

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

- Initiate emergency response system
- Assure adequate airway - administer CPR if indicated
- Question regarding most recent weight
- Administer aqueous epinephrine 1:1000 SUBCUTANEOUSLY according to Emergency Drug Chart (**Note - epinephrine should be given with caution to persons taking beta blockers**)
- May repeat epinephrine dosage every 5-15 minutes, if necessary
- Administer Benadryl IM according to Emergency Drug Chart (See page 3)
- 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**

1. Aqueous Epinephrine (Adrenalin) = 0.01 ml./kg. SQ

WEIGHT		AQUEOUS EPINEPHRINE (ADRENALIN) 1:1000 SQ
kg	lb	
Less than 5.0	Less than 11	0.05 ml.
5.0 - 11.5	11 - 25	0.10 ml.
11.6 - 16.0	26 - 35	0.15 ml.
16.1 - 20.5	36 - 45	0.20 ml.
20.6 - 27.5	46 - 60	0.25 ml.
27.6 and greater	61 and greater	0.30 ml.

2. Diphenhydramine (Benadryl) = 1 mg./kg. IM

WEIGHT		DIPHENHYDRAMINE (prefilled syringes) 50 mg/ml IM
kg	lb	
Less than 5.0	Less than 11	Consult MD
5.0 - 9.0	11 - 20	Consult MD
9.1 - 11.5	21 - 25	12.5 mg = 0.25 ml.
11.6 - 16.0	26 - 35	15 mg = 0.30 ml.
16.1 - 18.5	36 - 40	17.5 mg = 0.35 ml.
18.6 - 20.5	41 - 45	20 mg = 0.40 ml.
20.6 - 23.0	46 - 50	22.5 mg = 0.45 ml.
23.1 - 27.5	51 - 60	25 mg = 0.50 ml.
27.6 - 34.5	61 - 75	30 mg = 0.60 ml.
34.6 - 39.0	76 - 85	35 mg = 0.70 ml.
39.1 - 45.5	86 - 100	40 mg = 0.80 ml.
Over 45.5	Over 100	50 mg = 1.00 ml.

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, 2015

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:

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.

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

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.

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 not 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 **not desired**

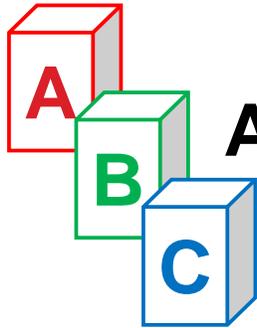
- Offer contraceptive services/counseling

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



ABC's of Safe Sleep

Babies should sleep...

Alone

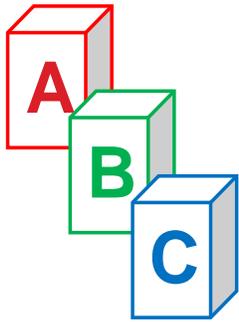
- Not with an adult, another child, or pets
- Not with pillows or stuffed toys
- Not with crib bumpers
- Room-sharing* is recommended

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

**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 1 year: 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

ASSESSMENT

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 not at risk for iron depletion with a normal hemoglobin

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 at risk of iron depletion with a normal hemoglobin

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	Obtain dietary assessment	Obtain dietary assessment	Obtain dietary assessment	Obtain dietary assessment	Evaluate for blood loss (history, physical, hemocult)
Instruct to use breast milk or iron fortified formula	Instruct in adequate consumption of dietary iron	Consider referral to MD or NP			
Supplement with iron according to the dose based on body weight (see dosing chart)	Give iron-related pamphlet	Decrease milk if necessary to 16 ounces or less daily	Decrease milk if necessary to 16 ounces or less daily	Decrease milk if necessary to 16 ounces or less daily	Instruct in adequate consumption of dietary iron and Vitamin C
Refer to WIC if eligible	Refer to WIC if eligible	Give iron-related pamphlet	Give iron-related pamphlet	Give iron-related pamphlet	Issue Ferrous Sulfate (FeSO ₄) 325mg pills. Take one by mouth three times per day.
	Supplement with iron according to dose based on body weight (see dosing chart)	Refer to WIC if eligible	Refer to WIC if eligible (< 5 yrs.)	Supplement with iron according to dose based on body weight (see dosing chart)	
		Supplement with iron according to dose based on body weight (see dosing chart)	Supplement with iron according to dose based on body weight (see dosing chart)		

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 provider.**
- **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.

<i>For liquid iron preparations, write:</i>	<i>Example:</i>
Ferrous sulfate drops (15mg elemental iron/1.0 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	Or
Ferrous sulfate elixir (44mg elemental iron/5.0 mL) Sig (insert dosing script from dosing chart) #QS 1 month, 3 refills	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
<i>For iron tablets, write:</i>	<i>Example:</i>
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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- Mahoney DH, et al. Iron deficiency in infants and young children: Treatment. In: UpToDate, Hoppin, AG (Ed), UpToDate, Waltham, MA, 2010.
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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-mydratic 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-mydratic 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/>

Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

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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AGE ¹	INFANCY								EARLY CHILDHOOD						MIDDLE CHILDHOOD						ADOLESCENCE												
	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 EXAMINATION¹³		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
PROCEDURES¹⁴																																	
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 HEALTH²⁵						★	★	● or ★		● or ★	● or ★	● or ★	●				●																
Fluoride Varnish ²⁶							←	→	←	→	←	→																					
ANTICIPATORY GUIDANCE	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- 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.
- 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>).
- Every infant should have a newborn evaluation after birth, and breastfeeding should be encouraged (and instruction and support should be offered).
- 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>).
- 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).
- Blood pressure measurement in infants and children with specific risk conditions should be performed at visits before age 3 years.
- If the patient is uncooperative, rescreen within 6 months, per the 2007 AAP statement "Eye Examination in Infants, Children, and Young Adults by Pediatricians" (<http://pediatrics.aappublications.org/content/111/4/902.abstract>).
- 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>).
- 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>).
- 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>).

- A recommended screening tool is available at <http://www.ceasar-boston.org/CRAFFT/index.php>.
- 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.
- 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>).
- These may be modified, depending on entry point into schedule and individual need.
- The Recommended Uniform Newborn Screening Panel (<http://www.hrsa.gov/advisorycommittees/mchadv/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.utscsa.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.
- 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>).
- Schedules, per the AAP Committee on Infectious Diseases, are available at: <http://aapredbook.aappublications.org/site/resources/zschedules.xhtml>. Every visit should be an opportunity to update and complete a child's immunizations.
- 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>).
- 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).
- Perform risk assessments or screenings as appropriate, based on universal screening requirements for patients with Medicaid or in high prevalence areas.

- 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.
- 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).
- 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.
- See USPSTF recommendations (<http://www.uspreventiveservicestaskforce.org/uspstf/uspstf/cerv.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>).
- 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/cgi/doi/10.1542/peds.2014-1699>), and 2014 AAP statement "Maintaining and Improving the Oral Health of Young Children" (<http://pediatrics.aappublications.org/content/134/6/1224.full>).
- See USPSTF recommendations (<http://www.uspreventiveservicestaskforce.org/uspstf/uspstf/dnch.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/cgi/doi/10.1542/peds.2014-1699>).

Summary of changes made to the Bright Futures/AAP Recommendations for Preventive Pediatric Health Care (Periodicity Schedule)

This Schedule reflects changes approved in May 2015 and published in September 2015. For updates, visit www.aap.org/periodicitieschedule.

Changes made May 2015

- **Oral Health**- A subheading has been added for fluoride varnish, with a recommendation from 6 months through 5 years.

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>).

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/cgi/doi/10.1542/peds.2014-1699>) and 2014 policy statement, "Maintaining and Improving the Oral Health of Young Children" (<http://pediatrics.aappublications.org/content/134/6/1224.full>).

For several recommendations, the AAP Policy has been updated since 2007 but there have been no changes in the timing of recommendations on the Periodicity Schedule. These include:

- Footnote 2- The Prenatal Visit (2009): <http://pediatrics.aappublications.org/content/124/4/1227.full>
- Footnote 4- Breastfeeding and the Use of Human Milk (2012): <http://pediatrics.aappublications.org/content/129/3/e827.full> and Hospital Stay for Healthy Term Newborns (2010): <http://pediatrics.aappublications.org/content/125/2/405.full>
- Footnote 8- Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs (2007): <http://pediatrics.aappublications.org/content/120/4/898.full>
- Footnote 10- Identification and Evaluation of Children with Autism Spectrum Disorders (2007): <http://pediatrics.aappublications.org/content/120/5/1183.full>
- Footnote 17- Immunization Schedules (2014): <http://aapredbook.aappublications.org/site/resources/IZSchedule0-6yrs.pdf>, <http://aapredbook.aappublications.org/site/resources/IZSchedule7-18yrs.pdf>, and <http://aapredbook.aappublications.org/site/resources/IZScheduleCatchup.pdf>
- Footnote 19- CDC Advisory Committee on Childhood Lead Poisoning Prevention statement "Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention" (2012): http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf
- Footnote 22- AAP-endorsed guideline "Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents" (2011): http://www.nhlbi.nih.gov/guidelines/cvd_ped/index.htm
- Footnote 25- Preventive Oral Health Intervention for Pediatricians (2008): <http://pediatrics.aappublications.org/content/122/6/1387.full> and Oral Health Risk Assessment Timing and Establishment of the Dental Home (2009): <http://pediatrics.aappublications.org/content/111/5/1113.full>. Additional information from the policies regarding fluoride supplementation and fluoride varnish has been added to the footnote.

Footnote 26 has been added to the new fluoride varnish subheading: See USPSTF recommendations (<http://www.uspreventiveservicestaskforce.org/uspstf/uspndch.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/cgi/doi/10.1542/peds.2014-1699>).

New references were added for several footnotes, also with no change to recommendations in the Periodicity Schedule:

- Footnote 5- Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report (2007): http://pediatrics.aappublications.org/content/120/Supplement_4/S164.full
- Footnote 13- Use of Chaperones During the Physical Examination of the Pediatric Patient (2011): <http://pediatrics.aappublications.org/content/127/5/991.full>
- Footnote 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.

For consistency, the title of "Tuberculin Test" has been changed to "Tuberculosis Testing." The title of "Newborn Metabolic/Hemoglobin Screening" has been changed to "Newborn Blood Screening."

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 $\geq 10\%$ of ideal body weight, history of gastrectomy or jejunioileal 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 ≥ 10 mm 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*:

CDC. Core curriculum on TB: What the Clinician Should Know, 5th Ed., 2011.

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. [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. Mantoux Tuberculosis Skin Testing Facilitator Guide. <http://www.cdc.gov/tb/education/Mantoux/part2.htm>

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

Report of the Committee on Infectious Diseases. Elk Grove Village, IL

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:

Provide Screening Evaluation:

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 <u>must</u> 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”)
<i>Issuing medication</i>	<p>Issue only one (1) month supply of medication</p> <p>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</p> <p>If patient buying medication, obtain name of pharmacy and monitor monthly pick-up</p>	<p>Issue only one (1) weekly dose of medication</p> <p>Ideally, doses should be spaced 7 days apart with a minimum of 5 days between doses</p> <p>No less than three (3) doses or more than five (5) doses should be given in any 28 day period</p>
<i>What to do if treatment gets behind schedule or is deferred</i>	<p>If patient has stopped medication or not picked up a resupply for: <u>Less than 2 months</u> Carefully assess for signs/symptoms of active TB; if assessment is negative, the nurse may restart the medication</p> <p>If there are signs/symptoms of TB disease, the PHN notifies the TB clinician for further orders</p> <p><u>Greater than 2 months</u> 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</p>	<p>If the patient misses three (3) doses within any 28 day period, the regimen should be discontinued and not restarted</p>

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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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:

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

CDC. Core curriculum on TB: What the Clinician Should Know, 5th Ed., 2011

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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 Regimen 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>.

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 age 15 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

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
 “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)
 Screen¹ 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.

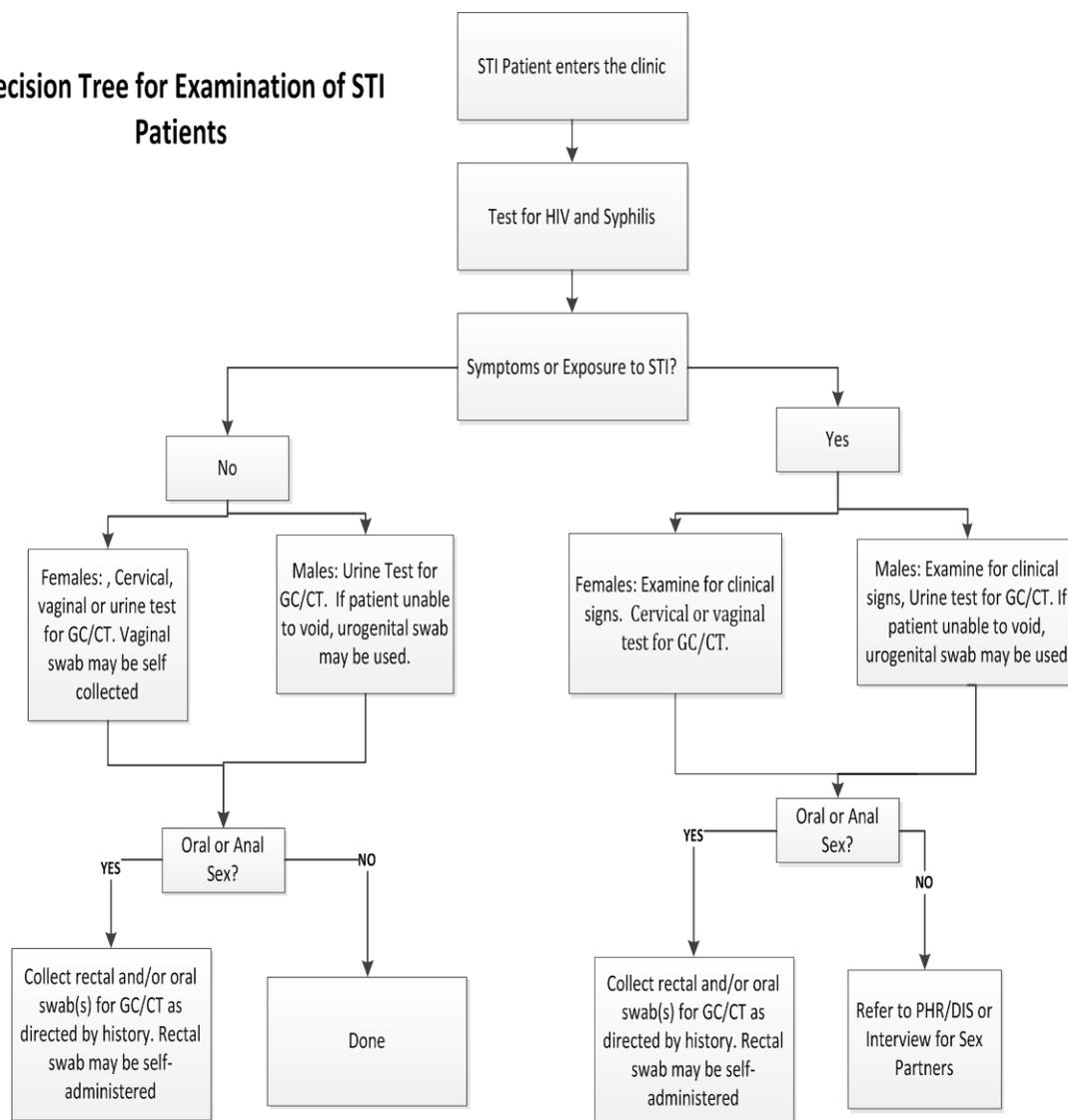
Offer HIV counseling and literature for all clients; offer testing for high-risk individuals or those requesting service.

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.

Decision Tree for Examination of STI Patients



TREATMENT FOR CHLAMYDIA

Treatment for positive Chlamydia² 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 days³

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

Recommended treatment for Non-Allergic Adult/Adolescent:

Ceftriaxone 250 mg IM as a single dose

PLUS

Azithromycin 1 gm orally as a single dose

²Patients 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.

³Doxycycline is contraindicated in pregnancy and nursing mothers.

⁴Dual 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

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 infectious disease or health department physician for consultation and 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.

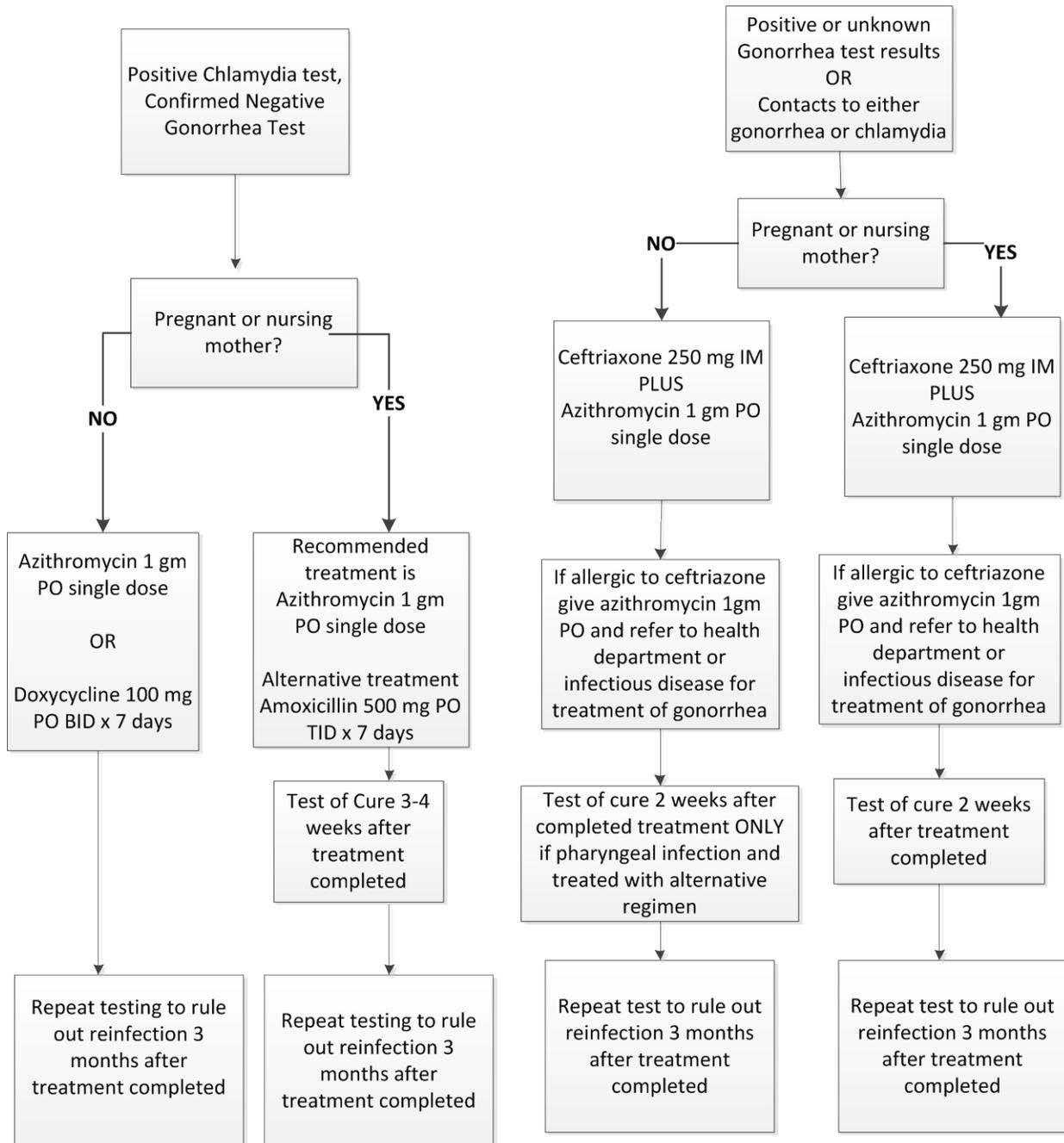
Follow-Up For CHLAMYDIA AND GONORRHEA:

- 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

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 and Gonorrhea Treatment Decision Tree



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 and 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 C, (Non - A, Non - B), Case

NOTE: 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)(<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>

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-PA¹ (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:

Doxycycline², 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 1 week 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](http://www.cdc.gov/std/trichomonas/STDFact-Trichomoniasis.htm)