccine (MCV4) is not available
Menomune is an acceptable alternative for college freshmen living in dormitories when Meningococcal Conjugate Vaccine (MCV4) is not available
Menomune is <u>not recommended</u> as a substitute for MCV4 in healthy adolescents ages 11-12 or for adolescents entering high school; healthy adolescents in these age groups, without medical or travel risk factors for disease, are recommended only to receive MCV4

<u>ACIP Recommended Populations include the following:</u>

College freshmen living in dormitories, including those enrolled in college who present for immunization before moving on campus who have not previously received MCV4
Persons who have anatomic or functional asplenia or terminal complement component deficiencies (with health department physician order)
Persons who travel to, or reside in, countries in which N. meningitidis is hyperendemic or epidemic, particularly if contact with the local population will be prolonged
Military recruits (Health departments should refer)

Microbiologists who are routinely exposed to isolates to N. meningitidis (Health departments should refer)

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the current Tennessee Immunization Program Policy on the use of Federal vaccine.

Contraindications to giving the vaccine include the following:

Children under 2 years of age (effectiveness questionable in this age group)
Hypersensitivity to any component of the vaccine, including Thimerosal
Anaphylactic hypersensitivity to dry natural rubber latex (contained in vial stopper)
If pregnant, consult with health officer or refer to medical provider

Precautions include the following:

Immunization should be deferred during the course of any moderate to severe illness
If the vaccine is used in persons receiving immunosuppressive therapy, the expected immune response may not be obtained

Adverse Reactions include the following:

MOST COMMON
- Mild injection site pain and redness
- Transient fever

RARE
- Headache, malaise, chills

PLAN

Ask patient/guardian about contraindications
Have patient/guardian read Vaccine Information Statement

Vaccine Administration:

[1]Reconstitute the vaccine using only the diluent supplied for this purpose May be administered to persons 2 years of age and older as outlined in program policy
May be given to any college student requesting vaccine
Administer to individuals 2 years through10 years of age that have medical or travel risk factors for meningococcal disease (see Recommended Population)
Administer a single dose of vaccine, 0.5 ml, **SUBCUTANEOUSLY**

Advise to wait in clinic for 20 minutes after injection
Document vaccine administration on the immunization clinic record
Instruct patient/guardian to contact Health Department if adverse reaction occurs

Health Teaching:

Provide current Vaccine Information Sheet (VIS) about meningococcal disease and the benefits of vaccination
Counsel regarding side effects of vaccine

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[1] **Single dose vial - should be used within 30 minutes after reconstitution**
Multidose vial - discard remainder of vaccine within 35 days after reconstitution

Referrals:

Pregnancy
Military recruits
Microbiologists occupationally exposed to isolates of N. meningitidis

REFERENCES

Meningococcal Disease and Meningococcal Vaccines Fact Sheet, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, April 2005

Meningococcal Polysaccharide Vaccine Groups A, C, Y & W-135 Combined package insert, Sanofi Pasteur (Aventis Pasteur), February 2001

MMWR, Prevention and Control of Meningococcal Disease and Meningococcal Disease, Recommendations of the Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, May 27, 2005/Vol.54/No. RR-7

PEDIARIX
[Diphtheria, Tetanus Toxoid & Acellular Pertussis (DTaP), Hepatitis B Recombinant, and Inactivated Polio Vaccine (IPV) Combined]

GENERAL INFORMATION (For additional information, see DTaP, Hep B pre-exposure, and IPV vaccine protocols)

Pediarix can be administered simultaneously with Hib, Hep A, Varicella, and MMR using separate injection sites
Pediarix is approved as a 3-dose primary series, and should be given at 2, 4, and 6 months
The vaccine is licensed for children 6 weeks through 6 years of age and should not be given to infants less than 6 weeks of age or to anyone 7 years of age or older
The vaccine should be refrigerated between 36° and 46° F (2° and 8°C); vaccine that has been subjected to freezing temperatures should be discarded
Immunosuppressive therapies may reduce the immune response to vaccine

<u>Contraindications include</u>:

- Hypersensitivity to any component of the vaccine, including yeast, neomycin, and polymyxin B
- A history of anaphylaxis to a previous dose of Pediarix, or any of its components
- Moderate to severe febrile illness
- A history of encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) within 7 days of administration of previous dose of any pertussis-containing vaccine
- Progressive neurologic disorder[1] (e.g., infantile spasms, uncontrolled epilepsy, progressive encephalopathy)
- Pregnancy

<u>The following precautions</u>, although not considered contraindications, should be carefully evaluated concerning the risks and benefits of vaccination for individuals having experienced these circumstances following a previous dose of DTaP or DTP:

- Temperature of 105°F or higher within 48 hours of prior dose (with no other identifiable cause)
- Collapse or shock-like state (hypotonic-hyporesponsive episode) within 48 hours of prior dose
- Persistent, inconsolable crying lasting 3 hours or more, occurring within 48 hours of receiving vaccine
- Seizures, with or without fever, within 3 days of prior dose
- Guillain-Barre syndrome within 6 weeks of prior dose

[1] Stable/resolved neurologic condition (i.e., controlled epilepsy, cerebral palsy, or developmental delay), or a family history of convulsions in first-degree family members (parents or siblings) is not a contraindication for Pediarix.

Adverse Reactions include:

Local injection site reaction (pain, redness, swelling)
Fever (higher rates relative to separately administered vaccines)
Possibility of hypersensitivity reactions in individuals sensitive to streptomycin, polymixin B, or neomycin
Arthus-type hypersensitivity reactions
Severe systemic reactions are rare

Administration of vaccine:

Pediarix should be given at 2, 4, and 6 months, with a 6 to 8 week interval between doses
If an accelerated schedule is needed, there should be a minimum interval of 4 weeks between the first and second doses
The third dose should be administered at least 16 weeks after the first dose and at least 8 weeks after the second dose but not before age 6 months
Pediarix is NOT indicated for use as a booster dose following a 3-dose primary series
A birth dose of single-antigen vaccine is preferred for all infants but MUST be administered to infants who are born to women who are HbsAg-positive or whose HbsAg status is unknown; the birth dose can then be followed by 3 doses of Pediarix at ages 2, 4, and 6 months

PLAN

Ask parent/guardian about personal/family history, adverse reaction following a previous vaccination, and recent health status of the child to determine existence of any contraindications
Counsel regarding vaccine benefits, side effects, and management.
Recommend that parent may administer acetaminophen if a fever develops and the child is uncomfortable. If the child does not show signs of discomfort, medication is not necessary.
Have accompanying adult read "Vaccine Information Materials" (VIMS) and "Vaccine Information Statement" (VIS)
Administer 0.5 mL Pediarix vaccine IM according to recommended schedule

Recommended Vaccine Schedule:

Vaccine	Dose #	Age	Minimum Age	Minimum Dose Interval
PEDIARIX	1	2 months	6 weeks	N/A
	2	4 months	10 weeks	4 weeks
	3	6 months	6 months	8 weeks
DTaP	4	15-18 months	12 months[2]	6 months
	5[3]	4-6 years	4 years	6 months
IPV	4	4-6 years	13 months	1 month

[2] May give #4 as early as 12 months of age if 6 months have elapsed since #3 and the child is unlikely to return at age 15-18 months
[3] 5th dose may be omitted if dose 4 is given on or after fourth birthday

NOTE:
Pediarix may be used to **complete a hepatitis B vaccination series**

Pediarix may be used to **complete the first 3 doses of the IPV vaccination series if initiated with vaccine from a different manufacturer**

Pediarix is **NOT recommended for completion of the first 3 doses of the DTaP vaccination series when initiated with vaccine from a different manufacturer**

Children who have received a **3-dose primary series of Pediarix should receive a fourth dose of IPV at 4-6 years and a fourth dose of DTaP vaccine at 15 to 18 months of age**[2]

Advise to wait in clinic for 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine
Instruct parent to contact Health Department if adverse reaction occurs (complete appropriate form)

Referral Indicators:
Allergic hypersensitivity to any component of the vaccine
History of severe reaction to previous dose

Follow-up:
Return at appropriate interval according to schedule

REFERENCES

MMWR, March 14, 2003/52(10); 203-204. FDA Licensure of Diphtheria and Tetanus Toxoids and Acellular Pertussis Adsorbed, Hepatitis B (Recombinant), and Poliovirus Vaccine Combined, (PEDIARIX^{tm}) for Use in Infants

National Immunization Program, FAQs on Pediarix^{tm} Vaccine

SmithKline Beecham Pharmaceuticals PEDIARIX^{tm} Package insert

PNEUMOCOCCAL VACCINE FOR CHILDREN AGES 6 WEEKS THROUGH 18 YEARS 13-Valent Pneumococcal Conjugate Vaccine (PCV13) and 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23)

GENERAL INFORMATION

Pneumococcal vaccines help to prevent diseases caused by common strains of pneumococcus (also known as *Streptococcus pneumoniae*), including pneumonia, bloodstream infections, meningitis, and ear infections. There are two forms of pneumococcal vaccine.

Pneumococcal conjugate vaccine (PCV13, Prevnar-13®) is routinely recommended for all children and protects against 13 strains. It is approved by the Federal Food and Drug Administration (FDA) for use in children aged at least six (6) weeks of age through 17 years old and in adults aged 50 years and older. See the adult 19-64 or 65 and over pneumococcal vaccination protocols for indications in these age groups.

Pneumococcal polysaccharide vaccine (PPSV23) is licensed by the FDA for ages 2 years and up for the prevention of pneumococcal disease caused by 11 strains not included in PCV13. Pneumococcal vaccines may be administered simultaneously with other vaccines except each other. Because it can interfere with the immune response to PCV13, PPSV23 should be given after recommended doses of PCV13.

PCV13 is routinely recommended for pneumococcal disease prevention in all children younger than age 5 years. Children with specific conditions that put them at increased risk for pneumococcal diseases may be recommended to receive PCV13 at older ages or to receive PPSV23 in addition to PCV13.

PCV13 is recommended for:
All children who have not reached their 5th birthday. (See **Plan** for additional recommendations)
Children aged 60 months through 18 years with underlying medical conditions that increase their risk for invasive pneumococcal disease. See the table and plan for details.

PPSV23 is recommended for:
Children aged 2 years or older with specific conditions that put them at increased risk of invasive pneumococcal disease (see Plan for additional details)

Contraindications to giving PCV13 or PPSV23 include the following:
An immediate anaphylactic reaction to the vaccine or a constituent of the vaccine, such as diphtheria toxoid (PCV13) or phenol (in PPSV23)
Acute, moderate, or severe illnesses with or without fever (defer until resolution).
Note: Mild illness with or without fever is NOT a contraindication.
Note: Safe for latex allergic patients. Products do not contain latex.

Adverse reactions:
Swelling, redness and/or pain at site of administration
Low-grade fever, headache
Systemic reactions infrequent, serious adverse reactions rare

PLAN

Have accompanying adult read "Vaccine Information Statement" (VIS)
Counsel regarding benefits, side effects, and management
Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date, name, address and title of person administering vaccine
Instruct parent to contact Health Department if adverse reaction occurs (complete appropriate Vaccine Adverse Event Report [VAERS] Form)

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the **current** Tennessee Immunization Program Policy on the use of Federal vaccine. At the time of this protocol, federal pneumococcal vaccine is unavailable.

Administration of pneumococcal vaccine:
The recommended immunization schedule consists of three (3) doses of PCV13 at approximately two (2) month intervals (ages 2, 4, and 6 months), followed by a fourth dose at 12-15 months of age. (See **Table 1** for PCV13 dosing schedule)
The usual age for the first dose is 2 months, but it can be given as young as six (6) weeks of age
The recommended dosing interval is 4-8 weeks
The fourth dose should be administered at age 12-15 months, and at least 8 weeks after the third dose
For healthy children, follow PCV13 **Table 1** (Routine Schedule)

For a list of high risk medical conditions and indications for PCV13 or PPSV23, see **Table 2**. Review the plan for details of administration based on age.

The dose is 0.5 ml to be given intramuscularly (PPSV23 may be given subcutaneously or intramuscularly)

OR

PCV13 must be shaken vigorously immediately prior to administration of vaccine in order to obtain a uniform suspension

PCV13 and PPSV23 should not be given at the same time

Table 1: Routine Schedule for PCV13, Ages 6 weeks to 6th birthday

Recommended routine vaccination schedule for PCV13 among infants and children who have not received previous doses of PCV7 or PCV13, by age at first dose

Age at first dose (mos.)	Primary PCV13 series*	PCV13 booster dose†
2–6	3 doses (ideally age 2, 4, 6 mos.)	1 dose at age 12–15 mos.
7–11	2 doses	1 dose at age 12–15 mos
12–23	2 doses	—
24–59 (Healthy children)	1 dose	—
24–71 (Children with certain chronic diseases or immunocompromising conditions§)	2 doses	—

* Minimum interval between doses is 8 weeks except for children vaccinated at age <12 months for whom minimum interval between doses is 4 weeks. Minimum age for administration of first dose is 6 weeks.
† Given at least 8 weeks after the previous dose.
§ See Table 2 for details of vaccination of children with high-risk conditions
† For children younger than age 6 years with underlying medical conditions (**see Table 2**), a single supplemental PCV13 dose is recommended.

Vaccination of Children aged 2 through 5 years with high risk conditions with PCV13 and PPSV23

All recommended PCV13 doses should be administered prior to PPSV23 vaccination if possible.

• For children 2 through 5 years of age with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; solid organ transplantation; or congenital immunodeficiency:
1. Administer 1 dose of PCV13 if 3 doses of PCV were received previously.
2. Administer 2 doses of PCV13 at least 8 weeks apart if fewer than 3 doses of PCV were received previously.
3. The minimum interval between doses of PCV is 8 weeks.
4. For children with no history of PPSV23 vaccination, administer PPSV23 at least 8 weeks after the most recent dose of PCV13.

Vaccination of Children aged 6 through 18 years with high risk conditions with PCV13 and PPSV23 (see table 2 for reference list of conditions):

For children aged 6 through 18 years who have cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiencies; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma:

1. If neither PCV13 nor PPSV23 has been received previously, administer 1 dose of PCV13 now and 1 dose of PPSV23 at least 8 weeks later.
2. If PCV13 has been received previously but PPSV23 has not, administer 1 dose of PPSV23 at least 8 weeks after the most recent dose of PCV13.
3. If PPSV23 has been received but PCV13 has not, administer 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.

• For children aged 6 through 18 years with chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure), chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy), diabetes mellitus, alcoholism, or chronic liver disease, who have not received PPSV23, administer 1 dose of PPSV23. If PCV13 has been received previously, then PPSV23 should be administered at least 8 weeks after any prior PCV13 dose.

• A single revaccination with PPSV23 should be administered 5 years after the first dose to children with sickle cell disease or other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiencies; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma.

Table 2:

TABLE. Medical conditions or other indications for administration of PCV13,* and indications for PPSV23† administration and revaccination for children aged 6–18 years§

		PCV13	PPSV23	
Risk group	**Underlying medical condition**	**Recommended**	**Recommended**	**Revaccination 5 yrs after first dose**
Immunocompetent persons	Chronic heart disease¶		✓	
	Chronic lung disease**		✓	
	Diabetes mellitus		✓	
	Cerebrospinal fluid leaks	✓	✓	
	Cochlear implants	✓	✓	
	Alcoholism		✓	
	Chronic liver disease		✓	
	Cigarette smoking		✓	
Persons with functional or anatomic asplenia	Sickle cell disease/other hemaglobinopathies	✓	✓	✓
	Congenital or acquired asplenia	✓	✓	✓
Immunocompromised persons	Congenital or acquired immunodeficiencies††	✓	✓	✓
	Human immunodeficiency virus infection	✓	✓	✓
	Chronic renal failure	✓	✓	✓
	Nephrotic syndrome	✓	✓	✓
	Leukemia	✓	✓	✓
	Lymphoma	✓	✓	✓
	Hodgkin disease	✓	✓	✓
	Generalized malignancy	✓	✓	✓
	Iatrogenic immunosuppression§§	✓	✓	✓
	Solid organ transplant	✓	✓	✓
	Multiple myeloma	✓	✓	✓

* 13-valent pneumococcal conjugate vaccine.
† 23-valent pneumococcal polysaccharide vaccine.
§ Children aged 2–5 years with chronic conditions (e.g., heart disease or diabetes), immunocompromising conditions (e.g., human immunodeficiency virus), functional or anatomic asplenia (including sickle cell disease), cerebrospinal fluid leaks, or cochlear implants, and who have not previously received PCV13, have been recommended to receive PCV13 since 2010.
¶ Including congestive heart failure and cardiomyopathies.
** Including chronic obstructive pulmonary disease, emphysema, and asthma.
†† Includes B-(humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease).
§§ Diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy.

Note:
The use of PCV13 does not replace the use of 23-valent pneumococcal polysaccharide vaccine (PPSV23) in children ≥24 months of age with underlying medical conditions. If a child will need PPSV23 and PCV13, administer the PCV13 before the PPSV23 (at least 8 weeks apart).

Referral Indicators:
A history of anaphylactic hypersensitivity to any component of the vaccine

Follow-up:
Return for next pneumococcal vaccine dose at appropriate interval
REFERENCES:

CDC. Recommended Immunization Schedules for persons 0 through 18 years. United States 2014. http://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf

CDC. Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine Among Children Aged 6–18 Years with Immunocompromising Conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP), MMWR June 28, 2013. http://www.cdc.gov/mmwr/pdf/wk/mm6225.pdf

CDC. Licensure of a 13-Valent Pneumococcal Conjugate Vaccine (PCV13) and Recommendations for Use Among Children — Advisory Committee on Immunization Practices (ACIP), 2010. MMWR http://www.cdc.gov/mmwr/pdf/wk/mm5909.pdf

PREVNAR 13® (Pneumococcal 13-valent Conjugate Vaccine [Diphtheria CRM197 Protein]) Prescribing Information: http://labeling.pfizer.com/showlabeling.aspx?id=501

Pneumovax 23® (pneumococcal vaccine polyvalent) Prescribing Information: http://www.merck.com/product/usa/pi_circulars/p/pneumovax_23/pneumovax_pi.pdf

PNEUMOCOCCAL VACCINE FOR ADULTS WITH HIGH RISK CONDITIONS AGED 19 THROUGH 64 YEARS: PNEUMOCOCCAL POLYSACCHARIDE VACCINE (PPSV23) AND PNEUMOCOCCAL CONJUGATE VACCINE (PCV13)

GENERAL INFORMATION

Pneumococcal vaccines help to prevent diseases caused by common strains of pneumococcus (also known as Streptococcus pneumoniae), including pneumonia, bloodstream infections, meningitis, and ear infections. There are two forms of pneumococcal vaccine.

Pneumococcal conjugate vaccine (PCV13, Prevnar-13®) is routinely recommended for all children and protects against 13 strains (see protocol 4.190 for children 6 wks–18 years). It is licensed by the Federal Food and Drug Administration for adults 50 years and older, but is recommended by the federal Advisory Committee on Immunization Practices (ACIP) for certain adults with immunocompromising conditions aged 19 years and older.

In cases where ACIP recommendations conflict with the label, follow ACIP recommendations.

See the adult 65 and over pneumococcal vaccination protocol for routine indications in that age group. PCV13 has been shown to be effective against invasive pneumococcal disease as well as non-invasive pneumococcal pneumonia.

Pneumococcal polysaccharide vaccine (PPSV23) is licensed by the FDA for ages 2 years and up for the prevention of pneumococcal disease caused by 11 strains not included in PCV13.

Pneumococcal vaccines may be administered simultaneously with other vaccines <u>except each other</u>.

Because it can interfere with the immune response to PCV13, in cases where both are recommended, PPSV23 should be given after PCV13.

PPSV23 has been shown to be effective against invasive pneumococcal disease, but data are inconclusive concerning benefit against non-invasive pneumococcal pneumonia.

Immunization may be less effective in persons with immunocompromising conditions, but is recommended.

PCV13 is recommended for:

Adults with immunocompromising conditions who have not previously received PCV13 (see Plan for details). Vaccine should be given as soon as feasible after diagnosis. If both PCV13 and PPSV23 are indicated, administer PCV13 first.

PPSV23 is recommended for:
Adults with conditions that put them at increased risk of invasive pneumococcal disease (see Plan for additional details). Vaccine should be given as soon as feasible following diagnosis.

Adverse reactions (applies to both vaccines)**:**

Swelling, redness and/or pain at site of administration
Low-grade fever, headache
Systemic reactions infrequent, serious adverse reactions rare

Contraindications and Precautions to both vaccines include the following:

An immediate anaphylactic reaction to the vaccine or a constituent of the vaccine, such as diphtheria toxoid (PCV13) or phenol (in PPSV23)

Acute, moderate, or severe illnesses with or without fever (defer until resolution).

Pregnancy precaution (use PPSV23 only if clearly needed, no studies of PCV13 in pregnancy)

Note: Mild illness with or without fever is NOT a contraindication.

Note: Safe for latex allergic patients. Products do not contain latex.

ACIP recommendations for persons aged 19 through 64 years: **PPSV23 and/or PCV13**

- ✓ **One dose PPSV23 only (no revaccination before age 65):**
  - Chronic heart disease (excluding essential hypertension)
  - Chronic lung disease
  - Diabetes mellitus
  - Alcoholism
  - Chronic liver disease, cirrhosis
  - Current smokers

- ✓ **One dose PCV13 and 1 dose PPSV23 (no revaccination before age 65):**
  - Cerebrospinal fluid leak
  - Cochlear implant

- ✓ **One dose of PCV13 and PPSV23 + revaccination with PPSV23 5 years after 1st dose:**
  - Persons with functional or anatomic asplenia:
    - Sickle cell disease, other hemaglobinopathy
    - Congenital or acquired asplenia
  - Immunocompromised persons:
    - Congenital or acquired immunodeficiency, including B- or T-lymphocyte deficiencies, complement deficiencies and phagocytic disorders (excluding chronic granulomatous disease)
    - HIV infection
    - Chronic renal failure and nephrotic syndrome
    - Leukemia, lymphomas, Hodgkin disease, generalized malignancy

- Iatrogenic immunosuppression (long term systemic steroids, radiation)
- Solid organ transplant
- Multiple myeloma

Dose intervals:
Recommend 8 weeks or longer after PCV13 to give PPSV23. For persons who need PCV13 but have been vaccinated previously with PPSV23, administer PCV13 ***one year*** or more after the most recent dose of PPSV23.

Additional notes:
(1) Persons with unknown or uncertain immunization history may be vaccinated.
(2) Give vaccine at least 2 weeks before planned splenectomy or initiation of immunocompromising treatments that will cause a person to become high risk.

PLAN
Have patient or accompanying adult read Vaccine Information Statement
PCV13 and PPSV23 should not be given at the same time
[PPSV23] Administer one dose of 0.5 cc PPSV23 vaccine intramuscularly or subcutaneously (preferably in the deltoid muscle or lateral mid thigh),

OR

[PCV13] Shake vigorously immediately before administering to achieve a uniform suspension, then administer 1 dose of 0.5cc PCV13 vaccine intramuscularly
Counsel regarding benefits, side effects, and management
Advise to wait in clinic for 20 minutes after injection
Document vaccine administration on the immunization clinic record
Instruct patient to contact Health Department if adverse reaction occurs (complete VAERS form)

To determine if a patient in an ACIP-recommended group is eligible for free, Federal vaccine, please see the **current** Tennessee Immunization Program Policy on the use of Federal vaccine. At the time of this protocol, federal pneumococcal vaccine is unavailable.
If a patient is eligible for vaccine according to protocol guidelines, state purchased vaccine may be utilized.

NOTE: COUNSELING FOR DOSES AFTER TURNING AGE 65
Persons who received one *or two* doses of PPSV23 before age 65 and 5 or more years have passed since the most recent dose are recommended to receive a dose of PPSV23 after turning 65 years of age. If they have not received a dose of PCV13, they will get PCV13 upon turning 65, followed by PPSV23 at least one year later unless otherwise specified in the protocol. No more than 3 doses of PPSV23 are recommended for anyone.

Adults who received PCV13 before turning 65 years of age are ***not*** recommended to receive a second dose of PCV13 after turning 65.

Referral Indicators:
Persons with contraindications as noted under "General Information"

REFERENCES

CDC. Updated Recommendations for Prevention of Invasive Pneumococcal Disease Among Adults Using the 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23). MMWR September 3, 2010. http://www.cdc.gov/mmwr/pdf/wk/mm5934.pdf

CDC. Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine for Adults with Immunocompromising Conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR October 12, 2012. http://www.cdc.gov/mmwr/pdf/wk/mm6140.pdf

CDC. Intervals Between PCV13 and PPSF23 Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR September 4, 2015. http://www.cdc.gov/mmwr/pdf/wk/mm6434.pdf

PNEUMOCOCCAL VACCINE FOR ADULTS ≥65 YEARS: PNEUMOCOCCAL CONJUGATE VACCINE (PCV13) AND PNEUMOCOCCAL POLYSACCHARIDE VACCINE (PPSV23)

GENERAL INFORMATION

Pneumococcal vaccines help to prevent diseases caused by common strains of pneumococcus (also known as *Streptococcus pneumoniae*), including pneumonia, bloodstream infections, meningitis, and ear infections. There are two types: a single dose of each is recommended for all persons 65 and older. See separate protocols for pneumococcal vaccine recommendations for ages 0-18 years and 19-64 years.

Pneumococcal conjugate vaccine (PCV13, Prevnar-13®) is licensed by the Food and Drug Administration (FDA) for adults ≥50 years, and is recommended by the Advisory Committee on Immunization Practices (ACIP) for all adults aged 65 years and older. PCV13 reduces the risk of vaccine-type invasive pneumococcal disease by 75% and reduces the risk of vaccine-type non-bacteremic pneumonia by 45% in this age group.

Pneumococcal polysaccharide vaccine (PPSV23) is licensed by the FDA for ages 2 years and up for the prevention of pneumococcal disease caused by 11 strains not included in PCV13. PCV13 and PPSV23 may be administered with other vaccines *except* each other. Because it can interfere with the immune response to PCV13, when both are recommended, PPSV23 should be given *after* PCV13. PPSV23 has been shown to be effective against invasive pneumococcal disease; data are inconclusive concerning benefit against non-bacteremic pneumococcal pneumonia. In 2013, 38% of invasive pneumococcal disease in US adults ≥65 was caused by strains only in PPSV23.

Immunization may be less effective in persons with immunocompromising conditions, including advanced age, but is recommended.

In adults aged 65 and up, one dose of PCV13 is recommended for:
All who have never received a dose of PCV13 or do not know.

In adults aged 65 and up, one dose of PPSV23 is recommended for:
All who have ***already*** received a dose of PCV13 since turning 65 but who have not received a dose of PPSV23 since turning 65 (and it has been ≥5 years since the last PPSV23). Note: Persons who have had PPSV23 since turning 65 *never* need another.

Adverse reactions:
Swelling, redness and/or pain at site of administration
Low-grade fever, headache
Systemic reactions infrequent, serious adverse reactions rare

Contraindications and Precautions include the following:
An immediate anaphylactic reaction to the vaccine or a constituent of the vaccine, such as diphtheria toxoid (PCV13) or phenol (in PPSV23)
Acute, moderate, or severe illnesses with or without fever (defer until resolution).

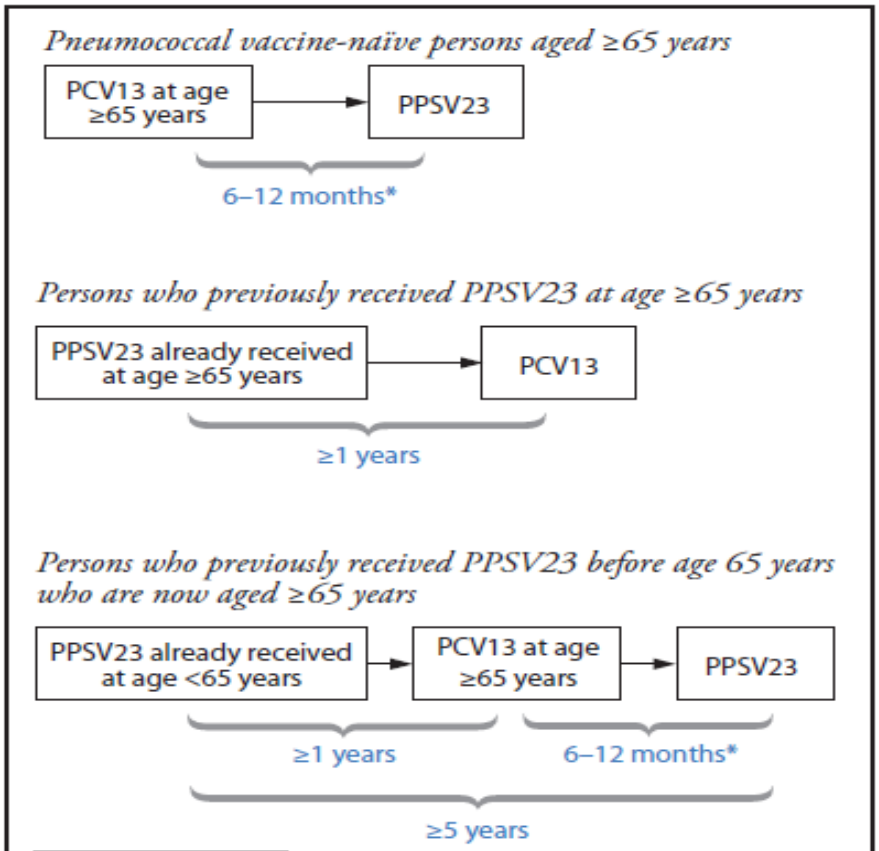
Note: Mild illness with or without fever is NOT a contraindication.
Note: Safe for latex allergic patients. Products do not contain latex.

<u>Age 65 and over ACIP recommended schedule</u>: PCV13 and PPSV23

Important note: Those with unknown or uncertain immunization history <u>should</u> receive PCV13. Medicare covers under Part B **both** types of pneumococcal vaccine for non-high risk persons in this age group, **if** administered at least 1 year apart. If the patient *can confirm* that they have had a dose <u>*since*</u> turning age 65, verify that it has been at least 365 days since their first dose. High risk persons highlighted in the footnote should receive the PPSV23 ≥8 weeks after PCV13. Vaccines for this age must be non-federal.

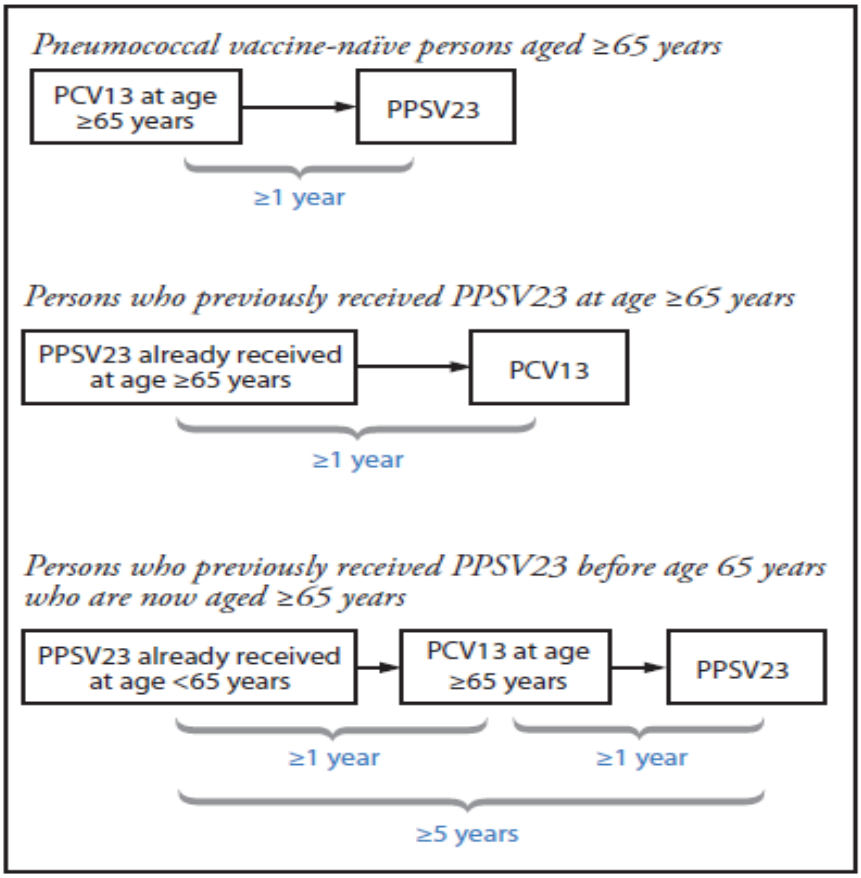
Table to follow for recommendation and dose intervals:

BOX. Sequential administration and recommended intervals for PCV13 and PPSV23 for adults aged ≥65 years — Advisory Committee on Immunization Practices, United States



Abbreviations: PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.
* Minimum interval between sequential administration of PCV13 and PPSV23 is 8 weeks; PPSV23 can be given later than 6–12 months after PCV13 if this window is missed.

BOX. Recommended intervals for sequential use of PCV13 and PPSV23 for immunocompetent adults aged ≥65 years — Advisory Committee on Immunization Practices, United States



Abbreviations: PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.

Notes: For adults aged ≥65 years with immunocompromising conditions, functional or anatomic asplenia, cerebrospinal fluid leaks, or cochlear implants, the recommended interval between PCV13 followed by PPSV23 is ≥8 weeks. For those for who previously received PPSV23 when aged <65 years and for whom an additional dose of PPSV23 is indicated when aged ≥65 years, this subsequent PPSV23 dose should be given ≥1 year after PCV13 and ≥5 years after the most recent dose of PPSV23.

PLAN

Have patient or accompanying adult read Vaccine Information Statement

PCV13 and PPSV23 should not be given at the same time

[PCV13] Shake vigorously immediately before administering to achieve a uniform suspension, then administer 1 dose of 0.5cc PCV13 vaccine intramuscularly

OR

[PPSV23] Administer one dose of 0.5 cc PPSV23 vaccine intramuscularly or subcutaneously (preferably in the deltoid muscle or lateral mid thigh),

Counsel regarding benefits, side effects, and management
Advise to wait in clinic for 20 minutes after injection
Document vaccine administration on the immunization clinic record
Instruct patient to contact Health Department if adverse reaction occurs (complete VAERS form)

Persons 65 and older are not eligible for Federal pneumococcal vaccine.
If a patient is eligible for vaccine according to protocol guidelines, state purchased vaccine may be utilized.

Referral Indicators:
Persons with contraindications as noted under "General Information"

REFERENCES

CDC. Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine Among Adults Aged ≥65 Years: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR September 19, 2014. http://www.cdc.gov/mmwr/pdf/wk/mm6337.pdf

CDC. Intervals Between PCV13 and PPSF23 Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR September 4, 2015. http://www.cdc.gov/mmwr/pdf/wk/mm6434.pdf

POLIO VACCINE, INACTIVATED

GENERAL INFORMATION

IPV is the only poliovirus vaccine recommended for all persons
The all-IPV routine schedule requires 4 doses of vaccine to be given at ages 2 months, 4 months, 6-18 months, and 4-6 years
If primary series was started after age 4 years, only 3 doses are required.
A 4th dose is not necessary if the 3rd dose was administered ≥ 4 years or older and at least 6 months after the previous dose.
IPV can be administered simultaneously with all other vaccines recommended for the same visit

Contraindications and precautions to IPV include:

- Anaphylactic hypersensitivity
- Severe febrile illness (a precaution; delay until resolved)
- Allergic to streptomycin, neomycin, or polymixin B
- Pregnancy (a precaution; however, if required because immediate protection needed for traveling outside of country, obtain a health department physician order)

Adverse Reactions to IPV include:
Possibility of hypersensitivity reactions in individuals sensitive to streptomycin, polymixin B, or neomycin

PLAN

Have accompanying adult read Vaccine Information Statement/Vaccine Information Material
Counsel regarding benefits, side effects, and management
Administer appropriate vaccine, as specified by manufacturer, in accordance with Schedule

Recommended Vaccine Schedule:

- 2 months, 4 months, 6-18 months, and 4-6 years
- The minimum age for dose 1 is 6 weeks.
- A minimum interval of 4 weeks is required from dose 1 to dose 2 and from dose 2 to dose 3. A minimum interval of 6 months is required between doses 3 and 4.
- Use of minimum intervals during the first 6 months of life is recommended only if the recipient is at risk for exposure (during an outbreak or for travel to a polioendemic area). History shots administered using minimum intervals do not need to be repeated.
- The final dose of IPV is recommended routinely at 4-6 years of age, regardless of the number of previous doses.
- Children immunized with the DTaP/IPV-Hib combination vaccine (Pentacel) will receive 4 doses of IPV by 18 months of age and are recommended to receive

a 5th dose at 4-6 years. If a 5-dose schedule is used, a minimum interval of 6 months is recommended between doses 4 and 5.

If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.

See table below for details of approved use for various IPV-containing vaccines.

TABLE. Currently licensed vaccines containing inactivated poliovirus vaccine (IPV) — United States, 2009*

Vaccine composition	Trade name	Manufacturer	Approved use in ACIP† routine schedule	Comments
IPV	Ipol (Poliovax§)	Sanofi Pasteur	2, 4, 6–18 mos, and 4–6 yrs	Approved for use in infants, children, and adults¶
DTaP-HepB-IPV**	Pediarix	GlaxoSmithKline	2, 4, and 6 mos	Approved for first 3 doses of IPV through age 6 yrs††
DTaP-IPV/Hib§§	Pentacel	Sanofi Pasteur	2, 4, 6, and 15–18 mos	Approved for 4 doses of IPV through age 4 yrs¶¶
DTaP-IPV***	Kinrix	GlaxoSmithKline	4–6 yrs	Approved for booster dose at age 4–6 yrs†††

* As of August 5, 2009.
† Advisory Committee on Immunization Practices. Full schedule available at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5751a5.htm.
§ Not currently distributed in the United States.
¶ Package insert available at http://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm133479.pdf.
** Diphtheria and tetanus toxoids and acellular pertussis adsorbed, hepatitis B (recombinant), and inactivated poliovirus vaccine combined.
†† Package insert available at http://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm168055.pdf.
§§ Diphtheria and tetanus toxoids and acellular pertussis adsorbed, inactivated poliovirus, and *Haemophilus* b conjugate (tetanus toxoid conjugate) vaccine.
¶¶ Package insert available at http://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm109810.pdf.
*** Diphtheria and tetanus toxoids and acellular pertussis adsorbed, and inactivated poliovirus vaccine.
††† Package insert available at http://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm107220.pdf.

Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date, name, address and title of person administering vaccine (National Childhood Vaccine Injury Act)
Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate form)

Referral Indicators:
Allergic hypersensitivity to any component of the vaccine
History of severe reaction to previous dose

Follow-up:
Return at appropriate interval according to schedule

References
MMWR, August 7, 2009/58 (30): 829. Updated Recommendations of the Advisory Committee on Immunization Practices Regarding Routine Poliovirus Vaccination. http://www.cdc.gov/mmwr/PDF/wk/mm5830.pdf

Centers for Disease Control and Prevention. Poliomyelitis prevention in the United States: updated recommendations of the Advisory Committee on Immunization Practices (AICP). MMWR 2000;49(No. RR-5). http://www.cdc.gov/mmwr/PDF/rr/rr4905.pdf

"Epidemiology and Prevention of Vaccine-Preventable Diseases", Centers for Disease Control and Prevention, DHHS, 13th edition. http://www.cdc.gov/vaccines/pubs/pinkbook/index.html#toc#toc. Last accessed May 21, 2015.

RABIES VACCINE, POSTEXPOSURE - Information Only

In general, postexposure rabies vaccination is not provided by the Health Department. Referrals should be made to the emergency department or private physician. If these referral options are not available, the Regional Health Officer, Regional CEDS Director or on-call staff should be contacted.

GENERAL INFORMATION

Rabies postexposure prophylaxis is a medical urgency (not an emergency). However, when rabies prophylaxis is indicated, it should be started as soon as possible.

The following factors help determine whether rabies postexposure prophylaxis is indicated:

- History of possible rabies exposure:
  - Bite Exposure involves penetration of the skin by the animal's teeth, with injection of potentially infectious saliva with the wound
  - Nonbite Exposure involves contamination of scratches, abrasions, open wounds or mucous membranes with potentially infectious material (saliva or central nervous tissue); it should be noted that the probability of introduction of virus is much lower with nonbite than with bite exposures; casual contact, such as petting a rabid animal, or contact with its blood, urine, or feces, does not constitute an exposure
- Epidemiology of animal rabies in the area where the exposure occurred
- Vaccination status of animal (properly immunized pets are unlikely to be rabid)
- Circumstances of animal bite (while not the sole determinant of the need for post exposure prophylaxis, unprovoked attacks and bites constitute a higher risk than provoked ones)
- Species of animal involved (skunks, raccoons, and bats are most commonly infected and always suspect; foxes, coyotes, cattle, dogs, and cats [especially stray] are occasionally infected; and rodents, rabbits and hares are rarely infected)
- Rabies confirmed in animal
- Rabies suspected in animal - test results pending
- Animal unavailable for quarantine or testing (i.e., runaway animal, stray - unable to capture, killed-head destroyed, etc.)

RABIES POSTEXPOSURE TREATMENT PLAN:

Review patient history and provide local wound care:

- Meticulous deep cleaning and flushing of the wound site as soon as possible is an effective means of preventing attachment of the rabies virus if present
- Cleanse wound thoroughly and vigorously to the depth of the wound with soap and water and a virucidal agent such as povidone-iodine, flush wound thoroughly and deeply

Administer anti-rabies treatments: Reconstitute vaccine per manufacturer's directions

- **Previously vaccinated persons:** persons who have previously completed a preexposure or postexposure series should not receive Human Rabies Immune Globulin (HRIG); Administer 1 ml rabies vaccine (Human Diploid Cell Vaccine [HDCV / Imovax] **or** Purified Chick Embryo Cell Vaccine [PCEC / RabAvert]), IM on day 0 and day 3

- **Unvaccinated persons:** should always receive both HRIG and rabies vaccine
  - ✓ Administer HRIG (Imogam Rabies-HT or BayRab), 20 IU/kg or 1 ml/16 lb of body weight on day 0 (at the same time the first dose of vaccine is given) or as soon as possible after exposure
    - If possible, up to half the dose should be used to infiltrate the wound (except mucous membrane exposure), and the rest administered intramuscularly in the buttocks
    - If HRIG is not available, proceed with the vaccine series; HRIG can be given with the 2nd or 3rd rabies vaccine dose (until day 7), but should not be given any later in order to prevent immune response interference
  - ✓ Administer 1 ml of rabies vaccine (Human Diploid Cell Vaccine [HDCV /Imovax] **or** Purified Chick Embryo Cell Vaccine [PCEC / RabAvert]) on days 0, 3, 7, and 14 given IM per manufacturer's directions

- **Precautions–Immunosuppression:** for persons with broadly defined immunosuppression, post-exposure prophylaxis should be administered using 5 doses (on days 0, 3, 7, 14, and 28) of vaccine, with the awareness that the immune response may still be inadequate.

Instruct patient to remain in clinic for 20 minutes following treatment / vaccination (observe for possible reaction)

Health Education:

- Discuss adverse reactions such as mild to moderate inflammatory reactions, as well as mild systemic reactions such as headache, nausea, abdominal pain, muscle aches, dizziness
- Be sure that client understands the importance of keeping return appointment dates

Follow-Up:

- Post-vaccination serology is not recommended except in unusual circumstances, e.g., when the patient is known to be immunosuppressed
- Document and report any adverse reaction

References:

2006 Red Book, Report of the Committee on Infectious Diseases, American Academy of Pediatrics
Centers for Disease Control and Prevention, Human Rabies Prevention —United States, 2008, Recommendations of the Advisory Committee on Immunization Practices. MMWR 2008;57(No. RR-3).

Centers for Disease Control and Prevention, Use of a Reduced (4-Dose) Vaccine Schedule for Postexposure Prophylaxis to Prevent Human Rabies, Recommendations of the Advisory Committee on Immunization Practices. MMWR 2010;59(No. RR-2).

RABIES VACCINE, PRE-EXPOSURE

Preexposure vaccination and post-vaccination serology and booster vaccination are generally not given by health department personnel. If provided, the Regional Health Officer or Regional Medical CEDS Director should be notified to approve administration prior to the health department implementation.

General Information

Appropriate candidates for the primary course of pre-exposure rabies vaccination include those persons who are associated with a professional or recreational activity that places them at risk for contact with rabies virus according to the recommendations of the Advisory Committee on Immunization Practices (ACIP).

Persons considered to be at **continuous risk** (e.g., rabies research laboratory workers, rabies biologics production workers) are advised to receive the primary course and have serologic testing every 6 months. A booster vaccination is given if antibody titer is below the acceptable level as reported by the laboratory.

Persons considered to be at **frequent risk** (e.g., rabies diagnostic lab workers, pelunkers, veterinarians and staff, animal-control and wildlife workers in rabies-enzootic areas, all persons who frequently handle bats) are advised to receive the primary course and have serologic testing every 2 years. A booster vaccination is given if antibody titer is below the acceptable as reported by the laboratory.

Persons considered to be at **infrequent risk** (e.g., Veterinarians and animal-control and wildlife workers in areas with low rabies rates, veterinary students, travelers visiting areas where rabies is enzootic and immediate access to appropriate medical care including biologics is limited) should receive the primary course. No serologic testing or booster vaccination is recommended.

According to current ACIP guidelines post-vaccination serology and booster vaccination for persons at continuous or frequent rabies risk are indicated. Serology should be based on rapid fluorescent focus inhibition test (RFFIT). RFFIT testing and submission guidelines are available from:

- Kansas State University College of Veterinary Medicine Rabies Laboratory (785-532-4483), http://www.vet.ksu.edu/DEPTS/dmp/service/rabies/rffit.htm
- Atlanta Health Associates (770-205-9091 or 800-717-5612), http://www.atlantahealth.net/

A booster is indicated if the titer is less than complete neutralization at a 1:5 serum dilution by the RFFIT as reported by the testing laboratory. Contact the State Public Health Veterinarian for additional consultation.

VACCINATION PLAN FOR PRIMARY COURSE (PREVIOUSLY UNVACCINATED): Please refer to package insert regarding correct route and location for vaccine administration. According to CDC guidelines, rabies pre-exposure vaccine that is given via the incorrect route and/or location will have to be repeated."

- Review patient history for pre-exposure vaccination or post-exposure prophylaxis and contraindications (previous severe reaction, pregnancy, concurrent use of chloroquinemphosphate for malaria prophylaxis, immunosuppression)
- Reconstitute vaccine per manufacturer's directions.
- Administer 1 ml of rabies vaccine (Human Diploid Cell Vaccine [HDCV / Imovax] **or** Purified Chick Embryo Cell Vaccine [PCEC / RabAvert]) on days 0, 7, 21 or 28; given IM per manufacturer's directions
    - For adults and older children, Imovax rabies vaccine should be injected into the deltoid muscle. In infants and small children, the anterolateral aspect of the thigh may be preferable, depending on age and body mass. **DO NOT** use the gluteal area due to the possibility of vaccine failure when administered in this area.
    - Rabavert MUST NOT BE USED SUBCUTANEOUSLY OR INTRADERMALLY.
    - RabAvert must be injected intramuscularly. For adults, the deltoid area is the preferred site; for small children and infants, administration into the anterolateral zone of the thigh is preferred. The use of the gluteal region should be avoided
- Instruct patient to remain in clinic for 20 minutes following vaccination (observe for possible reaction)

Health Education:

Discuss adverse reactions such as mild to moderate inflammatory reactions, as well as infrequent mild systemic reactions such as headache, nausea, abdominal pain, muscle aches, dizziness

Be sure that the client understands the importance of keeping return appointment dates

Return for 2nd (day 7) and 3rd dose (day 21 or 28) according to schedule

PLAN FOR SEROLOGY AND BOOSTERS (PREVIOUSLY VACCINATED):

- Review patient history for pre-exposure vaccination or post-exposure prophylaxis.
- Conduct and review results of RFFIT. Guidance on submission of serum should be obtained from the laboratory performing the test or the Tennessee State Public Health Veterinarian.
- If a booster is indicated, review contraindications (previous severe reaction, pregnancy, concurrent use of chloroquine phosphate for malaria prophylaxis, immunosuppression)
- Reconstitute vaccine per manufacturer's directions.
- Administer 1 ml of rabies vaccine (Human Diploid Cell Vaccine [HDCV / Imovax] **or** Purified Chick Embryo Cell Vaccine [PCEC / RabAvert]) on day 0; given IM per manufacturer's directions
- Instruct patient to remain in clinic for 20 minutes following vaccination (observe for possible reaction)

Health Education:

Discuss adverse reactions such as mild to moderate inflammatory reactions, as well as infrequent mild systemic reactions such as headache, nausea, abdominal pain, muscle aches, dizziness

Rabies preexposure prophylaxis guide

Risk Category	Nature of risk	Typical populations	Re-exposure recommendations
Continuous	Virus present continuously,. often in high concentrations. Specific exposures likely to go unrecognized.. Bite, nonbite, or aerosol exposure.	Rabies research laboratory workers; rabies biologics production workers	Primary course Serologic testing every 6 months; booster vaccination if antibody titer is below acceptable level
Frequent	Exposure usually episodic, with source recognized, but exposure also might be unrecognized. Bite, nonbite, or aerosol exposure.	Rabies diagnostic laboratory workers, cavers, veterinarians and staff, and animal-control and wildlife workers in areas where rabies is enzootic. All persons who frequently handle bats.	Primary course. Serologic testing every 2 years; booster vaccination if antibody titer is below acceptable level.*
Infrequent (greater than population at large	Exposure nearly always episodic with source recognized. Bite or nonbite exposure.	Veterinarians and animal-control staff working with terrestrial animals in areas where rabies is uncommon to rare. Veterinary students. Travelers visiting areas where rabies is enzootic and immediate access to appropriate medical care including biologics is limited.	Primary course. No serologic testing or booster vaccination.
Rare (population at large	Exposure always episodic with at large) source recognized. Bite or nonbite exposure.	U.S. population at large, including persons in areas where rabies is epizootic.	No vaccination necessary.

* Minimum acceptable antibody level is complete virus neutralization at a 1:5 serum dilution by the rapid fluorescent focus inhibition test. A booster dose should be administered if the titer falls below this level.

References:

2012 Red Book, Report of the Committee on Infectious Diseases, American Academy of Pediatrics

Human Rabies Prevention - United States, 2008, Recommendations of the Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services, Centers for Disease Control, MMWR, Early Release, May 7, 2008/Vol. 57.

http://www.cdc.gov/rabies/specific_groups/travelers/pre-exposure_vaccinations.html

Imovax® [product insert]. Sanofi Pasteur, Philadelphia, PA; April 2013, http://www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM133484.pdf. Accessed December 9, 2015.

RabVert® [product insert]. Novartis Vaccines and diagnostics, Cambridge, MA; November 2013 http://www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM312931.pdf. Accessed December 9, 2015.

ROTAVIRUS VACCINE
(RotaTeq® "RV5" by Merck, Rotarix® "RV1" by GSK)

GENERAL INFORMATION

Rotavirus causes severe diarrhea and is usually accompanied by fever and vomiting. It is the most common cause of severe gastroenteritis in infants and young children in the U.S. Rotavirus is seasonal, with peak numbers of cases occurring in the winter and early spring. Before the introduction of vaccine in 2006, rotavirus diarrhea resulted in about 200,000 emergency room visits and 55,000 hospitalizations in the US annually. Transmission occurs through the fecal-oral route.

Rotavirus vaccines are live vaccines administered by mouth, between the age of 6 weeks zero days and 8 months zero days of age. They may be administered simultaneously with other vaccines. Two rotavirus vaccines are licensed in the U.S.: Rotateq® by Merck (abbreviated "RV5" by CDC) and Rotarix® by GSK (abbreviated "RV1" by CDC). RV5(Rotateq) is a three-dose series and RV1 (Rotarix) is a two-dose series: the ACIP/CDC expresses no preference between the two vaccines. Please note: this protocol follows ACIP/CDC recommendations for a harmonized schedule of the two brands, which differs from product package inserts.

Special situations:

Infants in contact with pregnant women or persons with compromised immune systems **may** be vaccinated.

Infants who have received or will receive blood or antibody-containing products may receive the vaccine *at any time*. Previously, it was recommended that such infants wait 42 days before vaccination.

Re-administration of a dose to an infant who spits up or vomits during or after administration of the vaccine is not generally recommended. If this occurs, continue series at normal interval.

If *any* dose in the series is RV5, or if the brand of any dose is unknown, a total of 3 doses must be administered to complete the series. Although preferable to use one brand for the entire series, vaccination should not be deferred because the product previously used is unknown or unavailable.

3-Dose Immunization Schedule: If any dose is Rotateq® (RV5) or unknown brand

Dose	Product	Recommended age	Minimum interval to next dose	Special Notes
Dose 1	RotaTeq (RV5) or Rotarix (RV1)	2 months: Administer between age 6 weeks and 14 weeks 6 days (42-104 days)	4 weeks	If dose 1 was given at ≥15 weeks, the series may be continued
Dose 2	RotaTeq (RV5) or Rotarix (RV1)	4 months	4 weeks	
Dose 3 Final dose	RotaTeq (RV5) or Rotarix (RV1)	6 months		Do not administer after age 8 months 0 days

2-Dose Immunization Schedule: If Using Rotarix® (RV1) Only

Dose Number	Recommended age at administration	Minimum interval to next dose	Special Notes
Dose 1	2 months: Administer between age 6 weeks and 14 weeks 6 days (42-104 days)	4 weeks	If dose 1 was given at ≥ 15 weeks, the series should be completed
Dose 2 Final dose	4 months		Do not administer after 8 months 0 days of age.

Contraindications to giving the vaccine include the following:

- Infants <6 weeks (42 days) or >8 months 0 days (precise age in days not specified)
- Infants with a history of severe allergic reaction to a prior dose of rotavirus vaccine or to any rotavirus vaccine component
- Infants with a severe (anaphylactic) reaction to latex should not receive Rotarix (RV1). RotaTeq (RV5) should be used because it is latex free.
- Previous history of intussusception
- Infants diagnosed with Severe Combined Immunodeficiency (SCID). Screening for SCID was added to Tennessee's Newborn Screening Program effective January 1, 2016.

Precautions (risks and benefits of vaccination should be carefully evaluated under the following circumstances):

- Moderate to severe acute illness (defer until illness resolves) [Note: Low grade fever <100.5ºF or mild upper respiratory infections are not reasons for deferring]
- Preexisting chronic gastrointestinal disease (e.g., chronic diarrhea, congenital abdominal disorders)
- Altered immunocompetence including:
  - Blood disorders or cancers involving the bone marrow or lymph system
  - Infants on high dose systemic corticosteroids
  - Infants with an immunodeficiency other than SCID

Adverse Reactions:

Severe allergic reaction to vaccine (rare)
High fever

PLAN

- Ask parent/guardian about contraindications, precautions
- Have parent/guardian read Vaccine Information Statement
- If using Rotarix (RV1), reconstitute vaccine according to manufacturer's instructions
- Administer the vaccine by mouth according to the manufacturer instructions [if an incomplete dose is administered or the infant vomits, repeating the dose is not recommended]
- Counsel regarding side effects of vaccine
- Advise parent/guardian to return for the next dose in a minimum of 4 weeks
- Advise to wait in clinic for 20 minutes after administration of vaccine
- Record manufacturer and lot number of the vaccine administered, date vaccine and VIS given, address of facility, and name and title of person administering vaccine
- Instruct patient/guardian to contact Health Department if adverse reaction occurs (complete VAERS)

Referral Indicators:

Infants with precautions to vaccination other than an acute moderate to severe illness should be referred for a health department physician order.

REFERENCES

CDC. Cortese MM, Parashar UD. Prevention of rotavirus gastroenteritis among infants and children: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2009;58(No. RR-2).

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Rotarix (Rotavirus Vaccine, Live Attenuated) Vaccine package insert, GSK, Revised February 2011.

CDC. Prevention of Rotavirus Gastroenteritis among Infants and Children. Recommendations of the Advisory Committee on Immunization Practices, MMWR. August 11, 2006.

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CDC. Addition of Severe Combined Immunodeficiency as a Contraindication for Administration of Rotavirus Vaccine, June 11, 2010. MMWR. http://www.cdc.gov/mmwr/pdf/wk/mm5922.pdf. Last accessed February 15, 2012.

TETANUS, DIPHTHERIA, AND PERTUSSIS VACCINE TETANUS, DIPHTHERIA, AND ACELLULAR PERTUSSIS (Tdap) VACCINE FOR CHILDREN AND ADOLESCENTS (7 through 18 years) (ADACEL™ OR BOOSTRIX™)

GENERAL INFORMATION

Tdap vaccine is inactivated and contains no live organisms. The vaccine protects against tetanus ("lockjaw"), diphtheria, and pertussis ("whooping cough"). Like tetanus and diphtheria, immunity to pertussis wanes following childhood immunization or disease. Two Tdap vaccines were licensed in 2005 by the U.S. Food and Drug Administration (FDA) as a **ONE-TIME DOSE**:

ADACEL™ (Sanofi Pasteur) is licensed **for ages 11through 64 years.**

BOOSTRIX™ (GlaxoSmithKline) is licensed **for ages 10 years and older.**

Tdap is currently recommended by the Advisory Committee on Immunization Practices (ACIP) for routine use in adolescents aged 11 through 18 years. Subsequent routine Td BOOSTERS are recommended every 10 years (see Td protocol).

Tdap vaccine may be given at the same time as other immunizations, including meningococcal vaccine. It may be given before or after meningococcal vaccine if both vaccines cannot be given simultaneously.

With the exception of pregnant women, Tdap should be given only one time. It should be given if the patient is unable to verify or recall whether they have had Tdap.

Note: The CDC published ACIP recommendations in January 2011 that differ from the current manufacturers' package inserts on age and dose intervals. ACIP guidelines for the use of vaccines take priority and should be followed as written below.

ACIP Recommendations for Use (updated May 2013):

Tdap may be used **ONE TIME** either as a routine **BOOSTER** dose, OR as one of a **PRIMARY** vaccine series, OR for tetanus **PROPHYLAXIS** in accordance with standard guidelines for wound management.

Tdap is recommended during EACH pregnancy and is preferred during the third trimester, regardless of Tdap vaccination history. Vaccination during pregnancy passes protective antibodies to the unborn child. A woman who has not had Tdap before and who does not receive it during pregnancy should be vaccinated immediately post-partum; however, a post-partum dose does not help the newborn and is not recommended if she has had Tdap previously.

Timing: Administer regardless of interval since last tetanus- or diphtheria- containing vaccine. Note: A "complete" primary series of pertussis vaccine in childhood is typically defined as 5 doses of DTaP. Four doses of DTaP is considered complete when the 4th dose is given after the 4th birthday.

Children (7 through 10 years) who have not had a complete primary series of pertussis

vaccine as defined above: give one dose of Tdap. Use Td for any additional doses necessary to complete the primary series of tetanus immunization.

Adolescents (11 through 18 years) who had a complete primary series of tetanus-containing vaccine in childhood - A single dose of Tdap is routinely recommended and should be given to **all children** between ages 11-12 years; administer at ages 13-18 years to any child that has not already received a Tdap.

Adolescents (11 through 18 years) who have not had a primary series of tetanus-containing vaccine - A single dose of Tdap should be **substituted for one Td** in the 3-dose primary series; it is preferred as the first dose.

Every pregnant adolescent who had a complete primary series of tetanus containing vaccine in childhood should be given Tdap during each pregnancy preferably during the third trimester, unless contraindicated. Previously unimmunized adolescents who fail to receive Tdap before or during pregnancy should receive a dose immediately post-partum.

REFERRAL INDICATORS (PER ACIP)

Contraindications to giving the vaccine include the following:

- History of an immediate severe allergic reaction (anaphylaxis) to any of the three components of Tdap (i.e., tetanus, diphtheria, or pertussis vaccines) or to any combination vaccine containing Tdap components
- History of encephalopathy (e.g., coma, prolonged seizures) within 7 days of administration of a pertussis-containing vaccine that is not attributable to another identifiable cause; tetanus/diphtheria vaccine (Td) should be used instead of Tdap in such patients.

Precautions which may require referral include the following:

- History of Arthus-type hypersensitivity reactions (extensive painful limb swelling within hours of injection) following prior tetanus vaccination; such patients should not be given any tetanus-containing vaccine more frequently than every 10 years
- A current progressive neurologic disorder, uncontrolled epilepsy, or progressive encephalopathy; defer vaccination with pertussis-containing vaccine until treatment regimen is established and condition is stabilized, Td may be used
- History of a severe allergic reaction (anaphylaxis) to latex[1]
- Guillain-Barre syndrome (GBS) within 6 weeks after a previous dose of a tetanus toxoid-containing vaccine
- Patient has an acute moderate-to-severe illness, with or without fever; vaccination should be deferred until illness has resolved

PLAN

Provide current Vaccine Information Sheet (VIS) about Tdap and the benefits of vaccination
Counsel regarding benefits, side effects, and management
Shake the vial well, administer 0.5 ml of vaccine INTRAMUSCULARLY
Remind that tetanus/diphtheria vaccine boosters are recommended every 10 years
If pregnant, recommend Tdap for any unimmunized household members or infant caregivers.

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[1] Boostrix™ pre-filled syringes contain latex. Adacel™ products and Boostrix™ single dose vials do not contain latex; there is no precaution against the use of these products in patients with latex allergy.

Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date, name, address and title of the person administering vaccine
Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate form)

Referral Indicators:
History of an immediate severe allergic reaction (anaphylaxis) to prior tetanus, diphtheria, or pertussis vaccines
History of encephalopathy (e.g., coma, prolonged seizures) within 7 days of administration of a pertussis-containing vaccine
Refer for precautions as indicated

Follow-up:
Return for Td booster in 10 years, or for the next scheduled dose if administering a catch-up primary series.
Return for wound management as required

REFERENCES

Advisory Committee on Immunization Practice (ACIP) Votes to Recommend Routine Use of Combined Tetanus, Diphtheria and Pertussis (Tdap) Vaccines for Adolescents, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, June 30, 2005

Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine Adsorbed (ADACEL™) Vaccine package insert, Sanofi Pasteur (Aventis Pasteur), June 2005

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Centers for Disease Control and Prevention, Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis (Tdap) Vaccine from the Advisory Committee on Immunization Practices, 2010. MMWR. http://www.cdc.gov/mmwr/pdf/wk/mm6001.pdf Last accessed January 14, 2011.

Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccine (Tdap) in Pregnant Women — Advisory Committee on Immunization Practices (ACIP), 2012. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm. Last accessed June 3, 2013.

TETANUS, DIPHTHERIA, AND PERTUSSIS VACCINE TETANUS, DIPHTHERIA, AND ACELLULAR PERTUSSIS (Tdap) VACCINE FOR ADULTS (19 and up) (ADACEL™ OR BOOSTRIX™)

GENERAL INFORMATION

Tdap vaccine is inactivated and contains no live organisms. The vaccine protects from tetanus ("lockjaw"), diphtheria, and pertussis ("whooping cough"). Immunity wanes following childhood immunization. With pertussis, adults may suffer prolonged coughing illness and may infect others, including infants at risk for severe complications.

ADACEL™ (Sanofi Pasteur) was licensed in 2005 by the U.S. Food and Drug Administration (FDA) for ages **11 through 64 years** as a **ONE-TIME DOSE.**

BOOSTRIX™ (GSK) is licensed **for ages 10 years or older as a ONE–TIME DOSE.**

The Advisory Committee on Immunization Practices (ACIP) recommends providers should not miss an opportunity to vaccinate persons aged 65 years and older with Tdap, and may administer the vaccine that they have available. When feasible, for adults aged 65 years and older, Boostrix should be used; however, either vaccine product administered to a person aged 65 years and older provides protection and is considered valid.

Tdap is routinely recommended by the ACIP for any person age 11 years or older who has not yet had Tdap, regardless of interval since last tetanus booster. (See the Tdap protocol for adolescents for recommendations ages 7 through 18 years). **Subsequent routine Td BOOSTERS are recommended every 10 years** (see Td protocol).

Tdap vaccine may be given at the same time as other immunizations, including meningococcal vaccine. It may be given before or after meningococcal vaccine if both vaccines cannot be given simultaneously.

Tdap is approved only as a ONE TIME dose; however, Tdap SHOULD be given if there is no documentation of a previous dose of Tdap and during each pregnancy.

Tdap is especially important for pregnant women, healthcare personnel and persons who care for or live with infants under age one, in order to help prevent exposing the infant to pertussis disease ("cocooning")

Tdap is recommended during EACH pregnancy and is preferred during the third trimester, regardless of Tdap vaccination history. Vaccination during pregnancy passes protective antibodies to the unborn child. A woman who has not had Tdap before and who does not receive it during pregnancy should be vaccinated immediately post-partum; however, a post-partum dose does not help the newborn and is not recommended if she has had Tdap previously.

Note: The ACIP now recommends Tdap for all adults who have not previously had a dose of Tdap, regardless of the interval since the recipient's last Td. These ACIP recommendations differ from the manufacturer package insert and take priority over information contained in the package insert.

ACIP Recommendations for Use:
Tdap may be used **ONE TIME** either as a routine **BOOSTER** dose, OR as one of a **PRIMARY** vaccine series, OR for tetanus **PROPHYLAXIS** in accordance with standard guidelines for wound management:

Adults (19 and older): A single dose of Tdap is routinely recommended to any adult who has not had a dose of Tdap. Adults who have completed a primary series of tetanus containing vaccine in the past are routinely recommended to have a booster dose of tetanus containing vaccine every 10 years. The next tetanus booster would be due 10 years after the dose of Tdap.

Adults (19 and older) WITHOUT A COMPLETE PRIMARY SERIES of Td-containing vaccine - A single dose of Tdap should be **substituted for one Td** in the primary series; it is preferred as the first dose.

Adults (19 and older), REQUIRING TETANUS PROPHYLAXIS FOR WOUND MANAGEMENT - A single dose of Tdap should be given, if available, if the patient has not had Tdap before (See Protocol for Wound Management); otherwise, Td should be used.

PREGNANCY: Tdap may be given at any time during pregnancy. Unless contraindicated, **Tdap should be given to each pregnant woman, preferably during the third trimester, during EACH pregnancy, regardless of her history of Tdap vaccination.** Immunization during pregnancy passes protective antibodies from the mother to the unborn child and can help prevent illness in both mother and newborn. Women who have not previously had a dose of Tdap and fail to receive Tdap during pregnancy should receive a dose immediately post-partum. Post-partum immunization does not protect the newborn, so it is not recommended for every pregnancy, but only if the woman is previously unimmunized with Tdap.

DOSING INTERVALS since last tetanus vaccine dose: Tdap should be given regardless of the interval since the last tetanus-containing vaccine.

REFERRAL INDICATORS (PER ACIP)

Contraindications to giving the vaccine include the following:

- History of an immediate severe allergic reaction (anaphylaxis) to any of the three components of Tdap (i.e., tetanus, diphtheria, or pertussis vaccines) or to any combination vaccine containing Tdap components
- History of encephalopathy (e.g., coma, prolonged seizures) within 7 days of administration of a pertussis-containing vaccine that is not attributable to another identifiable cause; tetanus/diphtheria vaccine (Td) should be used instead of Tdap in such patients

Precautions which may require referral include the following:

History of Arthus-type hypersensitivity reactions (extensive painful limb swelling within hours of injection) following tetanus vaccination administered <10 years previously; such patients should not be given any tetanus-containing vaccine more frequently than every 10 years

A current unstable neurologic disorder, uncontrolled epilepsy, or progressive encephalopathy; defer vaccination with pertussis-containing vaccine until treatment regimen is established and condition is stabilized; Td may be used

Guillain-Barre syndrome (GBS) within 6 weeks after a previous dose of a tetanus toxoid-containing vaccine

Defer immunization if the patient has an acute moderate-to-severe illness, with or without fever, until illness has resolved

PLAN

Provide current Vaccine Information Sheet (VIS) about Tdap and the benefits of vaccination
Counsel regarding benefits, side effects, and management
Shake the vial well, administer 0.5 ml of vaccine INTRAMUSCULARLY
Remind that tetanus/diphtheria vaccine boosters are recommended every 10 years
If pregnant, recommend Tdap for any unimmunized household members or infant caregivers.
Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date, name, address and title of the person administering vaccine
Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate form)

Referral Indicators:

History of an immediate severe allergic reaction (anaphylaxis) to prior tetanus, diphtheria, or pertussis vaccines
History of encephalopathy (e.g., coma, prolonged seizures) within 7 days of administration of a pertussis-containing vaccine
Refer or defer immunization for precautions as indicated

Follow-up:

Return for Td booster in 10 years (or for next dose, if completing a primary series)
Return for wound management as required

REFERENCES

Centers for Disease Control and Prevention. Preventing Tetanus, Diphtheria, and Pertussis Among Adults: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine Recommendations of the Advisory Committee on Immunization Practices (ACIP) and Recommendation of ACIP, supported by the Healthcare Infection Control Practices Advisory Committee (HICPAC), for Use of Tdap Among Health-Care Personnel. MMWR 2006;55(No. RR-17).

Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine Adsorbed (ADACEL™) Vaccine package insert, Sanofi Pasteur (Aventis Pasteur), June 2005. Revised 2/22/2012.

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Centers for Disease Control and Prevention. FDA Approval of Expanded Age Indication for a Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine. MMWR 2011;60(No. 37): pp. 1279-1280.

Centers for Disease Control and Prevention. Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine (Tdap) in Pregnant Women and Persons Who Have or Anticipate Having Close Contact with an Infant Aged <12 Months — Advisory Committee on Immunization Practices (ACIP), 2011. MMWR 2011;60(No. 41): pp1424-1426.

ACIP provisional recommendations for adults aged 65 years and older on use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) and guidance on use of Tdap products for adults aged 65 years and older. http://www.cdc.gov/vaccines/recs/provisional/Tdap-feb2012.htm. Last accessed March 22, 2012.

Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccine (Tdap) in Pregnant Women — Advisory Committee on Immunization Practices (ACIP), 2012. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm. Last accessed May 23, 2013.

TETANUS AND DIPHTHERIA TOXOID, ADULT TYPE
Td (Adult Type)

GENERAL INFORMATION

Tdap is recommended for most persons age 11 years and older who have not yet received it (see Tdap protocol for adolescents 11 through 18 years or the protocol for adults ≥ 19
Subsequent routine Td boosters are recommended every 10 years.

SUBJECTIVE

Patient reports needs Tetanus booster

OBJECTIVE

Appropriate candidates for Td include the following:

-At least seven years of age and older and requiring tetanus immunization for whom Tdap is <u>not</u> recommended (e.g., medical contraindication, previous dose of Tdap, or child 7-9 years of age who had a complete DTaP vaccination series)
-No previous dose of Td, or at least 4-8 weeks after Td #1 or 6 months after Td #2
-Ten years since last tetanus-containing vaccine (DTP, DTaP, Tdap or Td)

ASSESSMENT

Contraindications include the following:

History of severe allergic reaction (i.e., anaphylaxis) to a previous dose of any tetanus- or diphtheria-containing vaccine or component of the vaccine

Precautions include the following:

-Defer vaccination until resolution of moderate to severe acute illness
-History of Arthus-type hypersensitivity reactions (extensive painful limb swelling within hours of injection) following tetanus vaccination administered <10 years previously; such patients should not be given any tetanus-containing vaccine more frequently than every 10 years
-Guillain-Barre syndrome (GBS) within 6 weeks after a previous dose of a tetanus toxoid-containing vaccine
-Severe (anaphylactic) latex allergy; vial stopper and pre-filled syringes may contain latex (see package insert of specific product)

PREGNANCY: Pregnancy is not a contraindication to Td or Tdap; if tetanus vaccination during pregnancy is indicated, <u>Tdap is preferred</u>. Unless contraindicated, pregnant women who have not completed their primary series should do so before delivery if possible. If there is insufficient time, 2 doses of Td should be administered at least 4 weeks apart and the second dose should be given at least 2 weeks before delivery. Tdap should be substituted for the first Td dose if Tdap has not been administered previously.
Tdap <u>should be given</u> to each pregnant woman, preferably during the third trimester, during EACH pregnancy, regardless of her history of Tdap vaccination). See protocol 4.260.

PLAN

Have patient or accompanying adult read Vaccine Information Statement/Vaccine Information Material
Counsel regarding benefits, side effects, and management

Administer 0.5 cc of Td INTRAMUSCULARLY
Advise to wait in clinic 20 minutes after injection
Record manufacturer and lot number of the vaccine administered, date of administration and provision of VIS, name, address, and title of person administering vaccine (National Childhood Vaccine Injury Act)
Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate form)

Referral Indicators:
History of severe reaction to previous dose of tetanus- or diphtheria-containing vaccine (DTP / DTaP / DT / Td)
History of severe latex allergy (if Td vial stopper or pre-filled syringe contains latex, see package insert)
Needs tetanus immune globulin (TIG) for wound management
If severe reaction is identified following vaccine administered by health department personnel, VAERS Report Form must be completed

Follow-Up:
If no primary series, return for Td #2 in 4-8 weeks or for Td #3 in 6-12 months [use Tdap for one of the doses if not previously administered]
Return for Td booster in 10 years, according to current immunization schedule
Return for wound management as required (see Protocol 4.280, Tetanus Prophylaxis in Wound Management).

REFERENCES
Packet Insert: http://www.fda.gov/downloads/BiologicsBloodVaccines/UCM152826.pdf last accessed March 21, 2012.
Current Vaccine Information Statement: http://www.cdc.gov/vaccines/pubs/vis/downloads/vis-td-tdap.pdf last accessed March 21, 2012.
Centers for Disease Control and Prevention, Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis (Tdap) Vaccine from the Advisory Committee on Immunization Practices, 2010. MMWR. http://www.cdc.gov/mmwr/pdf/wk/mm6001.pdf Last accessed January 14, 2011.
Centers for Disease Control and Prevention. FDA Approval of Expanded Age Indication for a Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine. MMWR 2011;60(No. 37): pp. 1279-1280.
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ACIP provisional recommendations for adults aged 65 years and oler on use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) and guidance on use of Tdap products for adults aged 65 years and older. http://www.cdc.gov/vaccines/recs/provisional/Tdap-feb2012.htm. Last accessed March 22, 2012.

TETANUS PROPHYLAXIS IN WOUND MANAGEMENT

GENERAL INFORMATION

Tetanus is an acute, often fatal, disease characterized by muscle stiffness usually involving the jaw (lockjaw) and neck that becomes generalized rigidity and convulsive spasms of skeletal muscles. Transmission is primarily by contaminated minor or major wounds. The incubation period ranges from 3 to 21 days, usually about 8 days. In general the further the injury site is from the central nervous system, the longer the incubation period. The shorter the incubation period, the higher the chance of death.

SUBJECTIVE
Patient reports recent wound (could be skin burn, deep puncture wound, crush wound, otitis media (ear infections), dental infection, animal bite)

OBJECTIVE
Patient needs tetanus prophylaxis

ASSESSMENT
Review patient immunization history

PLAN
Teach wound care
Have patient or accompanying adult read Vaccine Information Statement/Vaccine Information Material
Counsel regarding benefits, side effects, and management
Administer IM 0.5cc DTaP, DT, Tdap or Td vaccine using the following schedule:

Guide to tetanus prophylaxis in routine wound management.

History of adsorbed tetanus toxoid (doses)	Clean minor wounds Tdap or Td†	Clean minor wounds TIG§	All other wounds* Tdap or Td†	All other wounds* TIG§
less than 3 or unknown	Yes	No	Yes	Yes
3 or more doses¶	No if <10 years since last tetanus containing vaccine dose Yes if >10 years since last tetanus containing vaccine dose	No No	No if <5 years since last tetanus containing vaccine dose No if > 5 years since last tetanus containing vaccine dose	No No

* Such as (but not limited to) wounds contaminated with dirt, feces, soil, and saliva; puncture wounds; avulsions; and wounds resulting from missiles, crushing, burns, and frostbite.

† DtaP is the recommended and preferred vaccine for children less than 7 years of age, (or DT if pertussis component is contraindicated)

Do not give DTaP if:
a) The total number of DTaP immunizations would be in excess of the number recommended for the child's age
b) They have not reached the minimum age for the next dose due

† For persons age 7 and up with unknown or <3 doses, Tdap is preferred if the patient has not previously received Tdap (if so, Td is preferred)
For persons 7–9 years of age who have previously completed the series, Td is recommended

¶ If patient records indicate that only three doses of fluid tetanus toxoid have been received, a fourth dose of a tetanus toxoid, preferably adsorbed, should be given. Although licensed, fluid tetanus toxoid is rarely used. Children 7-10 years with incomplete pertussis immunization may receive Tdap, see Tdap protocol for children and adolescents.

For persons >10 years, Tdap is preferred to Td if the patient has never received Tdap and has no contraindication to pertussis vaccine. For persons 7 years of age or older, if Tdap is not available or not indicated because of age, Td is preferred to TT.

§ Patients with wounds that are neither clean nor minor, AND who have had 0-2 prior doses of tetanus toxoid or have an uncertain history of prior doses should be referred for Tetanus Immune Globulin (Human) referred to as TIG. Equine tetanus antitoxin should be used when TIG is not available.

NOTE: For non-pregnant persons 11 or older (including those over age 64), Tdap should be used instead of Td if the recipient has not previously received Tdap. If Tdap is not available or was administered previously, Td should be administered.

Pregnancy:
PREGNANCY: Pregnancy is not a contraindication to Td or Tdap; if tetanus vaccination during pregnancy is indicated, Tdap is preferred, unless contraindicated. Pregnant women who have not completed their primary series should do so before delivery if possible. If there is insufficient time, 2 doses of Td should be administered at least 4 weeks apart and the second dose should be given at least 2 weeks before delivery. Tdap should be substituted for the first Td dose if Tdap has not been administered previously.
Tdap should be given to each pregnant woman, preferably during the third trimester, during EACH pregnancy, regardless of her history of Tdap vaccination. See protocol 4.260.

Referral Indicators:
Needs TIG
History of severe reaction (e.g., anaphylaxis) to DTP/DTaP/DT/Td

If a severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report Form must be completed.

Follow-Up:
Persons whose immunizations are incomplete should be scheduled for the remainder of the recommended series.

REFERENCES
MMWR, Vol. 40, No. RR-10, August 1991.

MMWR, Vol. 55, No. RR-3, March 24, 2006
Advisory Committee on Immunization Practice (ACIP) Votes to Recommend Use of Combined Tetanus, Diphtheria and Pertussis (Tdap) Vaccines for Adults, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333,March2, 2006 http://www.cdc.gov/nip/vaccine/tdap/tdap_adult_recs.pdf Last accessed May 12, 2006

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http://www.cdc.gov/mmwr/pdf/wk/mm6001.pdf Last accessed January 14, 2011.

http://www.cdc.gov/vaccines/pubs/pinkbook/tetanus.html#wound

Red Book, Report of the Committee on Infectious Diseases, 29th Edition. 2012

VARICELLA VACCINE (VARIVAX® by Merck)

GENERAL INFORMATION

Varicella virus causes chickenpox and lies dormant in nerve roots following the primary infection. The virus can cause recurrent infection, resulting in herpes zoster ("shingles"). The virus is highly contagious and enters the body through the respiratory tract or mucus membranes. Up to 90% of susceptible household contacts of persons with chickenpox will become infected. In the U.S. each year, before routine vaccination, there were about 4 million cases of chickenpox, resulting in 11,000 hospitalizations and 100 deaths, with the highest risk of death among susceptible adults.

Varicella vaccine is a live attenuated (weakened) virus vaccine derived from the Oka strain of varicella and administered subcutaneously; it is licensed by the Food and Drug Administration (FDA) for administration to persons 12 months of age and older. Two doses of the vaccine are recommended for all recipients, including a second dose for those who may have had a single dose earlier in childhood. A single dose confers approximately 70-90% protection from disease; the seroconversion rate of 2-dose recipients is approximately 99%. The vaccine is not recommended for persons with evidence of immunity to varicella (see below).

The vaccine may be simultaneously administered with other vaccines, including other live virus vaccines. It is stored frozen at an average temperature of ≤-15°C (5°F), but not below -50°C. It must be discarded if not administered to the recipient within 30 minutes of reconstitution.

Evidence of immunity to varicella:
Persons with evidence of immunity to varicella should not be vaccinated. Acceptable evidence includes the following (Advisory Committee on Immunization Practices, ACIP, 2006):

1. Documentation of age-appropriate vaccination:
    a. Children 12 months up to school entry: one dose
    b. School-aged children: 2 doses
2. Laboratory evidence of immunity or laboratory confirmation of disease
3. Born in the US before 1980 (this is insufficient evidence for healthcare workers or pregnant women)
4. Healthcare provider diagnosis of varicella or provider verification of a patient's credible reported history of varicella disease (for "atypical" or "mild" disease, this verification should include an epidemiologic link to a person with typical disease or laboratory confirmation, because other diseases may mimic atypical varicella)
5. Healthcare provider diagnosis of herpes zoster

ACIP Recommendations for Use:

- Routine immunization schedule: first dose at age 12-15 months, second dose at age 4-6 years (before starting school) (See below)
- A second, catch-up dose is recommended for all children and adults who previously had received only one dose (unless they have appropriate evidence of immunity due to breakthrough disease)
- Adults (2-dose series) for whom it is medically indicated (in other words, they do not meet criteria for immunity listed above)

NOTE: See current policy from the Tennessee Immunization Program for guidance concerning which recommended persons are eligible for federally-funded vaccine.

Routine Immunization Schedule

Dose Number	**Recommended age at administration**	**Minimum interval to next dose**
Dose 1	12-15 months	3 months (age 1-12 years)** 4 weeks (28 days) (age >13 years) **At any age, a second dose administered at least 28 days after the first dose does not need to be repeated
Dose 2	4-6 years	

Contraindications to giving the vaccine include the following:
Evidence of immunity (per above criteria)
Pregnancy
Moderate to severe acute illness (defer until recovery) [Note: Low grade fever <100.5ºF or mild illnesses are not reasons for deferring immunization]
Anaphylactic reaction to a previous dose of the vaccine or any component (including neomycin and gelatin)
Blood dyscrasias, leukemia, lymphoma of any type, other malignant neoplasm affecting the bone marrow or lymphatic system
Primary or acquired cellular immunodeficiencies (e.g., AIDS or clinical manifestations of HIV)
Untreated, active tuberculosis (not latent tuberculosis infection)
Family history of congenital or hereditary immunodeficiency in a first-degree relative (e.g., parent or sibling), unless the immunocompetence of the recipient has been clinically confirmed by a physician or verified by a laboratory
Ongoing immunosuppressive therapy (does not apply to corticosteroid replacement therapy)

Precautions (risks and benefits of vaccination should be carefully evaluated under the following circumstances):
Persons on steroid therapy not otherwise immunocompromised (refer)
Impaired humoral immunity or asymptomatic HIV infection (refer)
Receipt of a blood or plasma transfusion or immune globulin within the past 5 months (defer vaccination until at least 5 months after receipt of blood products)
Varicella vaccine may be given on the same day as other live virus vaccines (e.g., MMR); however, if not given on the same day, they must be separated by 4 weeks (28 days).
If not given on the same day, wait 4 weeks (28 days) from date of varicella vaccine to administer TST.

Special Situations (per ACIP):
Breastfeeding is not a contraindication to immunization
Vaccinees who are healthcare workers or household contacts of susceptible, high risk persons in whom a vaccine-related vesicular rash develops should avoid contact with such persons while they have the rash
Women should be advised to avoid becoming pregnant for at least 1 month (per ACIP) following vaccination, though having a pregnant household contact is not a contraindication to vaccination
Aspirin use during natural varicella disease is associated with Reye's Syndrome and recipients should be advised to avoid salicylates for 6 weeks following vaccination

Adverse Reactions:
Soreness, swelling or redness around the injection site within 48 hours of immunization
An injection site or full body rash up to 1 month following vaccination in ≤5% of Recipients

PLAN
Ask parent/guardian or recipient about contraindications, precautions
Have parent/guardian or recipient read Vaccine Information Statement
Reconstitute vaccine and administer the vaccine subcutaneously according to the manufacturer instructions
Counsel regarding side effects of vaccine, e.g., rash
Advise women of child-bearing age to avoid becoming pregnant for at least 1 month
Advise that recipients should avoid use of salicylates (e.g., aspirin) for 6 weeks
Advise parent/guardian or recipient to return for the next dose at the appropriate interval
Advise to wait in clinic for 20 minutes after administration of vaccine
Record manufacturer and lot number of the vaccine administered, date vaccine and VIS given, address of facility, and name and title of person administering vaccine
Instruct patient/guardian to contact Health Department if adverse reaction occurs

Referral Indicators
Persons with impaired immune systems (acquired or primary)
Persons on steroid therapy (other than corticosteroid replacement)

REFERENCES
Advisory Committee on Immunization Practices (ACIP) Provisional Recommendations for Prevention of Varicella, posted August 2006. http://www.cdc.gov/nip/vaccine/varicella/varicella_acip_recs_prov_june_2006.pdf Last accessed October 31, 2006.
VARIVAX® [Varicella Virus Vaccine Live (Oka/Merck)] Vaccine package insert, Merck, copyright 2001. Centers for Disease Control and Prevention. Prevention of varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1996; 45 (No. RR-11): pp1-36.
Centers for Disease Control and Prevention. Prevention of Varicella: updated recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999; 48 (No. RR-6): pp1-5.
Centers for Disease Control and Prevention. Vaccine Information Statement – Varicella Vaccine 12/16/98. http://www.cdc.gov/nip/publications/VIS/visvaricella.pdf Last accessed October 31, 2006.

SECTION V: SEXUALLY TRANSMITTED DISEASES

5.010 – 5.160

CHLAMYDIA AND GONORRHEA, CASE OR CONTACT

GENERAL INFORMATION

The majority of women (at least 85 percent) have no signs or symptoms of chlamydia. Women with cervical gonococcal infection, up to 70 percent in some series, are asymptomatic. Population-based studies, suggest that up to 60 percent of men may be asymptomatic or have very mild symptoms of gonorrhea. The proportions of cases that are asymptomatic for men with chlamydia vary by population and range from 40 to 96 percent.

SUBJECTIVE

Contact to confirmed or suspected case of *Chlamydia trachomatis* and/or *Neisseria gonorrhoeae*
Private physician or other health care provider referral
Pain, tenderness in pelvic organs
"A friend told me to come in"

Symptoms in women may include:

- Painful or burning sensation when urinating
- Increased vaginal discharge
- Vaginal bleeding between periods
- Post-coital bleeding
- Unilateral labial pain and swelling
- Lower abdominal discomfort (pelvic pain)

Symptoms in men may include:

- A burning sensation when urinating
- A white, yellow, or green discharge from the penis
- Painful or swollen testicles (although this is less common)

OBJECTIVE

Muco-purulent discharge from urethra or cervix
Laboratory positive for *Chlamydia trachomatis* and/or *Neisseria gonorrhoeae*

ASSESSMENT

Confirmed **or** suspected case of *Chlamydia trachomatis* and/or *Neisseria gonorrhoeae*
Last menstrual period
Access and test all exposed sites (vaginal, oral, rectal, and urethral)
Screen[1] for chlamydia and gonorrhea using currently available test; refer to "*Laboratory Policies and Procedures Manual for Local Health Departments*" for information on specimen storage and mailing.
Draw blood for syphilis serology.
Consider need for hepatitis B vaccination and provide (if available) or refer as indicated

[1] Several studies of different test technologies have shown various post-treatment intervals wherein a false positive test result may occur. Therefore, repeat testing should not be performed within 3 weeks of appropriate treatment. Patients that have been exposed to an infected person within 3 weeks of treatment should be retreated, but not retested.

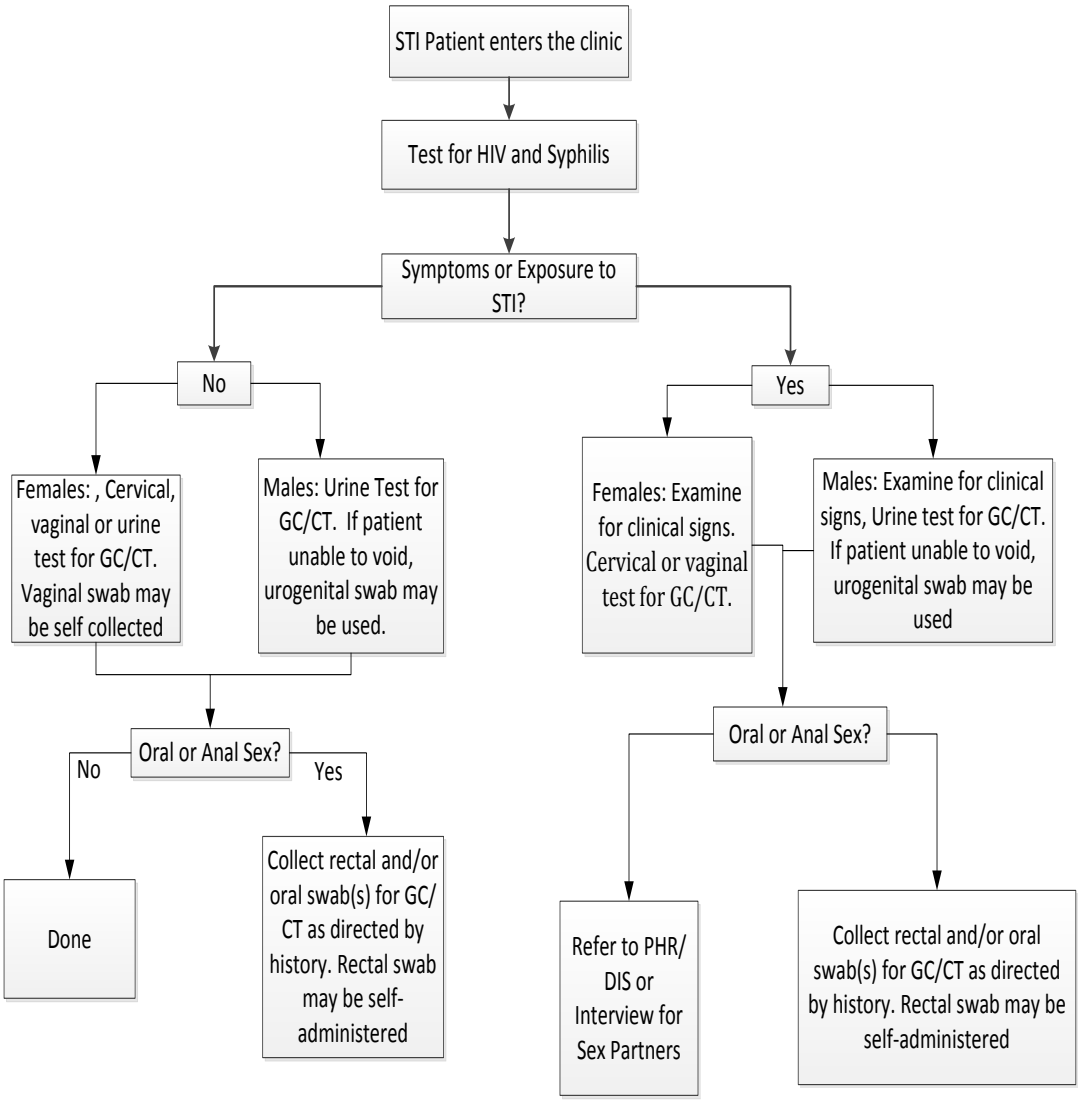
Offer HIV counseling and literature for all clients; offer testing for high-risk individuals or those requesting service.

Interview patient for sexual contacts and encourage all contacts to obtain treatment:

Obtain name, address, phone number, age, sex, race, and date of exposure of all contacts within the last 60 days; do not write the information in the patient's record; if a contact to confirmed case, do not write the original case name in the contact's chart.

Notify the public health representative of the original positive case name and contact information

Counsel, examine, and test all persons exposed.



PLAN

PATIENTS REQUESTING TESTING DUE TO POSSIBLE EXPOSURE OR SIGNS OR SYMPTOMS SHOULD RECEIVE DUAL TREATMENT FOR GONORRHEA AND CHLAMYDIA DAY OF VISIT

TREATMENT FOR CHLAMYDIA

Treatment for positive Chlamydia[2] test with a confirmed negative gonorrhea test

If gonorrhea test result is unknown, patient will receive dual treatment for chlamydia and gonorrhea

If the chlamydia test is positive, refer to the treatment guidelines found in the PHN Protocol for **Chlamydia Partner Delivered Treatment**

AZITHROMYCIN is the drug of choice for chlamydia.

Adult/Adolescent:

Azithromycin 1 gm orally as a single dose

OR

Doxycycline 100 mg orally BID x 7 days[3]

Pregnant Adult/Adolescent or Nursing Mothers:

(if unprotected coitus since LMP, suspect pregnancy and treat accordingly):

Azithromycin 1 gm orally as a single dose

Allergic Pregnant Individuals:

Consult with health department physician for treatment

Treatment for Gonorrhea

Patients seeking treatment for contact or case to gonorrhea will always receive dual treatment for gonorrhea and chlamydia regardless of site of infection OR Chlamydia results

Dual therapy, administered concurrently, is considered the only adequate therapy, regardless of the chlamydia results.[4]

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[2]Patients and/or sex partners presenting for treatment of laboratory confirmed chlamydia, and are **known to have a negative gonorrhea test**, are to be treated for chlamydia only.

[3]Doxycycline is contraindicated in pregnancy and nursing mothers.

[4]Dual treatment is recommended because patients infected with *N. gonorrhoeae* frequently are co-infected with *C. trachomatis*, Additionally, the use of a second antimicrobial is recommended for use with ceftriaxone to theoretically improve treatment efficacy and delay emergence and spread of resistance to *N. gonorrhoeae* to cephalosporins

Recommended treatment for Non-Allergic Adult/Adolescent:

Ceftriaxone 250 mg IM as a single dose
PLUS
Azithromycin 1 gm orally as a single dose

Non-allergic Pregnant Adult/Adolescent or Breastfeeding Mothers:
(if unprotected coitus since LMP, suspect pregnancy and treat accordingly):

Ceftriaxone 250 mg IM as a single dose
PLUS
Azithromycin 1 gm orally as a single dose

Allergic Adult/Adolescent (regardless of pregnancy or breastfeeding status):
Refer to health department physician for consultation and alternative treatment options. May also refer patients to infectious disease physician for possible cephalosporin desensitization and treatment.

Penicillin or Cephalosporin Allergies: Ceftriaxone is the drug of choice for gonorrhea. If the patient alleges an allergy to penicillin or cephalosporins, the nurse should take a thorough history of allergic response to determine if there is a history of severe allergic reaction such as anaphylaxis or Stevens Johnson syndrome. If the history indicates a non-anaphylactic reaction, (i.e. mild to moderate rash, itching, etc.), the patient should be treated with ceftriaxone. If history indicates a severe reaction such as anaphylaxis, **or** nurse is unable to gain a history consistent with a non-anaphylactic reaction, the patient should be referred to an infectious disease or health department physician for consultation.

Since there is little to no incidence of ceftriaxone resistant gonorrhea reported in the United States, all patients returning with gonorrhea and persistent or recurring symptoms should be considered re-infected and retreated.

Health Teaching

- Offer condoms and encourage use during all sexual activity.
- Encourage all sexual contacts to obtain care.
- Stress importance of finishing all medicines
- Advise patient and their sex partner(s) to avoid intercourse until they both have completed treatment (that is 7 days after single-dose therapy or when the 7 or 14-day treatment regimen is complete)
- Warn patient that until medication is completed and all sex partners are treated, infection may be transmitted and reinfection is likely.
- If using oral contraceptive, encourage use of barrier method (like condoms) until two weeks following completion of treatment.
- Discuss HIV and STD prevention.

- Encourage voiding before and after intercourse.
- Increase water intake with medications.
- Avoid antacids and exposure to sun when taking doxycycline.
- Stress hygiene, including wearing cotton underwear, loose clothing, avoidance of underpants while sleeping, wiping front to back, and avoid feminine hygiene sprays and deodorants.
- Stress need for follow-up exam if symptoms persist, recur, or exacerbate.

Follow-Up For CHLAMYDIA AND GONORRHEA:

- Counsel all infected clients, regardless of treatment regimen, to return 1 week after treatment **if they experience persistent clinical symptoms**.

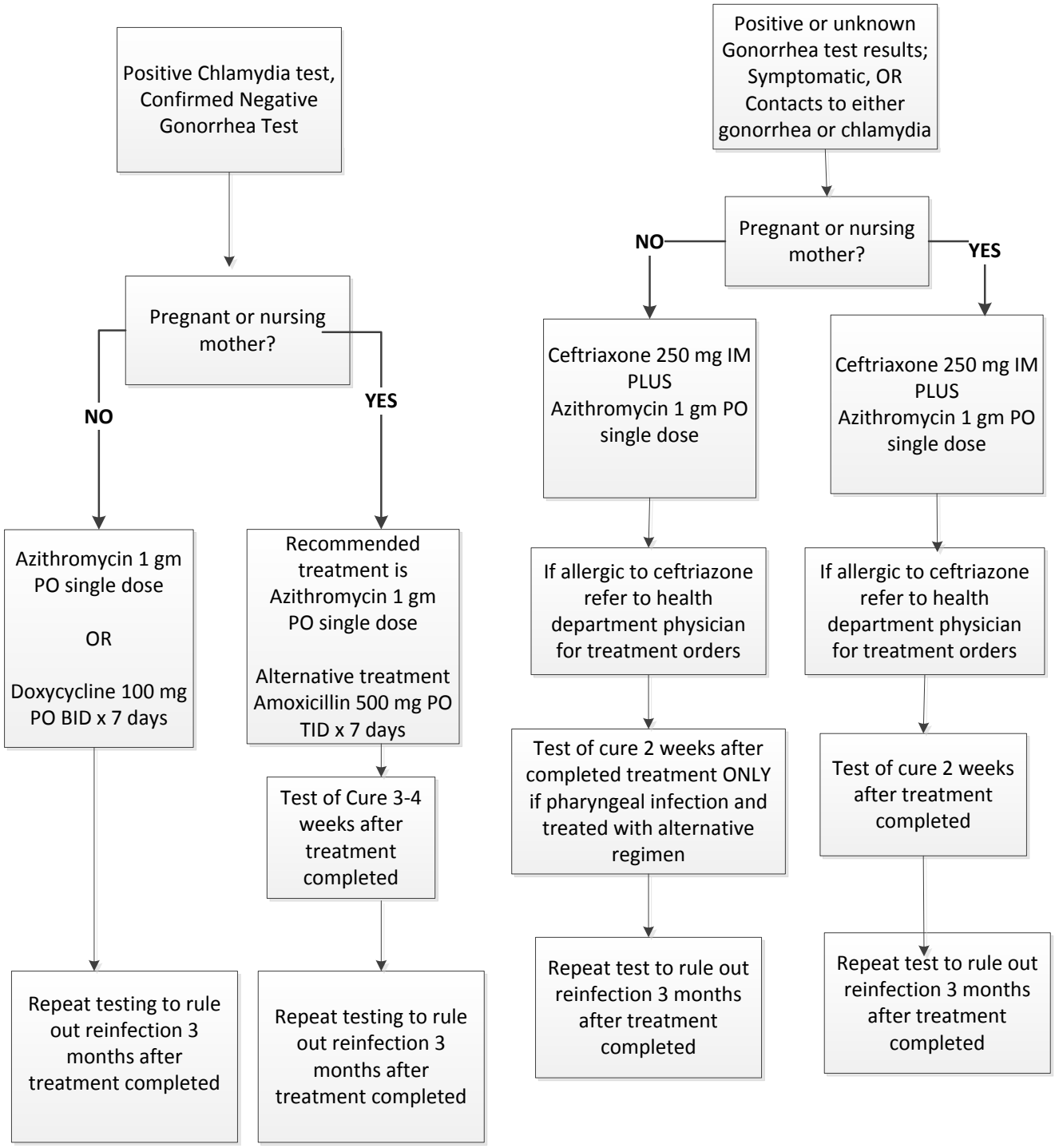
- Treatment failure should be considered in all patients with clinical or laboratory evidence of persistent infection after treatment. In all cases of suspected treatment failure, consult with health department physician /APN. Specifically in cases of suspected gonorrheal infection, obtain a culture with antimicrobial susceptibility testing on specimens from relevant anatomic sites.

- Suspected treatment failures should be reported within 24 hours.

- In the absence of persistent clinical symptoms, counsel all infected patients to return for retesting 3 months after completion of treatment. If this does not occur, retest all persons treated for infection if they present for care within 12 months following treatment.

- Report all cases to Sexually Transmitted Disease Program representative

Chlamydia and Gonorrhea Treatment Decision Tree



REFERENCES

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015(http://www.cdc.gov/std/tg2015/default.htm). MMWR, 64(RR-3) (2015).

CHLAMYDIA TRACHOMATIS, CONTACT PARTNER DELIVERED THERAPY

NOTE: ***In 2002 the Board of Medical Examiners and the Board of Osteopaths adopted an amendment to the medical practice act allowing providers and those who provide medical services under their responsibility and control to use partner delivered therapy.***

The following protocol should be implemented as an important DISEASE CONTROL STRATEGY and in accordance with CDC recommendations.

SUBJECTIVE

Partner delivered therapy is for those contacts to index cases of chlamydia who are unlikely to seek medical care.

OBJECTIVE

A laboratory confirmed Chlamydia infection without evidence of co-infection with gonorrhea or other complications suggestive of a relationship to Chlamydia infection

Provision of treatment of the (index) patient for Chlamydia

An attempt to persuade the infected patient to have all partners evaluated and treated and indication from the patient that partner(s) would not comply

PLAN

Document objective findings in index patient's record.

Provide a Chlamydia fact sheet to the patient with copies for all partners.
http://www.cdc.gov/std/chlamydia/chlamydia-fact-sheet.pdf
http://www.nlm.nih.gov/medlineplus/druginfo/meds/a697037.html

Counsel the patient on sexual abstinence for seven days after treatment and until seven days after partners have been treated.

Provide to the treated patient a non-named signed (MD or NP) prescription(s) or a signed, name-specific prescription(s) **OR**

Issue to the treated patient 1 gram of azithromycin for each of the unnamed sex partners or for each of the total number of known sex partners named by the patient.

Refer to PHN Protocol 5.010 for Chlamydia Case or Contact for treatment and counseling.

HEPATITIS B, Case or Presumptive

BACKGROUND

Hepatitis B virus infection is an established cause of acute and chronic hepatitis and cirrhosis. Chronic hepatitis also increases the risk of developing liver cancer. The virus has an average incubation period of 90 days with a range of 60 to 150 days. In some instances, the virus has been shown to remain infectious on environmental surfaces for more than 7 days at room temperature. HBV is transmitted through the mixing of bodily fluids. Humans are the only known host. Acute hepatitis B infection and chronic or acute hepatitis B infection of a woman during each pregnancy is a reportable disease under Tennessee Reportable Disease regulations.

Risk factors for becoming infected include:

Sexual contact with infected person
Contaminated needles – this can be from sharing drug needles or syringes or from contaminated needles used for tattooing, acupuncture or piercings.
Sharing toothbrushes, razors or other personal items with an infected person.
Persons who live in the household of an infected person.
Persons with diabetes

Hepatitis B can be passed from mother to infant, especially in the absence of proper prophylaxis of the infant at delivery. Perinatal transmission has the highest likelihood of chronic infection and subsequent liver disease in the infant.

SUBJECTIVE

May be asymptomatic
Non-specific symptoms characterized by insidious onset of malaise, anorexia, nausea, vomiting, right upper quadrant abdominal pain, fever, headache, muscle pain or tenderness, and dark urine beginning 1 to 2 days before the onset of jaundice.

OBJECTIVE

Confirmation is by serologic testing, the presence of HBsAg, IgM anti-HBc, or HBeAg. Some patients may present with a hepatitis B viral load or positive DNA test.

ASSESSMENT

Hepatitis B, confirmed or strongly suspected, requires reporting to the local health department by physician's office, laboratory or hospital treating the patient under state reportable disease rules.

PLAN

If pregnant, notify nursing supervisor, communicable disease director or medical director, and the region's designated Perinatal Hepatitis B Prevention Coordinator (if not one of the above) (see Tennessee Department of Health, Perinatal Hepatitis B Prevention Program guidelines for further information)

The suspected or confirmed acute case or chronic case (in the case of any pregnant woman) must be reported by appropriate staff in the National Electronic Disease Surveillance System.

Discuss blood and body fluid precautions until HBsAg disappears and anti-HBs appears.

Interview household and sexual contacts and others who may have contact with blood or secretions e.g., intravenous drug users (for contacts see PHN Protocol 5.080 Hepatitis B, All Other Contacts, Post Exposure)

Offer complete hepatitis B vaccine series at no cost to unvaccinated household or sexual contacts as well as any contacts that share drug paraphernalia. Advise that their contacts just need to notify the office staff that they are a contact of a hepatitis B case (whether chronic or acute).

Offer condoms and encourage use with each sexual contact

Offer testing/ counseling for other STD's, HIV and syphilis

If case is pregnant, inform that the regional Perinatal Hepatitis B Prevention Program Coordinator will follow up to provide additional education and postnatal case management assistance to ensure timely prophylaxis and vaccination for the baby to minimize the risk of transmission of infection to the baby.

REFERENCE

CDC . Hepatitis B Information for Health Professionals, Centers for Disease Control and Prevention, Division of Viral Hepatitis, January 2012
http://www.cdc.gov/hepatitis/HBV/HBVfaq.htm

Epidemiology and Prevention of Vaccine-Preventable Diseases, Department of Health and Human Services, Centers for Disease Control and Prevention, 12th Edition, May 2011

Ferri. FF. (2010), Ferri's Clinical Advisor, Philadelphia, PA; Mosby Elsevier.

Lok, ASF, Patient Information: Hepatitis B (Beyond the Basics), In: UpToDate, Esteban, R(Ed), UpToDate, Waltham, MA 2013

Tennessee Department of Health, Perinatal Hepatitis B Prevention Program Guidelines, Revised 2012, available at http://health.state.tn.us/ReportableDiseases/ under the "Public Health" tab of the reportable condition listed as "Hepatitis, viral, HBsAg+ Pregnant Female".

HEPATITIS B, Infant Contacts

GENERAL INFORMATION

Infant born to a woman infected with hepatitis B, either chronically or acutely, which includes all women who test positive for hepatitis B surface antigen (HBsAg) (see Tennessee Department of Health, Perinatal Hepatitis B Prevention Program Guidelines for further information)

PLAN

Notify CEDS Regional Director or designated Regional Perinatal Hepatitis B Coordinator of the infant that needs follow-up by the Perinatal Hepatitis B Prevention Program and care.

Assure that infant has received Hepatitis B Immune Globulin (HBIG) and the first dose of hepatitis B vaccine (HBV) (0.5 ml) I.M. within 12 hours of birth. If infant was not given HBIG and HBV at birth and more than 7 days have elapsed since birth - **do not give HBIG.** If infant was not given HBIG and **fewer than 7 days** have elapsed since birth, **give HBIG,** if available, or notify those listed above to arrange for HBIG to be given as soon as possible.

Administer the second and third dose of HBV according to Hepatitis B Vaccine protocol. If the infant weighed less than 2000 grams at birth (4 lbs. 6 ozs**.**), the birth dose does not count toward the series; such infants should receive the full 3 dose series starting at 1 month of chronological age or at discharge prior to 1 month of age, if gaining weight consistently and medically stable. Combination vaccines containing hepatitis B also may be used to complete the vaccine series using their recommended schedules.

Test infant for HBsAg and anti-HBs after the final dose in the series no earlier than 9 months of age <u>and</u> no earlier than 1 month after the final dose. For best results, testing is recommended at the earliest possible time: at 9 months of age or, if older, just 1-2 months after the final dose. The risk of false negative anti-HBs results increases if testing is delayed.

If infant is positive for HBsAg, refer for medical evaluation.

If infant is negative for anti-HBs and HBsAg, repeat the complete HBV series according to HBV single antigen vaccine protocol; retest for anti-HBs and HBsAg one month after last dose of HBV and follow Perinatal Hepatitis B Prevention Program guidelines.

Assure that the designated Regional Perinatal Hepatitis B Prevention Coordinator is aware of all immunization visits and test results to facilitate case management.

Health Teaching:

Although many hepatitis B viral infections cause no symptoms, discuss the following symptoms of hepatitis which would need medical evaluation if present:

serum sickness-like prodrome
skin eruptions, urticaria
arthralgias, arthritis
lassitude
anorexia
nausea, vomiting
headaches, fever
dark urine, jaundice, moderate liver enlargement with tenderness

REFERENCES

"Epidemiology and Prevention of Vaccine-Preventable Diseases", Centers for Disease Control and Prevention, DHHS, May 2015

Centers for Disease Control and Prevention. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP); Part 1: Immunization of Infants, Children, and Adolescents. MMWR 2005;54(No. RR-16)
Available at http://www.cdc.gov/mmwr/PDF/rr/rr5416.pdf

HEPATITIS B
Other Non-Occupational Contacts POST-EXPOSURE

GENERAL INFORMATION
Hepatitis B (HBV) is transmitted through infected blood or body fluids. Common modes of transmission include exposure to infectious body fluids through sexual contact, household exposure or through the sharing of needles or syringes. The incubation period for acute infection is 60 to 150 days, with an average of 90 days.

SUBJECTIVE
History of sexual contact, needle sharing, or household exposure to blood or body fluids.
Complaint of serum sickness-like prodrome (skin eruptions, urticaria, arthralgias, arthritis), fatigue, anorexia, nausea, vomiting, headache.

OBJECTIVE
Symptoms may include dark urine, jaundice, and moderate liver enlargement with tenderness.
Diagnosis cannot be made on basis of clinical symptoms alone.
Most will need testing for markers of hepatitis B infection and vaccination, if susceptible

ASSESSMENT
Perform serologic testing
Evaluate need for pre- and post-vaccination serologic testing.

PLAN
Notify Regional Communicable Environmental Disease & Emergency Preparedness (CEDEP) Director
If patient is pregnant, notify Regional Perinatal Hepatitis B Coordinator

Table 1. Guidelines for **Pre-Vaccination** Testing and Interpretation of Results for non-Occupational Contacts of HBsAg Positive Persons

Exposure	**Testing**	**Timing of test**	
All household, needle-sharing, sexual contacts	HBsAg and anti-HBs	Before administering PEP (at same visit)	
Test Results	**HBsAg positive**	**HBsAg negative, anti-HBs positive**	**HBsAg negative, anti-HBs negative**
Next Steps	Patient is infected. Discontinue vaccination, refer for medical follow-up, refer to Regional CEDP Director for case investigation, contact management	Patient immune, discontinue vaccination	Patient is susceptible, complete vaccine series

Use Table 2 below to evaluate need for Hepatitis B Immune Globulin (HBIG) and Hepatitis B Vaccine (HBV) (percutaneous or mucosal exposure) based on the HBsAg status of the source and the HBV immunization and vaccine-response status of the person exposed.

Refer to packet insert for administration instructions and guidelines on the use of HBIG

Table 2. Guidelines for **Postexposure Prophylaxis (PEP)** of susceptible persons with non-occupational discrete exposures to blood or body fluids that contain blood by exposure type and vaccination status**:

Exposure	**Treatment**	
HBsAG positive source		
	Unvaccinated (or incompletely vaccinated)	**Previously vaccinated** (without prior serologic confirmation of immunity)*****
Percutaneous (e.g., bite or needle stick) or mucosal exposure (within 7 days)	Administer HBIG and initiate HBV series	Administer one HBV booster dose
Sex or needle-sharing contact (within 14 days)	Administer HBIG and initiate HBV series	Administer one HBV booster dose
Victim of sexual assault/abuse (within 14 days)	Administer HBIG and initiate HBV series	Administer one HBV booster dose
Source with <u>unknown</u> HBsAg status		
Percutaneous (e.g., bite or needle stick) or mucosal exposure (within 7 days)	Initiate HBV series	No treatment
Sex or needle sharing contact (within 14 days of last contact)	Initiate HBV series	No treatment
Victim of sexual assault/abuse (within 14 days)	Initiate HBV series	No treatment

*Persons who have ever had laboratory confirmation of immunity (e.g., positive for anti-HBs) do not require a booster dose or HBIG.
**Administer PEP as soon as possible, preferably within 24 hours. PEP should not be given after the maximum number of days specified in the exposure category, because it is not expected to be protective. Vaccine may still be appropriate to protect from future exposure.

Federally funded vaccine may be used for all HBV vaccine used as PEP and to complete immunization series of all at risk contacts, regardless of age.
Refer to most recent "Federally Funded Vaccines for Adults" guidance

Certain contacts should receive post-vaccination testing to document immunity.

Table 3. Guidelines for **Post-Vaccination Testing of Certain Contacts** of HBsAg positive persons.

Type of exposure	**Test needed**	**Test timing** (never earlier than 1 month after vaccination)
Ongoing sexual partner of infected person	Anti-HBs	At least 1 month after vaccination
Ongoing needle-sharing partner of infected person	Anti-HBs	At least 1 month after vaccination
Children <5 years in household of an infected person (not offspring of case)*	Anti-HBs	At least 1 month after vaccination
Fully immunized children of woman with chronic hepatitis B: considered perinatal contacts	Anti-HBs and HBsAg (if not previously tested)	At least 1 month after vaccination: see detailed information below

* Children under 5 years are at high risk of chronic infection if they remain susceptible following vaccination and are exposed to the virus. This risk declines with age.

If HBIG has been given in past 4 months, consult with Health Officer.

For fully immunized children of a woman who is HBsAg+, where there is any possibility that she was HBsAg+ during her pregnancy with them: these children are not simply household contacts, but should be considered incompletely evaluated perinatal contacts that are overdue for post-vaccination testing. Like younger perinatal contact infants, these children are still due to have serology done for both **HBsAg and anti-HBs.**

Testing should **not** be done if there is documentation that the child has ever had serology proving they were immune or proving they were already infected. **If they are fully immunized**, **HBsAg negative and anti-HBs negative, a single challenge dose of vaccine** should be given and the patient should have an anti- HBs drawn 1 month later. This will stimulate a positive antibody response in the vast majority of children who are immune but whose antibody levels had dropped.

For patients that test negative for anti-HBs following three doses of vaccine, **repeat the vaccine series of 3 doses** in accordance with the routine vaccination schedule and re-test for anti-HBs at least 1 month after the second series. If the patient remains non-immune, they are a vaccine **non-responder** and no further vaccination will be of benefit. Educate about risk behaviors and their ongoing risk of HBV infection if exposed. HBIG will be needed for protection if an exposure occurs in the future.

Health Teaching:

Encourage HBV vaccine and the importance of testing, where relevant.
Avoid sharing needles with others.

Diabetic patients should not share personal glucose monitors or lancets with others.
Abstain from sexual contact with infected partners.
Use condoms for each sexual encounter to prevent exchange of body fluids or skin contact.
Use only water based lubricants (such as K-Y) during sexual encounter. Do not use oil-based products.
Avoid donating blood or organs if test positive for hepatitis B.

REFERENCES

"Epidemiology and Prevention of Vaccine-Preventable Diseases", Centers for Disease Control and Prevention, DHHS, 12th Edition, May 2011

Red Book, Report of the Committee on Infectious Diseases, 29th Edition. 2012

MMWR, A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States. Recommendations of the Advisory Committee on Immunization Practices (ACIP) Part II: Immunization of Adults. December 8, 2006. Vol. 55 Number RR-16.

MMWR, Recommendations for Identification and Public Health Management of Persons with Chronic Hepatitis B Virus Infection. September 19, 2008 / Vol. 57 / No. RR-8.

HEPATITIS C, (Non - A, Non - B), Case

<u>NOTE</u>: Only applicable for patients with physician diagnosed, active acute or chronic hepatitis C

General Information

Hepatitis C Virus (HCV) is transmitted primarily through large or repeated percutaneous (i.e., passage through the skin) exposures to infectious blood, such as:

- Injection drug use (the most common means of transmission in the United States)
- Receipt of donated blood, blood products, and organs before 1992
- Birth to an HCV-infected mother
- Sex with an HCV-infected person (the risk is low but present) especially to HIV infected men who have sex with men or of HIV infected heterosexual women)
- Sharing personal items contaminated with infectious blood, such as razors or toothbrushes

Hepatitis C may be acute or chronic

- Patients with a positive hepatitis C test should be referred to a physician for further evaluation (including confirmatory treatment, if not already conducted).
- Acute disease tends to be mild and insidious in onset. Most infections are asymptomatic; when present, symptoms may include: fever, fatigue, dark urine, clay-colored stool, loss of appetite, joint pain, jaundice, anorexia, nausea, vomiting, malaise, abdominal discomfort, and flu-like syndrome.
- In those persons who do develop symptoms, the average time period from exposure to symptom onset is 4–12 weeks (range: 2–24 weeks).
- HCV infection becomes chronic in approximately 75-85% of cases. While most are asymptomatic, physician findings may include hepatomegaly, splenomegaly, and elevated ALT and AST enzyme levels. A small percentage will develop severe chronic liver disease, including cirrhosis and liver cancer.

The incubation period for HCV disease averages 6 to 7 weeks, with a range of 2 weeks to 6 months. The time from exposure to development of viremia generally is 1 to 2 weeks.

PLAN

All patients with HCV should be considered infectious and should be informed of their risk for transmission (including percutaneous, perinatal and sexual), possible development of chronic active hepatitis, cirrhosis and need to refrain from donating blood.

Immune Globulin is not recommended for contacts at this time.

Health Teaching

- ✓ Patients should be informed about the risk (low but present) for transmission with sex partners
- ✓ Do not share personal items that might have blood on them, such as toothbrushes or razors
- ✓ Cuts and sores on the skin should be covered to keep from spreading infectious blood or secretions

- ✓ Refrain from donating blood, organs, tissue or semen
- ✓ Avoid alcohol because it can accelerate cirrhosis and end stage liver disease
- ✓ Avoid IV drug use or sharing of needles with others
- ✓ People with multiple sexual partners should be advised to decrease the number of partners and to use condoms to prevent transmission
- ✓ Check with a health professional before taking OTC medications or supplements as these can damage the liver further
- ✓ Inform of need for immunization against hepatitis A and hepatitis B.
- ✓ Maternal HCV infection is not a contraindication to breastfeeding, however mothers should abstain from breastfeed if their nipples are cracked or bleeding. Mothers should also be counseled to talk with their pediatrician or OB.

Reference:

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015(http://www.cdc.gov/std/tg2015/default.htm). MMWR, 64(RR-3) (2015).

Red Book, 2012 Report of the Committee on Infectious Diseases, 29th Edition

http://www.cdc.gov/hepatitis/HCV/HCVfaq.htm#section1

HERPES SIMPLEX
(GENITAL HERPES)

BACKGROUND

Genital Herpes is a common sexually transmitted disease caused by the herpes simplex virus, usually type 2 (HSV-2). While HSV-2 causes mainly genital infections, HSV-1 is associated primarily with oral infection, however either type can infect any site. It is a life-long viral infection that can be transmitted through anal, vaginal, or oral sex.
The majority of genital herpes infections are transmitted by persons unaware that they have the infection or who are asymptomatic when transmission occurs. The average incubation period after exposure is 4 days with a range of 2 to 12 days.

SUBJECTIVE

Primary infection:
Symptoms occur from 3 to 7 days after contact
Uniform shaped blisters that become painful ulcers. New lesions may develop for up to 5 – 7 days after the first group appears. Symptoms tend to resolve within 2-3 weeks.
Local pain, itching, and burning may be present at the affected site.
Dysuria (may lead to urinary retention)
May experience flu like symptoms including headache, low grade fever, muscle aches and swollen inguinal lymph nodes

Recurrent infection:
Common, particularly during the first year of infection.
May be brought on by alteration in the immune system, fatigue, stress, and local skin trauma.
Symptoms are typically shorter in duration and less severe than the first outbreak

OBJECTIVE

Multiple vesicular or ulcerative lesions that are uniform in size
Lesions may appear anywhere on genitalia, mouth, throat or anus
Tender enlarged nodes may be palpated in groin
Patient may have an elevated temperature and flu-like symptoms

ASSESSMENT

Possible genital herpes

PLAN

- Collect culture for herpes
- Refer/consult health department physician or APN for prescription or medication order
- Provide STD counseling, screen for gonorrhea and chlamydia, offer testing for HIV and syphilis as indicated

Palliative measures:

- Tepid water sitz bath 2-4 times daily while lesions are present (do not allow anyone else to use same towel). Urinating while sitting in a tub of tepid water may relieve the burning associated with voiding.
- Keep genital area clean and dry. A hair dryer on cool setting may be used
- May take Ibuprofen or Acetaminophen q 4 hrs/PRN for pain
- Over the counter creams and ointments are generally not recommended
- Increase consumption of water to keep urine dilute
- Avoid tight or irritating underwear and clothing

Health Teaching:

Counsel patients regarding the natural history of the disease, with emphasis on the potential for recurrent episodes, asymptomatic viral shedding, and the risk for sexual transmission

Recurrent outbreaks are common but tend to become less frequent and severe after the first year Recurrences may be triggered by emotional stress, illness, sunlight and fatigue. Many patients experience mild symptoms called prodromal symptoms before ulcers develop. These may include itching, tingling or pain. Effective episodic treatment requires initiation of therapy within 1 day of lesion onset or during the prodromal period that precedes some outbreaks.

Encourage patient to inform their current sex partners that they have genital herpes and to inform future partners before initiating a sexual relationship

Advise to abstain from sexual activity when lesions or prodromal symptoms are present

Oral sex should be avoided if there are ulcers or blister around the mouth because a person with the oral form can give a partner genital herpes by performing oral sex.

Condoms used consistently and correctly may reduce the risk of herpes transmission

Do not touch the lesions or fluid from the lesions in order to avoid transfer of virus to other parts of the body, e.g., the eyes

Instruct patient in immediate and through hand washing after any genital contact or use disposable gloves

Assess and/or encourage Hepatitis B vaccination

<u>Pregnant women should inform their doctor if they have ever experienced any symptoms of, been exposed to, or been diagnosed with genital herpes. HSV is of particular concern in pregnant women because the infection can be passed from mother to child during delivery resulting in a potentially fatal infection in the neonate.</u>

REFERENCES

Albrecht, MA. Epidemiology, clinical manifestations and diagnosis of genital herpes simplex virus infection. In: UpToDate, Thorner AR(Ed), UpToDate, Waltham, MA (accessed on May 29, 2014)

Albrecht, MA. Patient information: Genital herpes (Beyond the Basics). In: UpToDate, Thorner, AR (Ed), UpToDate, Walthan, MA, 2013

CDC. Diseases Characterized by Genital, Anal, or Perianal Ulcers, STD Treatment Guidelines, 2010.
http://www.cdc.gov/std/treatment/2010/genital-ulcers.htm#hsv

Ferri, FF. (2014), Ferri's Clinical Advisor, Philadelphia, PA: Mosby Elsevier

HIV TESTING AND COUNSELING

GENERAL INFORMATION

Human immunodeficiency virus (HIV) is the virus that can lead to acquired immunodeficiency syndrome, or AIDS. In the United States, HIV is spread mainly by having unprotected sex (sex without a condom) with someone who has HIV or sharing needles/syringes, or other equipment used to prepare injection drugs with someone who has HIV. For transmission to occur, fluids (blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, or breast milk) from a HIV infected person must come in contact with a mucous membrane (rectum, vagina, opening of the penis, or mouth) of an uninfected person.

SUBJECTIVE

Patient seeking evaluation and/or treatment for STDs
Patient request HIV testing or counseling
Patient identified as high risk

OBJECTIVE

Encourage testing for all person ages 13 to 64 years in health-care settings.

Persons at high-risk for HIV infection should be screened at least annually, including:

- Men who have sex with men (MSM) who themselves or their sex partners have had more than one sex partner since their most recent HIV test
- Heterosexuals who themselves or their sex partners have had more than one sex partner since their most recent HIV test
- Sex partners of HIV-infected persons
- Injection drug users and their partner(s)
- Anyone seeking STD evaluation/treatment
- Individuals with syphilis
- Individuals with tuberculosis

ASSESSMENT

Assess client's individual risk status
Determine client's needs (testing, level of counseling)

PLAN

- Screen for HIV using currently available test (serologic, oral[1] rapid); refer to "*Laboratory Policies and Procedures Manual for Local Health Departments"* for information on specimen storage and handling
- Draw blood for syphilis serology on all STD patients examined in clinic, and when appropriate during outreach activities
- Offer testing/counseling for other STDs (gonorrhea, chlamydia)

[1] The use of Oral/Rapid testing is not a routine clinic procedure, at this time. These testing modalities should be used in outreach activities, or on a case-by-case basis in extraordinary clinic circumstances, with prior Supervisor approval.

- Evaluate patient immunization status including Hepatitis A, Hepatitis B, HPV and according to current CDC recommendations.
- Provide immunization(s) per PHN Protocol and current funding guidelines or refer as indicated
- Advise/provide HIV risk reduction counseling
- Offer condoms and encourage consistent use during all sexual activity.
- Instruct to use only water based lubricants such as KY Jelly or glycerin.
- Spermicides containing nonoxynol-9 are not recommended for STD/HIV prevention. Frequent use of spermicides containing N-9 has been associated with disruption of the genital epithelium, which might be associated with an increased risk for HIV transmission
- Encourage contacts to obtain testing/care
- Provide follow-up, e.g., test results, counseling as indicated, information relative to services available, and future opportunity for testing/counseling

Health Teaching:

Counseling should focus on the following:

- Unprotected intercourse increases the risk of HIV transmission
- Correct and consistent use of the male latex condom is an effective method of reducing the risk of HIV infection
- Anal sex is the highest-risk sexual behavior. Receptive anal sex (bottoming) is riskier than insertive anal sex (topping). Vaginal sex is the second highest-risk sexual behavior.
- Having multiple sex partners can increase the risk of HIV infection
- Sexually transmitted diseases (STD) have been long known to increase the risk of both acquiring and transmitting HIV infection.
- HIV can be passed from mother to child during pregnancy, birth, or breastfeeding.
- Contraceptive methods that are not mechanical barriers do not protect against HIV or other STDs.
- HIV transmission rates among uncircumcised males are higher than for circumcised males.

REFERENCES

CDC. HIV Basics: Risk Behaviors accessed September 6, 2013.
http://www.cdc.gov/hiv/risk/index.html

CDC. HIV Basics. Prevention research, accessed September 6, 2013
http://www.cdc.gov/hiv/prevention/index.html

Morbidity and Mortality Weekly Report, *Sexually Transmitted Diseases Treatment Guidelines.* Released by Centers for Disease Control and Prevention (CDC) December 17, 2010 / Vol. 59 / No. RR-12

PEDICULOSIS PUBIS
(PUBIC LICE)

SUBJECTIVE
Severe itching in genital area
"Bugs down there"
"Crabs"

OBJECTIVE
Visible nits and/or lice on pubic hair
Excoriation of skin may be present (crusts or scales in pubic area)
Black dots (representing excreta) on surrounding skin and underclothing
Nits in eyebrows, eyelashes, scalp hair, axillary hair, and other body hair

ASSESSMENT
Pediculosis Pubis (Pubic Lice)

PLAN
Treatment:
Permethrin 1% creme rinse - Apply to affected area and wash off after 10 minutes.

OR

OTC pyrethrin with piperonyl butoxide – per package instructions.

In difficult cases, refer to nurse practitioner. In all cases, removal of nits is encouraged.
Concurrently with treatment, machine launder all washable clothing and bed linens in hot water and detergent. Dry in high heat for at least 20 minutes.
Dry-clean clothing that is not washable.
Place items that cannot be washed or dry-cleaned in a large, heavy duty plastic bag, and securely seal for 10-14 days.
Both sexual and close personal or household contacts within the preceding month should be examined and treated.
Suspect other STDs and offer counseling and testing as appropriate.

<u>Referral Indicators</u>
Secondary bacterial infection
Pregnant or lactating women
Neurological disorders (in lindane only)
Known sensitivity to permethrin/pyrethrin products
Coexisting dermatological conditions
Lice found in eyelashes since shampoo cannot be used
Treatment failure

Follow-Up

Patient should be evaluated after one week if symptoms persist

Retreatment may be necessary if lice are found or if eggs are observed at the hair-skin junction. Do not retreat with lindane without consulting a provider.

Patients who do not respond to one of the recommended regimens should be referred to a provider for treatment with an alternative regimen.

REFFERENCES

CDC. Sexually Transmitted Diseases Treatment Guidelines, 2010. MMRW 2010; 59(No. RR-12).

SYPHILIS, CASE OR CONTACT

BACKGROUND

Syphilis is a STD that is transmitted from person to person by direct contact with syphilis sores. Sores occur mainly on the external genitals, vagina, anus, or in the rectum. They may also occur on the lips and in the mouth. Syphilis can be transmitted during vaginal, anal, or oral sexual contact. Syphilis can cause long-term complications and/or death if not adequately treated. Pregnant women with the disease can pass it to their unborn children.
The average time between infection with syphilis and appearance of the first symptom is 21 days, but it can range from 10 to 90 days.

SUBJECTIVE

Previous history of syphilis infection
History of symptoms suggestive of syphilis:

- Painless indurated lesion on genitalia or adjacent areas or other mucous membranes such as lip, vulva, labia, cervix, or anus
- Body rash or spots on palms of hands or soles of feet
- Sore throat, fever, headaches, or general malaise
- Sexual contact to serology proven or physician verified case
- Referral from private physician
- Person at risk of syphilis as identified through the course of case investigation
- "My partner told me he/she has syphilis"

OBJECTIVE

Report of reactive Captia Syphilis-G test (from Blood Bank) or EIA

Primary Syphilis:
One or more sores (also called chancres) at the location where syphilis entered the body. The sores are usually firm, round and painless and therefore may go unnoticed. These sores may appear on the genitalia, anus, fingers, tongue, nipples, tonsils, or eyelids. They last 3 to 6 weeks and will heal regardless of treatment.
Regional lymphadenopathy (unilateral or bilateral)

Secondary syphilis:
Rash is the most characteristic finding of secondary syphilis and can take any form except vesicular lesions. The rash is classically uniform, well defined, and generalized on trunk, extremities including the palms and soles, face, and scalp
Lesions enlarge and erode producing highly contagious sores that are pink or grayish-white
Reactive RPR and positive TP-PA[1] (sometimes RPR may be false positive)
Regional lymphadenopathy (unilateral or bilateral)
Alopecia, hair may have "moth eaten look"

ASSESSMENT

Confirmed or suspected syphilis, syphilis contact, or person identified through the course of syphilis case investigation

[1] The TP-PA (Treponemal pallidum-particle agglutination) test has replaced the MHA-TP test, which is no longer available

PLAN

NOTE

If there has been an exposure within 90 DAYS prior to the exam, all known contacts to cases of syphilis, or persons identified through case investigation as being at risk for syphilis should be preventively treated. Contacts are treated with the same regimens as infected patients according to the following recommendations from the 2015 CDC guidelines on the treatment of STDs:

- Persons who were exposed within 90 days preceding the diagnosis of primary, secondary or early latent (acquired within the past 1 year) syphilis in a sex partner might be infected even if seronegative; therefore, such persons should be treated presumptively.
- Persons who were exposed >90 days before the diagnosis of primary, secondary or early latent syphilis in a sex partner should be treated presumptively if follow-up is uncertain.
- Long-term sex partners of patients who have latent syphilis should be evaluated clinically and serologically for syphilis and treated on the basis of the evaluation.

If a report is received of an individual with an isolated reactive Captia Syphilis-G test (or other treponemal test):

- An attempt should be made to locate the person to inform him or her of the test result. It is important to inform the individual that the Captia Syphilis-G (or other treponemal) test is used for screening purposes and that further tests (RPR and TP-PA) are needed for confirmation of a current syphilis infection.
- Question the client regarding a previous history of syphilis infection, recall of symptoms suggestive of syphilis, sexual exposure to someone with symptoms, or known exposure to a confirmed case in order to make a more clear diagnosis.
- Both an RPR and a TP-PA should be concurrently ordered on the syphilis serology form (i.e. lab slip). Also indicate that it is a re-test of a Captia Syphilis-G test (or, if a different treponemal test, identify the test specifically) per State Lab protocols.
- Obtain specimen from lesion(s), if present, for darkfield examination (if available) by Public Health Representative or physician.

Refer all patients with syphilis for HIV counseling and testing.
Consider need for Hepatitis B vaccination and provide (if available) or refer as indicated.
Perform gonorrhea and chlamydia screening.
Ask whether patient has any drug sensitivities, especially to penicillin.
Report all prepubertal children to the Department of Human Services.
Report all cases to the STD Representative or Regional CEDEP Supervisor **immediately.**
Consult health department physician as needed.

TREATMENT

Early Syphilis (primary, secondary, or early latent syphilis). Contacts to a case should be treated with this same regimen. Subsequent and/or additional treatment will be based on results of lab test.

Non-pregnant, Non-allergic Adult/Adolescent:
Benzathine penicillin G 2.4 million units IM (give 1.2 million units in each buttock)

Non-pregnant, Penicillin Allergic Adult/Adolescent:
Doxycycline[2], 100 mg orally BID x 14 days

Non-tolerance to Doxycycline:
If follow-up or compliance cannot be assured, the patient should be referred for skin testing for penicillin allergy and undergo desensitization, if necessary.
With careful follow-up and permission obtained from regional health officer, may give ceftriaxone 1gm IM once a day for 10-14 days. Caution must be used as patients who are allergic to penicillin may also be allergic to cephalosporins.

Late Latent Syphilis (over one year's duration) AND Latent Syphilis of Unknown Duration

Non-pregnant, Non-allergic Adult/Adolescent:
Benzathine penicillin G 7.2 million units total, administered as one dose of 2.4 million units (1.2 million units IM in each buttock IM) at one week intervals for 3 consecutive weeks

Non-pregnant, Penicillin Allergic Adult/Adolescent:
If patient is allergic to penicillin and there are no clinical signs of neurological involvement (see next section on Neurosyphilis), the following regimen may be used following consultation with Regional CEDEP Director and/or Regional Health Officer

Doxycycline, 100 mg orally BID x 28 days

Neurosyphilis (central nervous system disease may occur during any stage of syphilis)

With any clinical evidence of neurological involvement (e.g. optic and auditory symptoms, cranial nerve palsies or signs or symptoms of meningitis), consult with Regional CEDEP Director and/or Regional Health Officer and refer as recommended.
Neurosyphilis can occur in any stage of syphilis. Treatment should be based on the stage of syphilis. Treatment should not be withheld pending evaluation.

Syphilis in Pregnancy

All pregnant women should be screened early in pregnancy.
Seropositive pregnant women should be considered infected unless treatment history and sequential serologic antibody titers are showing an appropriate response.
In areas in which the prevalence of syphilis is high, or for patients at high risk, testing should be repeated at 28 weeks and at delivery.

[2] Doxycycline is contraindicated in pregnancy and nursing mothers

Tetracycline and doxycycline are contraindicated in pregnancy and nursing mothers. Erythromycin is not to be used due to high risk of failure to cure infection in fetus.

All Stages of Pregnancy, Non-allergic:
Benzathine penicillin G in dosage schedules appropriate for the stage of syphilis, as recommended for treatment of non-pregnant patients (see above).

All Stages of Pregnancy, Penicillin Allergic:
Contact Regional CEDEP Director and/or Regional Health Officer and refer as recommended.

Syphilis and HIV

All syphilis patients should be screened for HIV.

HIV, Non-allergic
Benzathine Penicillin G in dosage schedules appropriate for the stage of syphilis, as recommended for treatment of non-HIV patients (see above).

Congenital Syphilis

Contact Regional CEDEP Director and/or Regional Health Officer and refer according to CED guidelines.

Health Teaching

Offer condoms and encourage use during any sexual activity. The use of condoms is effective, but only protects the parts covered.
Wash exposed parts with soap and water as soon after contact as possible.
Advise regular check-ups when patient has more than one sexual partner or if sex partner has more than one partner.
Counsel regarding HIV and other STDs. Offer testing as indicated.
Advise women taking oral contraceptives to use condoms during, and for 2 weeks after, antibiotic treatment.
Counsel that RPR may stay reactive after treatment.
Instruct regarding potential Jarisch-Herxheimer Reaction (in 50% of cases, 6-12 hours after any therapy for syphilis, patient may develop high fever, malaise, exacerbation of symptoms lasting 24 hours and pregnant women may experience pre-term labor).
Encourage to return if primary syphilis lesion has not healed within a week

Referral Indicators

Pregnant and penicillin allergic
Continued elevated antibody titers after treatment
Prepubertal children as indicated (refer to HSA Child Abuse Policy)
A primary lesion that is not healing one week after treatment

Follow-Up

Return for repeat RPR tests at 6 and 12 months after conclusion of treatment or until 4 fold decrease (2 dilutions) (i.e., 128 dilutions to 32 dilutions) in titer is observed.
HIV infected persons should return for repeat tests at 3, 6, 9, 12 and 24 months after conclusion of treatment.
Careful follow-up serologic testing is particularly important in patients treated with antibiotics other than penicillin.
If less than 4 fold (2 dilutions) decrease in RPR (i.e. 128 dilutions to 64 dilutions) after 6 months (3 months for HIV infected patients) refer to STD/CEDS supervisor and/or clinic Regional Health Officer for evaluation of treatment or reinfection.
Counsel regarding HIV and other STDs. Offer testing as indicated.
If using oral contraceptives, counsel patient to use condoms during, and for 2 weeks after, antibiotic treatment.
Counsel that RPR may stay reactive after treatment.

Reference

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015(http://www.cdc.gov/std/tg2015/default.htm). MMWR, 64(RR-3) (2015).

TRICHOMONIASIS, Case or Contact

BACKGROUND

Trichomoniasis is considered the most common curable sexually transmitted disease. Most infected persons (70%–85%) have minimal or no symptoms and untreated infections might last for months to years. The incubation period averages 1week with ranges from 4-28 days.

SUBJECTIVE

In **women**, symptoms may include:

Thin discharge with an unusual odor, may be clear, white, yellowish or greenish
Itching, burning, redness or soreness of the genitals
Discomfort with urination
Painful sexual intercourse

In **men,** symptoms may include:

Itching or irritation inside the penis
Discharge from the penis
Burning or pain during urination
Burning after ejaculation
Majority are asymptomatic

- Referred by health department physician or nurse practitioner or private physician
- Contact to patient with positive wet mount or pap smear indicating trichomoniasis
- Self declaration of contact to trichomoniasis
- Not pregnant

OBJECTIVE

- Reported trichomoniasis on Pap smear, not subsequently treated
- Mobile trichomonads seen on normal saline slide preparation
- LMP and pregnancy test, as indicated

ASSESSMENT

- Trichomoniasis diagnosed on Pap smear or wet mount
- Known or self reported contact to trichomoniasis case
- Normal saline slide positive for mobile trichomonads

PLAN

All sexual partners should be treated at the same time.

- Instruct patient to abstain from sex until they and their sex partners have completed therapy and no longer have any symptoms
- Determine any recent treatment with metronidazole
- Screen for chlamydia and gonorrhea using currently available test
- Draw blood for syphilis serology.
- Offer HIV counseling and testing

Treatment:

Non-Allergic, Non-Pregnant

Recommended: Metronidazole (Flagyl) 2 gm bolus dose in clinic or after next meal (may cause nausea if taken without food)

Alternative: Metronidazole (Flagyl) 500 mg twice a day for 7 days

Allergic

Refer to health department physician or APN or the patient's primary care physician

Pregnant

T. vaginalis infection in pregnant women is associated with adverse pregnancy outcomes, particularly premature rupture of membranes, preterm delivery, and delivery of a low birthweight infant.

Consult with Health Department physician, APN or patient's OB/GYN provider. Metronidazole is not contraindicated in pregnancy.

If treatment is considered, the recommended regimen in pregnant women is metronidazole 2 g orally in a single dose. Symptomatic pregnant women, regardless of pregnancy stage, should be tested and considered for treatment.

Treatment Failure

If treatment failure occurs, patient should be re-treated with Metronidazole 500 mg twice a day for 7 days

Because of the high rate of reinfection among women treated for trichomoniasis, retesting is recommended for all sexually active women within 3 months following initial treatment.

For repeated treatment failure, the patient should be treated with a single 2 Gram dose of Metronidazole once a day for 7 days

Health Teaching:

- Offer condoms and encourage use during all sexual activity
- Counsel on other STDs; test as indicated
- Stress importance of completing medication as ordered
- Avoid consumption of alcoholic beverages (includes all products that contain alcohol such as cough syrups) during treatment with Metronidazole and for 24 hours after completion of treatment medication
- Advise that Metronidazole can cause gastro-intestinal upset; also causes urine to darken
- Comfort and personal hygiene measures include: cotton underwear, loose clothing, avoidance of underpants while sleeping, avoid feminine hygiene sprays and deodorants

Stress trichomoniasis has been associated with adverse pregnancy outcomes, particularly premature rupture of membranes, pre-term delivery, and low birth weight babies.
Therefore, it is **very important that all pregnant females inform their OB/GYN** of any exposure, diagnosis or treatment of trichomoniasis during pregnancy.

Referral Indicators:
Known allergy to any component of drug
More than 2 infections within 6 months
Pap smear abnormalities
Sexual abuse indicators

REFERENCES

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015(http://www.cdc.gov/std/tg2015/default.htm). MMWR, 64(RR-3) (2015).

Centers for Disease Control and Prevention. Trichomoniasis –CDC Fact Sheet, http://www.cdc.gov/std/trichomonas/STDFact-Trichomoniasis.htm

SECTION VI: DISASTER PREPAREDNESS AND BIOTERRORISM

6.010 – 6.030

ANTHRAX VACCINE

GENERAL INFORMATION

Anthrax Vaccine Absorbed, (BioThrax™) is a sterile, milky-white suspension (when mixed) made from cultures of a benign strain of Bacillus antracis

This vaccine contains no dead or live bacteria, but it does contain aluminum hydroxide, benzethonium chloride, and formaldehyde in 0.85% NaCl

Anthrax disease presents in three forms: cutaneous (skin), gastrointestinal and inhalational (pulmonary)

The fatality rate for inhalation anthrax is estimated to be 45% to 90%

Vaccine Supply, Handling, and Storage:

Anthrax Vaccine Adsorbed (BioThrax™) is supplied in 5 mL multidose vials

THIS PRODUCT IS TO BE STORED AT 2^{O} C TO 8° C (36 TO 46° F); do not freeze

Do not use after the expiration date given on the package

Candidates for Vaccination:

Persons at high risk for exposure due to a bioterrorism event

Persons who work directly with Bacillus Anthracis in the laboratory

Persons who work with imported animal hides or furs from areas where exposure to anthrax spores may occur

Persons[1] who handle potentially infected animal products in high-incidence areas

Military personnel deployed to areas with high risk for exposure to the organism

Contraindications to Vaccination:

Persons with a history of anaphylactic or anaphylactic-like reaction following a previous dose of BioThrax™, or any of the vaccine components

Pregnant women, unless the potential benefits of vaccination clearly outweigh the potential risks to the fetus

Persons <18 or >65 years of age

Precautions:

Persons with a history of Guillain-Barré Syndrome (GBS)

Persons with a history of anthrax disease

Persons with impaired immune responsiveness due to congenital or acquired immunodeficiency, or immunosuppressive therapy (may not be adequately immunized following administration of BioThrax™); vaccination during chemotherapy, high dose corticosteroid therapy of greater than 2-week duration, or radiation therapy may result in a suboptimal response (deferral of vaccination for three months after completion of such therapy may be considered)

Persons with a concurrent moderate or severe illness

Persons with a latex allergy (the vial stopper contains dry natural rubber)

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[1] While incidence is low in the United States, veterinarians who travel to work in other countries where incidence is higher should consider being vaccinated

Potential Adverse Reactions:

Mild local reactions include tenderness, erythema, **subcutaneous nodule**, induration, warmth and local pruritis

Severe local reactions are infrequent and consist of extensive swelling of the forearm in addition to the local reaction

Systemic reactions include fever, chills, nausea, headache, malaise, anorexia and general body aches

PLAN

Evaluate individual receiving vaccine for the presence of any contraindications

Vaccine Administration:

Primary immunization requires six 0.5 mL subcutaneous injections; the first three injections are given 2 weeks apart, followed by injections at 6, 12, and 18 months

Booster injections of 0.5 mL of BioThrax are recommended annually after the primary series is completed

Immunization is best accomplished with a subcutaneous injection in the upper deltoid region of the arm away from the tricep muscle (to avoid the ulnar nerver), with a short needle (less than one inch, 5/8-inch, 25- to 27-gauge recommended) at a 45-degree angle with the skin surface

Use a different site for each injection

After injecting, withdraw the needle and briefly and gently massage the injection site to promote dispersal of the vaccine

Referral Indicators:

Patients who have conditions listed under precautions

Patients with respiratory difficulty or an allergic reaction (hives, swelling of hands, face and feet)

REFERRENCES

http://www.bt.cdc.gov/agent/anthrax/index.asp

http://www.anthrax.osd.mil/

http://www.bt.cdc.gov/agent/anthrax/vaccination/index.asp

POTASSIUM IODIDE (KI) ADMINISTRATION

GENERAL INFORMATION:

Potassium Iodide is used to block the uptake of radioactive iodine by the thyroid gland in individuals exposed to radioactive iodine

Administration of Potassium Iodide has been shown to reduce the risk of developing thyroid cancer

Its use is indicated if Rad Health has determined that radioactive iodine was released and detected and the State Health Officer has issued an order for exposed people to take KI to block the uptake of radioactive iodine

EFFECTIVENESS IS INCREASED IF POTASSIUM IODIDE IS GIVEN BEFORE, OR SOON AFTER, EXPOSURE

Contraindications include:

- Allergy to iodide
- Dermatitis, herpetiformis, and hypocomplementemic vasculitis (extremely rare conditions associated with an increased risk of iodine hypersensitivity)

Caution should be used in:

- Individuals with multinodular goiter, Graves' disease, and autoimmune thyroiditis, especially if dosing extends beyond a few days
- People on lithium carbonate are more likely to have hypothyroidism if they take KI (less of an issue when only used for <10 days)
- Pregnancy, if taking >10 days

PLAN

Assess the client for contraindications to KI

Educate the patient on adverse reactions:

- Metallic taste
- Rash
- GI upset
- Sialadenitis (rare inflammation of salivary gland)

Administer KI, if possible prior to exposure, in accordance with the following recommendations:

Dose recommendations:

Recommended Doses of KI for Different Risk Groups **Orally once a day (may be crushed if necessary)**			
	KI dose (mg)	# of 130 mg tablets	# of 65 mg tablets
Adults over 40 yrs	130	1	2
Adults over 18 through 40 yrs			
Pregnant or lactating women			
Adoles. over 12 through 18 yrs*	65	1/2	1
Children over 3 through 12 yrs			
Over 1 month through 3 years	32	1/4	1/2
Birth through 1 month	16	1/8	1/4

REFERENCES

Guidance, Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies, U.S. Department of Health and Human Services, Food and Drug Administration Center for Drug Evaluation and Research (CDER), December 2001, Procedural

SMALLPOX VACCINE

GENERAL INFORMATION

Dr. Edward Jenner discovered a vaccine that would protect against smallpox in 1796; the vaccine was derived from the cowpox virus and a related strain is in use today

The last case of smallpox occurred in 1977, the United States discontinued vaccination in 1972, and smallpox was declared eradicated in 1980; since smallpox vaccination does not confer lifelong immunity, the vast majority of the population is not currently immune to smallpox

After exposure to smallpox, it takes between 7-17 days for symptoms of smallpox to appear (average incubation 12-14 days) during which time the infected person feels well and is not contagious

Immunity provided by the smallpox vaccine typically develops within 8 to 14 days, but vaccine can be given up to 3 days after exposure in order to prevent the development of disease

Smallpox is a potential threat as a biological weapon for the following reasons:

- Smallpox is infectious when inhaled and has the potential to infect large groups of people because it can be disseminated as an aerosol
- Smallpox is highly infectious, even in low doses, and is transmitted from person-to-person; however, it is less contagious than measles, influenza, or varicella
- Smallpox infection can be fatal in up to 30% of cases

Vaccine Precaution:

- Smallpox vaccine is made from live vaccinia virus
- Unlike other current immunizations, smallpox vaccination is characterized by a virus that propagates in the skin and can potentially contaminate the vaccinee's hands or the skin and mucosa of others with whom the vaccinee comes into contact
- Vaccinia virus is present at the vaccine site 3 to 4 days after vaccination
- The vaccine site should be considered infectious until the scab falls off
- General rules for vaccination with a live virus should be applied, i.e., vaccinations using live viruses should be separated by 4 weeks if not given simultaneously
- Vaccinations may be given simultaneously except for varicella
- Vaccinated persons should avoid taking steroids for 2 weeks after administration of smallpox vaccine

Vaccine Handling and Storage:

- Keep at 2-8° C or 35-46°F when transferring; do not place ice directly on vial (use barrier between)
- **Mix vaccine according to package insert and mark date when opened**
- **Do not shake** following reconstitution but gently swirl the vaccine to insure adequate mixture (limit loss of doses through contact with stopper)
- Vaccine can stay at room temperature for the duration of the smallpox clinic

When rubber stopper is removed prior to using vaccine, keep in a safe, clean space (e.g., screw top bottle, zip lock bag)
During clinic, place vaccine bottle in stabilizer to prevent spills, and place on plastic chux
Any vaccine spills should be cleaned in accordance with infectious control guidelines
Following smallpox clinic, any remaining vaccine should be returned to the refrigerator in bottle stabilizer and kept at 2-8° C or 35-46°F; empty vials should be placed in sharps container
Reconstituted vaccine must be used within 90 days

CANDIDATES FOR VACCINATION:

Routine Non-emergency Vaccination (No Outbreak, Pre-event Vaccination)
Public health, hospital, and other personnel, between 18 and 64 years of age, who may have to **respond to a smallpox case or outbreak**
Laboratory workers who handle cultures or animals contaminated or infected with vaccinia or other related viruses (e.g., monkeypox, cowpox, variola)

Emergency Vaccination (Smallpox Outbreak, Post-event Vaccination)
Anyone **directly exposed** to smallpox virus should get one dose of vaccine as soon as possible after exposure
Anyone **at risk of exposure** to smallpox virus should get one dose of vaccine when the risk occurs or becomes known

CONTRAINDICATIONS TO VACCINATION:

THERE ARE NO ABSOLUTE CONTRAINDICATIONS FOR PERSONS WHO ARE EXPOSED, OR AT RISK OF EXPOSURE, TO SMALLPOX; IN A POST-EVENT SITUATION, SPECIFIC GUIDANCE WILL BE PROVIDED BY THE CDC

Contraindications to vaccination for the INDIVIDUAL taking the vaccine (PRE-EVENT)

ALLERGY:
Polymyxin B sulfate
Streptomycin sulfate
Chlortetracycline hydrochloride
Neomycin sulfate
Phenol
Glycerin
Serious allergic reaction to previous smallpox vaccination
Extreme latex allergy (anaphylaxis)

ILLNESS:
Acute to moderate illness (e.g., flu)

AGE:
Less than18 years or over 64 years of age

BREAST FEEDING

HEART DISEASE[2]:
Do not give if diagnosed with a **heart condition, with or without symptoms**, including:
- Known coronary disease (previous myocardial infarction, angina)
- Congestive heart failure
- Cardiomyopathy
- Stroke or transient ischemic attack
- Chest pain or shortness of breath with activity
- Other conditions under the care of a doctor

Do not give if the individual has **3 or more of the following risk factors**:
- High blood pressure
- High cholesterol
- Diabetes
- First-degree relative with heart condition prior to the age of 50
- Smokes cigarettes

Contraindications to Vaccination in either the INDIVIDUAL taking the vaccine OR HOUSEHOLD MEMBERS (PRE-EVENT)

PREGNANCY
Query all females of childbearing age as to current, suspected, or planned pregnancy

IMMUNODEFICIENCY
Includes any disease with immunodeficiency, congenital or acquired, as a component:
- HIV Infection
- AIDS
- Many cancers
- Lupus

IMMUNO-SUPPRESSIVE THERAPY:
- Cancer treatments
- Organ/transplant maintenance
- Steroid therapy ≥ 2mg/kg/day or ≥ 20mg/day x 14 days (wait 3 months after steroid therapy to receive vaccine)

ECZEMA:
History or presence of eczema, (including "healed" eczema) or atopic dermatitis

[2]The presence of these conditions in a close contact is not a reason to defer vaccination

SKIN DISORDERS

Currently active, acute or chronic skin conditions that cause multiple areas of broken skin):

- Severe Acne
- Recent Burns
- Wounds or current (non-healed) surgical incisional wounds
- Acute contact dermatitis
- Varicella
- Allergic rash
- Impetigo
- Psoriasis
- Darier's disease (a chronic, hereditary skin disease, placing individual at risk of developing eczema vaccinatum)

Anticipated Normal Vaccine Reaction:

DAY	DESCRIPTION	AVERAGE SIZE
0	Vaccination	
3-4	Papule (red and itchy)	11-15 mm
5-6	Vesicle with surrounding erythema, Vesicle with depressed center	16-24 mm
8-9	Well-formed pustule	12 mm
12+	Pustule crusts over and forms a scab	
17-21	Scab detaches revealing scar	

Normal Vaccine Side Effects:

- Soreness at the vaccination site
- Erythema surrounding the vaccination site (a normal reaction may be as large as 3 inches)
- General malaise
- Lymphadenopathy (local, usually in the vaccine site arm)
- Myalgia, headache, chills, nausea, fatigue
- Fever 7-12 days after vaccination
- Rash around 10th day (resolves spontaneously in 2 to 4 days)

Normal Variants (not adverse events and require no specific treatment):

- Satellite lesions around vaccination site (limited)
- Lymphangitis from the site to regional nodes
- Regional lymphadenopathy
- Considerable local edema at the site
- Intense erythema (viral cellulitis)

Adverse Events (true adverse events and referral required):

- Allergic hypersensitivity to any component of the vaccine

Post-Vaccinial Encephalitis (10-14 days post-vaccination, headache, vomiting, drowsiness, fever)
Ataxia, convulsions, paralysis, or confusion
Accidental implantation (extensive satellite lesions, eye involvement)
Bacterial infection (Staphylococcus aureus, Group A beta Hemolytic Streptococcus, anaerobic organisms)
Generalized Vaccinia (multiple lesions within a week, rapid evolution to scarring)
Eczema Vaccinatum (implantation of vaccinia virus into diseased skin)
Erythema Multiforme (toxic and/or hypersensitivity rashes 1-2 weeks post-vaccination)
Progressive Vaccinia (failure to heal, rapid local spread and by viremia to other parts of the body)
Vaccinia Keratitis (viral replication with ulceration of cornea)

PLAN

Evaluate individual receiving vaccine for the presence of any contraindications, including contraindications for household members; THERE ARE NO ABSOLUTE CONTRAINDICATIONS FOR PERSONS EXPOSED, ORAT RISK OF EXPOSURE, TO A CASE OF SMALLPOX
Vaccine candidates must read pre-vaccination materials and sign consent form

Vaccine Administration:

Persons should be vaccinated in the deltoid area of the upper, non-dominant arm (avoiding previous smallpox scar)
Do not clean vaccine site prior to administration unless grossly contaminated; if vaccine site is grossly contaminated, clean with soap and water and completely dry with gauze prior to administration
With gloved hand, pull skin taut
Being careful not to contaminate the point, dip bifurcated needle into the vaccine, withdraw and hold for a few seconds to allow drainage of excess vaccine
Inspect needle tip after dipping in vaccine to assure that vaccine is present between the prongs of the bifurcated needle
For a **PRIMARY** vaccination (individual has not been previously immunized against smallpox as determined by history or lack of smallpox scar), prick the skin **3 times** within a 5 mm area, applying enough pressure during vaccine administration to produce trace amounts of blood that is visible in 10 to 20 seconds after giving the vaccine; if no blood is seen, prick the skin 3 more times (DO NOT REDIP THE NEEDLE INTO THE VACCINE AFTER SKIN CONTACT HAS BEEN MADE)

For **SECONDARY** vaccination (individual has been previously immunized against smallpox as determined by history or presence of smallpox scar), prick the skin **15 times** within a 5 mm area, applying enough pressure during vaccine administration to produce trace amounts of blood that is visible in 10 to 20 seconds after giving the vaccine; (do not prick again, even if no blood is seen)

For **REVACCINATION** (following a non-take), give the same number of sticks as was given at the initial vaccination

Wipe off excess vaccine at the immunization site with gauze

Dispose of needle in sharps container and gauze in a hazardous waste receptacle

Cover site with 2x2 gauze and semi permeable dressing[3] (e.g., Tegaderm™, OpSite™, SureSite™)

Change gloves and wash hands with warm soapy water or hand rub containing ≥60% alcohol between each vaccination

Successful vaccination will be indicated 6-8 days after vaccination by a clear-cut pustule OR an area of definite induration or congestion surrounding a central lesion that may be a scab or ulcer

An equivocal reaction, or non-take, includes any other reaction/response (e.g., "allergic" reaction) or no reaction; REVACCINATION IS INDICATED IN ALL PERSONS WITH AN EQUIVOCAL REACTION

It should be noted that appropriate vaccination techniques might sometimes result in no reaction

If no reaction occurs by 8th day, schedule an appointment for revaccination as soon as possible (if possible use a different vial and avoid previous vaccination site)

No further attempts should be made following a second unsuccessful immunization

Health Teaching:

Inform patient of the expected effects of the vaccine (see Anticipated Normal Reaction under General Information)

Educate patient on proper care of vaccine site because it is important to prevent dissemination of the vaccinia virus from the vaccination site to other parts of the vaccinee's body or to others

Educate patient on good hand washing technique while handling vaccine site covering

Counsel patient to **avoid becoming pregnant for 4 weeks** after vaccination

Counsel patient to **avoid donating to blood banks until scab has fallen off**

Advise vaccinees and/or guardians with regards to the following:

Keep the vaccination site covered for 21 days or until scab separates and comes off; gauze (loosely taped) is recommended

Change the vaccination site covering every 3-5 days or when the bandage becomes wet, soiled, or is loose

Discard the vaccination site covering carefully (the covering contains viable virus and can spread the infection to others) by enclosing the gauze in a plastic bag that can be sealed prior to placing it in a trash receptacle

Always thoroughly wash hands with soap and running water after handling the vaccination site covering

[3]Semi permeable dressing required for health care workers having direct patient contact

Avoid touching, scratching, rubbing or otherwise performing any maneuvers that might transfer vaccinia virus to the eye or surrounding skin; encourage patient to wear long sleeves to avoid scratching site and as an extra barrier
Counsel regarding use of OTC ibuprofen and benadryl for pain and itching
Avoid placing any type of ointment or ice on the vaccination site
Cover the site with non-permeable material while bathing and for medical persons while in direct contact with patients
Avoid hot tubs and swimming pools for 2 weeks following vaccine administration
Wash linens and clothing that come in contact with vaccine site in hot water using detergent and/or bleach
Avoid taking steroids for 2 weeks following vaccination
Vaccination site must be evaluated (by medical personnel) for vaccine take on 6th, 7th or 8th day

Referral Indicators:

Allergic hypersensitivity to any component of the vaccine
Unusual side effects or adverse events as listed under "Adverse Events" in "General Information" section
Chest pain, shortness of breath, or other **symptoms of cardiac disease** following vaccination should be **referred immediately**
If side effects occur, notify Hospital Appointed Physician (HAP) and Tennessee Department of Health Adverse Events Coordinator (615-741-7247) immediately, and complete VAERs form

Follow-up:

Daily site-care checks (for all those having direct patient contact)
Evaluations on day 6, 7, or 8 for successful vaccination take
Appointment for revaccination as indicated (if no reaction occurs)
Follow-up at 21-28 days to assure absence of advent events

REFERENCES

Smallpox Vaccine Information Statement, U.S. Department of Health and Human Services Centers for Disease Control and Prevention National Immunization Program (1/16/03)

Smallpox Vaccination Pocket Guide, U.S. Department of Health and Human Services Centers for Disease Control and Prevention National Immunization Program

U.S. Department of Health and Human Services Centers for Disease Control and Prevention, Web site, http://www.bt.cdc.gov/agent/smallpox/index.asp

APPENDICES

A. ADDITIONAL IMMUNIZATION INFORMATION
7.010

B. LIST OF STANDARD ABBREVIATIONS
7.020

MEDICATION ADMINISTRATION
(How To Avoid Medication Errors)
Follow The Five Rights of Medication Administration

General Information
As nurses, we must do our part to observe basic rules we learned in nursing school to avoid medication errors. It is important that all nurses follow the **Five Rights of Medication Administration:** 1) Right Patient 2) Right Route 3) Right Dose 4) Right Time 5) Right Medication. Never take shortcuts with your license!

The Right Patient

Can you identify this patient? Don't assume you know who the patient is. Check the patient's identity and address the patient by name before administering the medication.

The Right Route

Be sure you know the prescribed route by which a medication is to be administered. Administering vaccines by the recommended route is imperative. Deviation from the recommended route of administration might reduce vaccine efficacy or increase the risk of local reactions.

The Right Dose

Does this dose make sense for your patient? Be sure you know the prescribed dose before administering a medication.

The Right Time

To achieve maximum therapeutic effectiveness, medications are scheduled to be administered at specific times. To ensure optimal results from each immunization, always follow the currently recommended immunization schedules for children, adolescents, and adults, including the catch-up schedule, when appropriate. Administering doses earlier than minimum intervals or minimum ages may interfere with the vaccine's antibody response and result in the need to repeat the dose at an appropriate time.

The Right Medication

Always check the medication order and check it against the medication label. **Check Expiration Date Before Use.**

VACCINES AND ROUTE OF ADMINISTRATION

VACCINES	ROUTE
Diphtheria, Tetanus, Pertussis (DTap, DT, Tdap, Td)	IM
Haemophilus influenzae type b (HIB)	IM
Hepatitis A (HepA)	IM
Hepatitis B (HepB)	IM
Herpes Zoster (Shingles)	SC
Human papillomavirus (HPV)	IM
Influenza, live attenuated (LAIV)	Intranasal spray
Influenza, inactivated seasonal (IIV)	IM
Measles, mumps, rubella (MMR)	SC
Meningococcal, conjugated (MCV4)	IM
Meningococcal, polysaccharide (MPSV4)	SC
Pneumococcal conjugate (PCV13)	IM
Pneumococcal, polysaccharide (PPSV23)	IM or SC
Polio, inactivated (IPV)	IM or SC
Rotavirus	Oral
Varicella	SC
COMBINATION VACCINES	
DTaP+HepB+IPV (Pediarix)	IM
Hib+HepB (Comvax)	IM
DTaP + IPV (Kinrix)	IM
DTaP + IPV+ Hib (Pentacel)	IM
HepA + HepB (Twinrix)	IM
Rabies, Preexposure	IM

Intramuscular (IM)
Subcutaneous (SC)

REFERENCE

Centers for Disease Control and Prevention, Epidemiology and Prevention of Vaccine-Preventable Diseases. Atkinson W, Wolfe S, Hamborsky J, eds. 12th ed. Washington DC: Public Health Foundation, 2011.

How to Administer Intramuscular (IM) Injections

Administer these vaccines via intramuscular (IM) route: Diphtheria-tetanus (DT, Td) with pertussis (DTaP, Tdap); Hib; hepatitis A; hepatitis B; human papillomavirus (HPV); inactivated influenza; meningococcal conjugate (MCV4); and pneumococcal conjugate (PCV). Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPV) either IM or SC.

Patient age	Site	Needle size
Birth to 12 mos.	Anterolateral thigh muscle	5/8"* needle (newborns only), 1" (older infants), 22–25 gauge
12 mos. to 10 yrs.	Thickest portion of deltoid muscle—above level of axilla and below acromion (if adequate muscle mass). The anterolateral thigh may also be used.	5/8"*† to 1" needle, 22–25 gauge
Children and adults 11 yrs. and older	Thickest portion of deltoid muscle—above level of axilla and below acromion	1"–1½"*† needle, 22–25 gauge

*A 5/8" needle can be used if the skin is stretched tight and the subcutaneous tissue is not bunched.
†A 5/8" needle may be used in the deltoid muscle in children ages 12 mos. or older and in adults weighing less than 130 lbs.

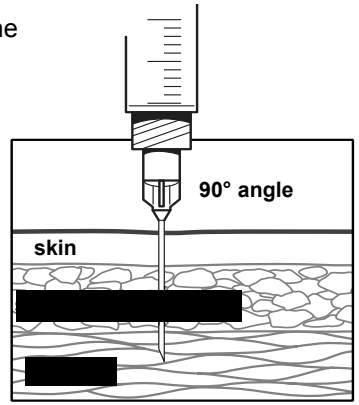
Needle insertion

Use a needle long enough to reach deep into the muscle.

Insert needle at a 90° angle to the skin with a quick thrust.

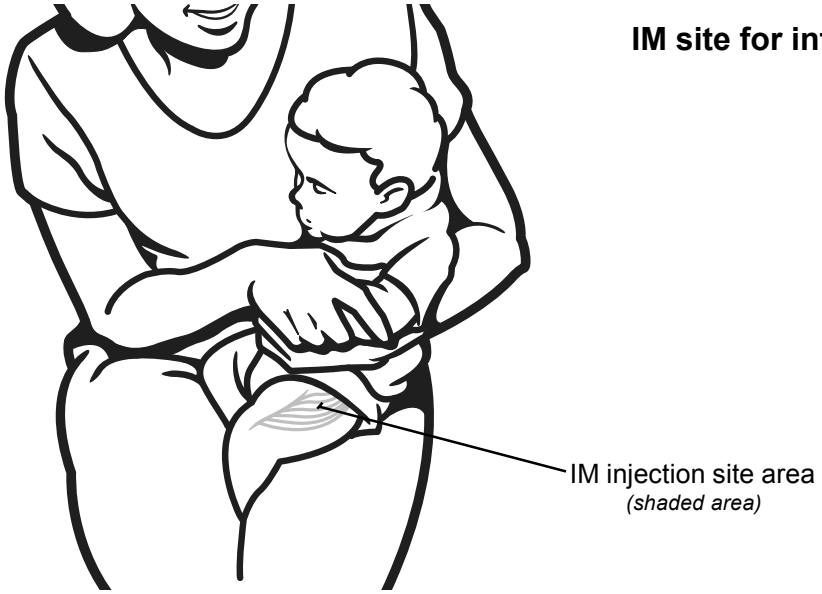
(Before administering an injection, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.¶)

Multiple injections given in the same extremity should be separated by a minimum of 1", if possible.



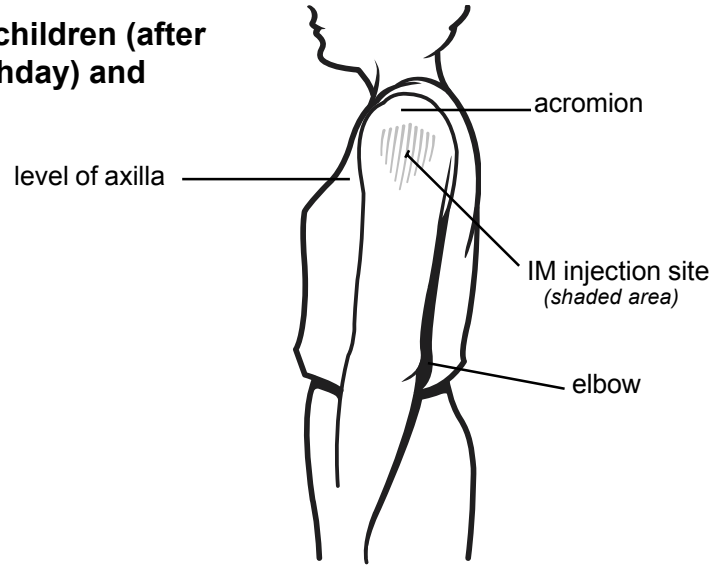
¶CDC. "ACIP General Recommendations on Immunization" at www.cdc.gov/nip/publications/ACIP-list.htm.

IM site for infants



Insert needle at a 90° angle into the anterolateral thigh muscle.

IM site for children (after the 1st birthday) and adults



Insert needle at a 90° angle into thickest portion of deltoid muscle—above the level of the axilla and below the acromion.

Technical content reviewed by the Centers for Disease Control and Prevention, Jan. 2007.

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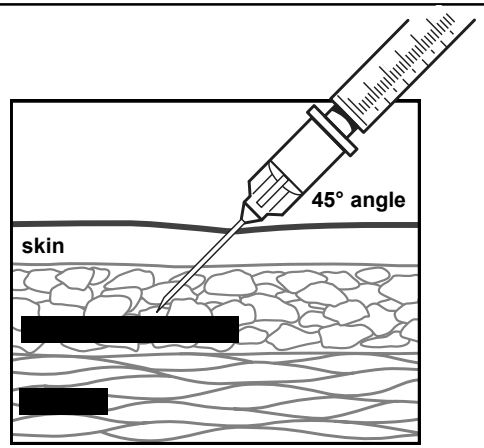
How to Administer Subcutaneous (SC) Injections

Administer these vaccines via subcutaneous (SC) route: MMR, varicella, meningococcal polysaccharide (MPSV), and zoster (shingles). Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPV) vaccines either SC or IM.

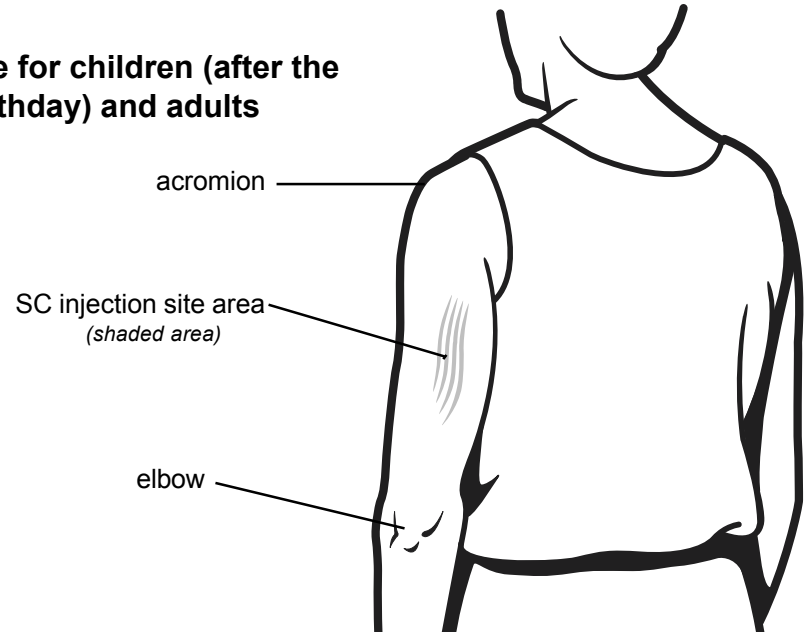
Patient age	Site	Needle size	Needle insertion
Birth to 12 mos.	Fatty tissue over the anterolateral thigh	5/8" needle, 23–25 gauge	Pinch up on SC tissue to prevent injection into muscle. Insert needle at 45° angle to the skin. (Before administering an injection, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.*) Multiple injections given in the same extremity should be separated by a minimum of 1". *CDC. "ACIP General Recommendations on Immunization" at www.cdc.gov/nip/publications/ACIP-list.htm.
12 mos. and older	Fatty tissue over the triceps	5/8" needle, 23–25 gauge	



SC site for infants

Insert needle at a 45° angle into fatty tissue of the anterolateral thigh. Make sure you pinch up on SC tissue to prevent injection into the muscle.

SC site for children (after the 1st birthday) and adults



Insert needle at a 45° angle into the fatty tissue over the triceps muscle. Make sure you pinch up on the SC tissue to prevent injection into the muscle.

Technical content reviewed by the Centers for Disease Control and Prevention, Jan. 2007.

www.immunize.org/catg.d/p2020.pdf • Item #P2020 (1/07)

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EMERGENCY SUPPLIES AND EQUIPMENT

Emergency supplies and equipment will be kept in an accessible, easily identifiable location in the clinical setting. Following PHN Protocol, the emergency kit will be used in events including, (but not limited to) the following: anaphylaxis, syncope, vasovagal reactions, cardiac arrest, shock, hemorrhage, respiratory distress and precipitous labor and delivery. Clinical staff should be aware of the location and use of this equipment.

- ✓ The emergency kit and oxygen equipment will be at the site of an emergency with in one – two (1 - 2) minutes.

- ✓ A system must be in place for monthly inventory and maintenance (including removal/replacement of expiring supplies) of equipment and supplies.

Each clinical setting will have the appropriate equipment and supplies:

- ❖ Oxygen supplies and equipment:
  - ➢ Oxygen tank, with gauge and valve (Check monthly)
  - ➢ Face mask, ventilating, with oxygen inlet ports suitable for adult and pediatric use, with head strap
  - ➢ Oxygen tubing, tank to mask

- ❖ Pharmaceuticals:
  - ➢ Aspirin 325mg tab (at least 5 doses)
  - ➢ Diphenhydramine (Benadryl) injection 50/mg/ml(at least 2 doses)
  - ➢ Epinephrine HCI (Adrenaline) injection 1:1000 (at least 5 doses)

- ❖ Personal Protective equipment:
  - ➢ Goggles
  - ➢ Masks/shields
  - ➢ Gloves (no latex, powder free)
  - ➢ Mouth to mask disposable resuscitative mask
  - ➢ Gown

- ❖ Supplies:
  - ➢ Airways, oral; infant #3 (small), #4 (medium), #5 (large)
  - ➢ Alcohol packets
  - ➢ Bandage scissors
  - ➢ Blood pressure cuff, (pediatric, adult and extra large)
  - ➢ Bulbs, irrigation, sterile
  - ➢ Cotton swabs
  - ➢ Flashlight with extra batteries
  - ➢ Gauze pads, sterile and bandages
  - ➢ Stethoscope (pediatric and adult)
  - ➢ 50 cc irrigating bulb
  - ➢ Tape, adhesive, cloth and paper
  - ➢ Tongue blades
  - ➢ Syringes, (sterile)

- 3cc with 25g x 5/8 inch needle
- 3cc with 23g or 21 g x 1 ½ inch needle
- Tuberculin with needle

- Emergency childbirth kit[1] (minimum supplies):
  - Cord clamp or tie, sterile
  - Scissors, sterile
  - Baby blanket, x1 each
  - Kelly clamp
  - Surgical gloves, (non-latex)

[1]Emergency childbirth supplies may be purchased as one complete kit that includes the supplies listed or purchase the supplies separately

GENERAL MEDICAL 3.0

Pharmaceutical Maintenance and Issuance – 3.03

Department of Health Pharmaceutical Management – 3.03.b

Date Issued: August 18, 2015

Date Last Revised:

Signature:

By:

Leslie Humphreys, MPA
Assistant Commissioner
Division of Community Health Services

POLICY
The Department of Health Regional Pharmacy Directors are licensed with the Tennessee Board of Pharmacy. The Regional Pharmacy Director shall be responsible for maintaining, securing, and accounting for medications in the Regional Pharmacy. The Regional Pharmacy Director will direct the management of inventories in the local health department clinics and supervise the implementation of the policy. Health Department Regional pharmacies and clinics will adhere to internal control standards.

APPLICABILITY
This policy applies to all Health Department Regional Pharmacies and clinics.

PURPOSE
To provide internal control standards for all Regional Health Department Pharmacies and Health Department clinics.

PROCEDURE
CONTROL ENVIRONMENT

1. The Regional Pharmacy Director will maintain records in the Regional Pharmacy that will show the following: products ordered and received by Regional Pharmacy, stock levels of products in the Pharmacy using a perpetual inventory system, and medications supplied to clinic sites. These records shall be retained for a period of three (3) years.

2. The Regional Pharmacy will periodically review the current stock and usage of each clinic, and re-supply appropriate quantities of products to the clinics based on usage and clinic requests. Any medications shipped to clinics from the Regional Pharmacy will be entered into the system by the Regional Pharmacy as they are shipped. Any products ordered by Pharmacy and shipped directly from a vendor to the clinics will be entered into the system appropriately at the Regional Pharmacy as soon as the reconciled packing slip/invoice is scanned by the clinic site and received by Regional Pharmacy.

   If it is anticipated that a pharmaceutical stocked in a clinic will not be used/issued prior to the expiration date, the Nursing Supervisor will contact the Regional Pharmacy Director to determine if the product may be relocated for use prior to the expiration date. Arrangements for transferring pharmaceuticals may be made between clinic sites by local clinical staff. The Regional Pharmacy Director will be included in such communications at all times. The inventory in the system will be adjusted after product is transferred and transfer documents are scanned and received by the Regional Pharmacy. Clinics are responsible for retaining pharmaceutical transfer records for a period of one (1) year.

3. All pharmaceuticals will be stored by lot number and expiration date so that the stock with the shortest expiration date may be distributed, administered, or issued first. All products shall be stored according to manufacturer recommendations. If the Regional Pharmacy receives any pharmaceuticals with an unreasonably short expiration date, or a date shorter than acceptable according to statewide contract with the source, appropriate action will be taken to return the products for credit or for replacement with more reasonable expiration dates.

   Any outdated pharmaceuticals in the Regional Pharmacy shall be segregated from other pharmaceuticals in a container marked “DO NOT USE”. Outdated products will be appropriately processed for shipment to the currently contracted reverse distributor through the appropriate wholesaler accounts.

4. When there is a medication recall, the Regional Pharmacy Director will check the Regional Pharmacy records confirming receipt of the affected medication. If confirmed, the Nursing Supervisor in each potentially affected clinic within the Region will be contacted immediately to check current stock for any of the affected medication. If the clinic has any affected stock, the Nursing Supervisor will immediately remove it from the stock, and return it to the Regional Pharmacy for appropriate processing.

5. Physicians, Nurse Practitioners, Public Health Nurses, and Licensed Practical Nurses are the only staff authorized to label and issue medications and related pharmaceutical supplies. The provider must be knowledgeable of the adverse effects and possible complications associated with each medication issued, and share this information with the patient or caregiver as appropriate.

   All medications and State-purchased vaccines will be ordered by the corresponding Regional Pharmacy. Over-the-counter products (OTCs), oral contraceptives (OCs),

and administered injectable medications will be ordered and shipped directly to the clinic from the State-contracted source. Labels for issuing the OCs to the patients will be adhered to the medication packaging in a location that allows the original lot number and expiration to be read.

All medications issued to patients will be labeled with the patient name, provider name, issue date, medication name, dose, quantity, and instructions for administration prior to issuing. Only child-proof capped, amber containers shall be used for medications that are repackaged. The one exception is nitroglycerin sublingual, which will not have a child-proof cap. All medications issued will be recorded in the computer system in order to maintain an accurate perpetual inventory.

Control Activities

1. The Nursing Supervisor is responsible for inventorying, requesting, storing, handling, and issuing of all medications in the clinic. He/she may designate appropriate staff to assist in this responsibility. Packing slips/invoices received with medications will be reconciled with the shipment, and any discrepancies noted on the packing slip/invoice. The Regional Pharmacy will be notified immediately of any discrepancy in the order. All packing slips/invoices will be signed, dated, and scanned to the Regional Pharmacy as soon after shipment arrival as possible. The original document will be maintained at the clinic site for a period of one (1) year.

2. The Regional Pharmacy will be locked at all times in the absence of the Pharmacist or Pharmacy Technician. Access to the Pharmacy will be secured by use of locks and alarm systems and/or security guards according to State rules and regulations.

   All pharmaceuticals in the clinic sites will be stored in a designated locked cabinet or medication room with access limited to specifically authorized personnel. The Nursing Supervisor is responsible for the security and control of all medications and related pharmaceutical supplies at the clinic. In the event of loss of key/ access card to a medication room, the person responsible will immediately notify their supervisor and a new lock will be installed or access entry changed as appropriate on the medication room door to avoid unauthorized access. If there is a code entry to the medication room, the code will be changed periodically to avoid potential unauthorized entry. A refrigerator and freezer will be available for storage of pharmaceuticals requiring refrigeration and freezing. The refrigerator and freezer will be secured at all times.

Monitoring

1. Each clinic Nursing Supervisor is responsible for assuring the monitoring of expiration dates of all pharmaceuticals within the clinic. This includes inspecting the expiration dates of all medications and vaccines stored in the clinic on at least a monthly basis.

2. Any unopened expired medications or vaccines will be removed from stock and placed in a container marked “OUT OF DATE – DO NOT USE” in the medication storage room. Expired unopened medications and State-purchased vaccines will

be returned to the Regional Pharmacy as soon as possible. Once the medications are received, Regional Pharmacy will adjust the clinic inventory in the system to reflect the returned quantities. Expired unopened Federal vaccines will be managed according to current guidance from the State Immunization Program. In Regions without an on-site Regional Pharmacy Director, there will be a system implemented by the Regional Medical Director to assure that unopened expired pharmaceuticals are properly separated from unexpired stock and returned to a secured Regional location for appropriate processing. Pharmaceuticals will not be administered or issued after the expiration date on the label. The expiration date of a product that is issued to a patient must not be reached prior to the completion of the patient regimen for the quantity used.

3. If a refrigerator or freezer in a clinic has a temperature excursion, all pharmaceuticals will be transferred to a refrigerator or freezer designated as a back-up for such a situation and placed in a container marked "DO NOT USE". The clinic will notify the Regional Pharmacy Director of the product(s), lot number(s), expiration date(s), and quantity(ies) affected; the temperature extreme experienced; and the timespan of the excursion. If vaccine products are affected, the clinic will follow the Tennessee Immunization Program (TIP) notification procedures for advice on viability of vaccine products. The Regional Pharmacy Director will be included in the communications with the TIP.

   The Regional Pharmacy Director will contact the manufacturer(s) of non-vaccine affected product(s) to assess potency and receive guidance of any adjustment in expiration date. The Pharmacy Director will then provide this guidance to the Nursing Supervisor or designee.

   The TIP representative will contact the manufacturer(s) of vaccine products and provide guidance on need for disposal of product, assess potency and receive guidance of any adjustment in expiration date. The Regional Pharmacy Director will be included in the communications with the TIP.

   If a product is given a shorter expiration date, the Pharmacy Director/TIP representative will provide the guidance in an email to the clinic Nursing Supervisor or designee. With this information, a single thin line will be drawn through the original date on the label/packaging. "New" and the new expiration date will be clearly written on the label/packaging and initialed by the nurse making the change. The email guidance will be printed and filed in the clinic medication room. If the manufacturer recommends not using a product, any opened containers will be appropriately discarded at the clinic site. The TIP representative will provide guidance for any Federal Vaccine. Any unopened containers of State-purchased vaccine or non-vaccine product will be promptly returned to the Regional Pharmacy for appropriate processing.

   The Regional Pharmacy Director will be apprised of actions taken with all inventory.

4. In the event that a pharmaceutical expiration date is extended by the Food and Drug Administration (FDA) by issue of an Abbreviated New Drug Application

(ANDA), use of medication beyond the initial expiration date requires that a copy of the appropriate ANDA be maintained in the clinic medication room with the product for the extended time period. A copy of the appropriate ANDA will also be filed in the Regional Pharmacy.

5. Health Department clinics will conduct a physical inventory of all medications at least quarterly. All discrepancies between the perpetual and physical inventory will be analyzed jointly by clinic staff and the Regional Pharmacy Director to determine if corrective action is indicated. The discrepancies and corrective action will be forwarded to the Nursing Supervisor, County Director, Regional Nursing Director, Regional Pharmacy Director, Regional Medical Director, and Regional Director of the affected clinic.

6. An annual inventory of products in the Regional Pharmacy will be performed with an internal auditor on a date specified by Central Office personnel in Nashville.

REFERENCE DOCUMENTS

1. Tennessee Code Annotated - Title 63: Professions of the Healing Arts; Chapter 10: Pharmacy; Part 2: Pharmacy Practice: 63-10-205.

2. Rules of the Tennessee Board of Pharmacy, Chapter 1140-9: Manufacturers and Wholesalers; Part .05: Minimum Requirements for Operation, 1140-9-.05.

3. 21 Code of Federal Regulations 1304.04 - Maintenance of Records and Inventories.

4. Tennessee Code Annotated - TITLE 9: Public Finances; Chapter 18: Financial Integrity Act of 1983; 102: Internal Controls - Management Assessment of Risk, 9-18-102.

5. Tennessee Code Annotated - TITLE 9: Public Finances; Chapter 18: Financial Integrity Act of 1983; 104: Report by Head of Executive Agency, 9-18-104.

OFFICE OF PRIMARY RESPONSIBILITY

Office of the Medical Director, Division of Community Health Services, 615-253-3407

Refer to current TN Department of Health Immunization Program guidelines for proper vaccine storage and handling.

LIST OF STANDARD ABBREVIATIONS

Revised December 2015

NOTE:

Region specific abbreviations may be used as long as they are approved by the region and are attached to the following list of approved standard abbreviations.

The use of abbreviations in standard program and laboratory manuals and Patient Tracking and Billing Management Information System (PTBMIS) are allowed.

The following Joint Commission on Accreditation of Healthcare Organization (JCAHO) prohibited abbreviations should not be used because potential for provider error:

qd /every day; qod / every other day; and U/ units

-A-

A & O	alert and oriented
Ab	abortion
Abd	abdominal, abdomen
Abn	abnormal
ac	before meals
ACHES	abdominal pain, chest pain, headaches, eye problems and severe leg pain
ADD	attention deficit disorder
ADHD	attention deficit hyperactive disorder
ad lib	as desired
ADL	activities of daily living
adm	admission, admit
AIDS	acquired immunodeficiency Syndrome
AKA	above knee amputation
ALT	anterio lateral thigh
Am	morning
AMA	against medical advice
amb	ambulatory
Amox	Amoxocillin
amp	amputation
ant	anterior
ant font	anterior fontanelle
ARDS	Acute Respiratory Distress Syndrome
ASA	aspirin
ASAP	as soon as possible
ASHD	arteriosclerotic heart disease
AUB	abnormal uterine bleeding
auth #	authorization number
AV	anteverted

- B –

BC	birth control
BCP	birth control pills
B/F	black female
BID	two times daily
Bil	bilateral
BKA	below knee amputation
BM	bowel movement
BMR	basal metabolic rate
BOM	bilateral otitis media
BS	blood sugar
-BSE	breast self exam
BSO	bilateral salpingo oophorectomy
BTB	break through bleeding
BTL	bilateral tubal ligation
BUM	back up method
BW	birth weight
BX	biopsy

- C –

C	centigrade/ Celsius
Ca	cancer
Ca+	calcium
CABG	coronary artery bypass with graft
CAD	coronary artery disease
Cal	calorie
cap	Capsule
cath	catheterization
CC	chief complaint
CCLG	Creative Curriculum Learning Games

CCU	Coronary Care Unit
CD	communicable disease
CEDEP	Communicable Environmental Disease & Emergency Preparedness
Cert	certify
CHA	Community Health Agency
CHF	congestive heart failure
CID	correction in documentation
Circ	circumcision
ck	check
CMT	cervical motion tenderness
CMV	cytomegalovirus
CNS	central nervous system
c/o	complains of
Co	county
CO_2	carbon dioxide
comp	comprehensive
colpo	colposcopy
COPD	chronic obstructive pulmonary disease
CPAP	continuous positive airway pressure
cryo	cryosurgery
C-section	cesarean section
CTA	clear to auscultation
CV	cardiovascular
CVA	cerebral vascular accident
CVAT	costo vertebral angle tenderness
Cx	cervix
CXR	chest x-ray

- D –

D & C	dilatation and curettage
dc	discontinue, discharge
DCS	Department of Children's Services
Del	delivery, delivered
delt	deltoid
dept	department
diaph	diaphragm
diff	differential
Dir	Director
disc	discussed
disp	dispensed
DM	Diabetes Mellitus
DOE	dyspnea on exertion
Doxy	Doxycycline
DTR	Deep tendon reflex
DTs	Delirium tremors
DVT	deep vein thrombosis
Dx	diagnosis
DZ	disease

- E –

E-cig/e-cig	electronic cigarettes
ECC	endocervical curettage
ED	Emergency Department
edu	education
EDC	estimated date of confinement
EDD	estimated date of delivery
EES, E-mycin	Erythromycin
EMS	Emergency Medical Services
enc	encourage
ENT	ear, nose, throat
Env	environment
ER	emergency room
eRx	e prescribe
etc	and so on
eval	evaluate
ex	example
ext	external
ETOH	alcohol

- F –

FBD	fibrocystic breast disease
FBS, FBG	fasting blood sugar or glucose
fe	female
Fe	iron
FM	fetal movement
font	fontannel
FH	fundal height
FHR	fetal heart rate
FHT	fetal heart tone
Fl	fluoride
freq	frequent
Ft	foot
FUO	fever of undetermined origin
FVA	Fluoride Varnish Application
Fx	fracture

- G –

GB	gall bladder
glu	glucose
Gr	grade
gr	grain
GSE	genital self-exam gtt drops
G_P_A_	gravida _, para _, abortion_
GYN	gynecology

- H –

H_2O	water
H_2O_2	hydrogen peroxide
HOH	hard of hearing
HA	headache
HBV	hepatitis B virus
HC	head circumference
HCTZ	hydrochlorothiazide
HCV	hepatitis C virus
HCW	health care worker
HD	health department
HDV	hepatitis D virus
HEENT	head, eyes, ears, nose, throat
HH	Home Health
HMB	heavy menstrual bleeding
hosp	hospital
hr	hour
HRT	hormone replacement therapy
HS	night, bedtime
HSM	Hepatosplenomegaly
HSV	herpes simplex virus
hyst	hysterectomy

- I -

IBW	ideal body weight
IBS	irritable bowel syndrome
ICU	Intensive Care Unit
I&D	incision and drainage
ID	intradermal or identification
IDDM	insulin dependent diabetes mellitus
i.e.	such as
IG	immune globulin
imm	immunization
in	inches
info	information
inj	injection
Ins	insurance
inst	instruct, instructed, instructions
IP	intestinal parasite
irreg	irregular
ISG	immune serum globulin
IUB	Irregular uterine bleeding
IUGR	intrauterine growth retardation
IUP	intrauterine pregnancy
IV	intravenous
IVDU	IV Drug Use

- J -

(none)

- K –

K+	potassium
KCL	potassium chloride
KUB	kidneys, ureters, bladder

- L –

L&D	labor and delivery
LAC	left antecubital
Lap	laparotomy
Lat	lateral
LD	left deltoid
LE	lower extremity
LEEP	Laser Electrosurgical Excision Procedure
LFA	left forearm
Lg	large
LG	left gluteus
LGA	large for gestational age
LGM	left gluteus medius
Liq	liquid
LLE	left lower extremity
LLL	Left Lower Lobe
LLQ	left lower quadrant
LNMP	last normal menstrual period
LSB	left sternal border
LSC	last sexual contact
LT	left thigh
LUA	left upper arm
LUE	left upper extremity
LUQ	left upper quadrant
LHD	local health department
LVM	Left voice message

- M –

m	male
Max	maximum
mcg/dl	micrograms per dilution
MCO	Managed Care
MDI	Metered Dose Inhaler
MGF	maternal grandfather
MGR	murmur, gallop, rub
MGM	maternal grandmother
mgt/mgmt	management
MH	Mental Health
MI	myocardial infarction
min	minute
misc	miscellaneous
MNT	medical nutrition therapy
mo	month
mod	moderate
mono	mononucleosis
MRSA	methicillin resistant staph aureus
mtg	meeting
MVA	motor vehicle accident
MVP	mitral valve prolapse
MTZ	metronidazole

- N –

Na	sodium
NaCl	sodium chloride
NAS	intranasal
NV&D	nausea, vomiting and diarrhea
NAD	no apparent distress
NFP	natural family planning
NGU	nongonococcal urethritis
NICU	neonatal intensive care unit
NIDDM	non insulin dependent diabetes mellitus
NKDA	no known drug allergies
nl	normal
NN	nurses notes
NOS	not otherwise specified
NPO	nothing by mouth
NRF	no refills
NRT	nicotine replacement therapy
NSAIDS	non-steroidal anti-Inflammatory drugs
Nsg	nursing
NSR	normal sinus rhythm
NSSC	normal size, shape, and contour
N/T	non tender

- O –

O_2	oxygen
O & P	ova and parasites
OB	obstetric
Oc	oral contraceptive
OCP	oral contraceptive pill
OD	overdose or right eye
OM	otitis media
Ortho	orthopedic
OS	left eye
OTC	over the counter
OU	both eyes
OV	office visit

- P –

P	pulse
PAD	Peripheral Arterial Disease
Palp	palpable
PAP	Patient Assistant Program
PC	Primary Care, phone conference/call
Pc	after meals
PCN	penicillin
PDPT	Patient delivered partner treatment
PE	physical examination
Ped	pediatric
peri	perineum
PERRLA	pupils equal, round, reactive to light and accommodation
PGF	paternal grandfather
PGM	paternal grandmother
PHBC	“Partners for Healthy Babies” curriculum
PID	pelvic inflammatory disease
pm	afternoon
PMH	past medical history
PMI	point of maximum impulse

PMS	premenstrual syndrome
pneu	pneumonia
POC	plan of care
po	by mouth
post	posterior
PPBS, PPBG	post prandial blood sugar or glucose
PPNG	penicillinase producing neiserria gonorrhea
Preg	pregnant
Pres Elig	presumptive eligibility
PRN	as needed
Prog	program
PROM	premature rupture ofmembranes
PSVT	paroxysmal supraventricular tachycardia
PT	physical therapy or pregnancy test
p/u	pick up
PUD	peptic ulcer disease
Pul	pulmonary
pvt	private
psych	psychiatric

-Q-

q	every
q ___h	every ___ hours
QID	four times a day

- R –

R or RR	respirations
RA	rheumatoid arthritis
RAC	right antecubital
RD	right deltoid
RDS	respiratory distress syndrome
re	regarding
Re	re-check
rec'd	received
rev'd	reviewed
recert	recertify, recertification
reg	regulation, regular
rehab	rehabilitation
resp	respiratory
req	request
RF	refill
RFA	right forearm
RG	right gluteus
RGM	right gluteus medius
Rh	serological blood grouping factor
RLE	right lower extremity
RLL	Right Lower Lobe
RLQ	right lower quadrant
r/o	rule out
ROI	release of information
ROM	range of motion
Rpt	repeat
RRR	regular rate rhythm
R/S	resupply
RSB	right sternal border
r/t	related to
RT	Right Thigh
RTC	return to clinic
RTPC	return phone call
RUA	right upper arm
RUE	right upper extremity
RUQ	right upper quadrant
RV	retroverted
Rx	prescribed treatment
RxAP	prescription assistance program

- S –

SAB	spontaneous abortion
SBE	self breast exam
SCJ	squamocolumnar junction
SE	side effects
SIDS	Sudden Infant Death Syndrome
Sl	slight
Sm	small
SOB	shortness of breath
SOM	serous otitis media
s/p	status post
spec	specimen
sq	squamous
SQ/SC	subcutaneous
s/s	signs and symptoms
ST	Speech Therapy
STAT	immediately
SVD	spontaneous vaginal delivery
SVT	supraventricular tachycardia

- T –

T/ temp	temperature
T & A	tonsillectomy and adenoidectomy
tab	tablet
TAH	total abdominal hysterectomy
TC	throat culture
TCA	trichloracetic acid
TIA	transient ischemic attack
TID	three times a day
TM	tympanic membrane
TNTC	too numerous to count
TOC	test of cure
Tol	tolerated
tr	trace
trach	tracheostomy
trich	trichomoniasis
TSE	testicular self exam
TTQL	Tennessee Tobacco Quit Line
Tx	treatment

-U-

umb	umbilicus
UNK	unknown
UOQ	upper outer quadrant
URI	upper respiratory infection
US	ultrasound
UTD	up to date
UTI	urinary tract infection
UTV	unable to void

- V –

VA	Veterans Administration
vag	vaginal
VBAC	vaginal birth after caesarian section
VCF	vaginal contraceptive film
VE	vaginal exam
vit	vitamin
VM	voice mail
VO	verbal orders
Vo	vouchers only
Voc. Rehab	Vocational Rehabilitation
Vol	volume
VP	venipuncture
VRLAC	Voluntary reversible long acting contraception
VS	vital signs
vtx	vertex
VU	verbalized understanding

- W –

W/F	white female
W/M	white male
w/c	wheel chair
w/o	without

- X –

(none)

- Y -

Yd	yard

- Z -

(none)

VACCINE MANUFACTURERS

CHI	Chiron
CSL	Commonwealth Serum Laboratories
GSK	GlaxoSmithKline
MBL	Massachusetts Biologic Labs
MI	MedImmune
MSD	Merck
NOV	Novartis
SP	sanofi pasteur
WL	Wyeth/ Lederle

CREDENTIALS/PERSONNEL

APN	Advanced Practice Nurse
BA	Bachelor of Arts
BFPC/BFC	Breast Feeding Pear Counselor
BS	Bachelor of Science
BSN	Bachelor of Science in Nursing
BSW	Bachelor of Social Work
CA	Counseling Assistant
CC	Care Coordinator
CDA	Child Development Aide
CNA	Certified Nursing Assistant
CNM	Certified Nurse Midwife
DA	Dental Assistant
DDS	Dentist
DH	Dental Hygienist
DIS	Disease Intervention Specialist
DO	Doctor of Osteopath
Dr.	Doctor
EMT	Emergency Medical Technician
HE	Health Educator
IBCLC	International Board Certified Lactation Consultant
LC	Lactation Consultant
LCSW	Licensed Clinical Social Worker
LDN	Licensed Dietitian/Nutritionist
LPN	Licensed Practical Nurse
LMSW	Licensed Medical Social Worker
MD	Medical Doctor
MHA	Masters in Health Administration
MPA	Masters in Public Administration
MPH	Masters in Public Health
MS	Master of Science
MSSW	Master of Science in Social Work
MSN	Master of Science in Nursing
MSW	Masters in Social Work
NA	Nursing Assistant
NE	Nutrition Educator
NUTR	Nutritionist
OT	Occupational Therapist
PA	Physician Assistant
PCP	Primary Care Physician/Provider
PHN	Public Health Nurse
PHOA	Public Health Office Assistant
PHR	Public Health Representative
PHOS	Public Health Office Supervisor
PMD	Private Medical Doctor
PMP	Private Medical Provider
PTA	Physical Therapy Assistant
RD	Registered Dietitian
RN	Registered Nurse
RN,C or RN-BC	Registered Nurse, Certified
RN-ES	Registered Nurse with Expanded Skills
RPh	Registered Pharmacist
RPT	Registered Physical Therapist
SC	Social Counselor
ST	Speech Therapist
SW	Social Worker

SYMBOLS

$\overline{p}$	after
$\overline{a}$	before
&	and
@	at
~	approximate
b√	breast check
√	check, checked
Δ	change
°	degree
=	equal
q	every
♀	female
’	foot
>	greater than
≥	greater than or equal to
↑	high, elevated, above, increase
"	inches
Ⓛ	left
<	less than
≤	less than or equal to
↓	low, decreased, below
♂	male
Ⓜ	murmur
Ø or O	no or normal
#	number
⊖	negative
/	per
%	percent
1º	primary
+ or ⊕	positive
?	question
Ⓡ	right
2º	secondary
$\overline{c}$	with
$\overline{s}$	without
X	times
∴	therefore

PROGRAM ABBREVIATIONS

WIC

A

Amt	amount
Abx	antibiotics
appt	appointment
AGC	Automated Growth Chart

B

Ba	Baby
Bac	bacon
BLT	bacon, lettuce, tomato sandwich
BK	baked
Bis	biscuit
BG	Blood Glucose
B/P or BP	Blood Pressure
BMI	Body Mass Index
BoF	Bottle Feeding
BM	bowel movement
brd	bread
BF	Breastfeeding
BFPC or PC	Breastfeeding Peer Counselor

C

Cal	calorie
Carb	carbohydrate
CVV	Cash Value Vouchers
Cer	cereal
CLC	Certified Lactation Counselor
C-Section	Cesarean Section
Δ	change
ch	cheese
CB	cheeseburger
Chix	chicken
Choc	chocolate
Chol	cholesterol
cigs	cigarettes
CPA	Competent Professional Authority
Conc	concentrate
cont	continue
crax	crackers
crm	creamed
c	cup

D

DOB	Date of Birth
d	day or daily
DCS	Department of Children Services
DHS	Department of Human Services
DBE	Designated Breastfeeding Expert
dev	development
Dx	diagnosis
DTR	Dietetic Technician, Registered
D/C	discharge

E

ed	education
EoE	Eosinophilic Esophagitis
EG	Eosinophilic Gastroenteritis
Esp	especially
EDD	Estimated Date of Delivery
EBF	Exclusive Breastfeeding
EBM	Expressed Breast Milk

F

FTT	Failure to Thrive
F, Fa or Dad	Father
fdg	feeding
$FeSo_4$	Ferrous Sulfate
FN	Flat Nipple
FA	Folic Acid
f/u	Follow Up
fd	food
FNS	Food and Nutrition Service
FI	Food Instruments
FF	formula-fed
FPIES	Food Protein-induced Enterocolitis Syndrome
FPIP	Food Protein-induced Proctocolitis
FF	french fries
fr	fried
frt	fruit
FBF	Fully Breastfeeding

PROGRAM ABBREVIATIONS

G

GERD	Gastroesophageal Reflux Disease
GI	gastrointestinal
G-tube	Gastrostomy tube
G. Ade	Gatorade
GDM	Gestational diabetes mellitus
GTT	Glucose tolerance test
GS	Gentle Good Start Gentle
GS	Nourish Good Start Nourish
GS	Protect Good Start Protect
GS	Soothe Good Start Soothe
GS	Soy Good Start Soy
GF	grandfather
GM	grandmother
gr beans	green beans
grd	ground
grp/grps	group or groups

H

hamb/wbun	hamburger with bun
HCP	Health Care Provider
HIPAA	Health Insurance Portability & Accountability Act
Ht	height
Hct	Hematocrit
Hgb	Hemoglobin
Hx	history
h/o	history of
hr	hour
HIV	Human Immunodeficiency Virus
HM	Human milk
HMF	Human Milk Fortifier
HTN	Hypertension

I

icecrm	ice cream
IBW	Ideal Body Weight
INP	Inappropriate Nutrition Practices
IEM	Inborn Errors of Metabolism
IVL	Income Verification Label
IBCLC	International Board Certified Lactation Consultant
IN	Inverted Nipple
Fe	Iron

J

jc	juice

K

Kcal	Kilo calorie
Kaid	Kool-Aid

L

LC	Lactation Consultant
Las	lasagna
L/O	Latch On
LES	Leave & Earnings Statement
LPN	Licensed Practical Nurse
LEP	Limited English Proficiency
liq	liquid
LBW	low birth weight

M

mac	macaroni
mac/ch	macaroni & cheese
m	mashed
MA	Master of Art
m. loaf	meat loaf
Med	Medication
MER	Milk Ejection Reflux
M, Mo or Mom	Mother
MVI	Multivitamin

N

N & V	Nausea and Vomiting
NAS	Neonatal Abstinence Syndrome
NICU	Neonatal Intensive Care Unit
NKA	No Known Allergies
NKFA	No Known Food Allergies
NSVD	Normal Single Vaginal Delivery
N/A	Not Applicable
NOI	Notification of Ineligibility
nutr or nutri	nutrition

PROGRAM ABBREVIATIONS

O

occ	occasional
OT	occupational therapy
oj	orange juice
oz	ounce

P

pk	pack
pkg	package
ppd	packs per day
Pt	patient
PTBMIS	Patient Tracking & Billing Management Information System
PBJ	peanut butter & jelly
PT	physical therapy
PCOS	polycystic ovarian syndrome
p. chop	pork chop
PP	Postpartum
pot	potatoes
lb	pound
pwd	powder
preg	pregnant
PN	Prenatal
PBF	Prenatal Breastfeeding
PNV	Prenatal Vitamin
Prep	preparation
Rx	prescription
PCP	Primary Care Physician / Provider
prob	problem

Q

qt	quart
qrtpdr	quarter pounder

R

REM	rapid eye movement
RTF	Ready to Feed
rec	recommend, recommended
RDA	recommended dietary allowance
ref	referral, referred, referring
RD	Registered Dietitian
RDN	Registered Dietitian Nutritionist
RN	Registered Nurse
r/t	related to
R. Beef	roast beef

S

sand	sandwich
sc	sauce
saus	sausage
scr	scrambled
svg	serving
SBS	short bowel syndrome
Sim Adv	Similac Advance
Sim Soy	Similac Soy
SS	Similac Sensitive
Sim TC	Similac Total Comfort
sk	skim
STS	Skin-to-skin
sl	slice
SGA	small for gestational age
SN	Sore Nipple
spag	spaghetti
SAHM	Stay At Home Mom
SOAP	Subjective, Objective, Assessment Plan
SNS	Supplemental Nursing System
SNAP	Supplemental Nutrition Assistance Program
sw. acid	sweet acidophilus
sw pot	sweet potatoes
Sx	symptoms

T

Tbsp	tablespoon
tsp	teaspoon
TNCare	TennCare
X	times
tom	
Tx	Treatment

PROGRAM ABBREVIATIONS

TB	tuberculosis
t. grns	turnip greens
T1DM	Type 1 Diabetes Mellitus
T2DM	Type 2 Diabetes Mellitus

U

USDA	United States Department of Agriculture

V

VENA	Value Enhanced Nutrition Assessment
Veg	vegetable
VOC	Verification of Certification
VLBW	very low birth weight

W

H2O	water
Wk	week
wt	weight
wh	whole
ww	whole wheat
WNL	within normal limits
WHO	World Health Organization

Y

yr	year
y/o	year old

MISC.

CO	Central Office
CSPS	Comprehensive STD Prevention Systems
DIS	Disease Investigative Specialists
HIPAA	Health Information Portability and Accountability Act Specialist
SEE	Syphilis Elimination Effort

The following are standard abbreviations used in HIV/STD Programs throughout the country:

ACO	Administrative closure
AKA	Also know as/alias
Ct	Contact
Dx	Diagnosis
FB	FaceBook
FR	Field Record
FV	Field Visit
LR	Left Referral
LMTC	Left message to call
LMP	Date of last menstrual period
GC	Gonorrhea
Hx	History
IP	Index Patient (same as Original Patient/OP)
Ix	Interview
MR	Medical Record
NA	No answer
NOAH	No one at home
OI	Original Interview
OP	Original Patient (same as Index Patient/IP)
PC	Phone call
Pt	Patient
RS	Record Search
RI	Reinterview
Rx/Tx	Treatment
S/S	Signs/symptoms
STS	Serologic test for syphilis
UTL	Unable to locate
W/ or w/o	with or without
WCB	will call back

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