

# **MENINGOCOCCAL VACCINE**

## **MENINGOCOCCAL CONJUGATE VACCINE (MCV4)**

### **(MENACTRA, MENVEO)**

#### **GENERAL INFORMATION**

**Meningococcal disease** is caused by bacteria (*Neisseria meningitidis*) that infect the bloodstream and the linings of the brain and spinal cord, causing serious illness. Every year in the United States, 1,400 to 2,800 people get meningococcal disease. Ten to 14 percent of people with meningococcal disease die, and 11-19 percent of survivors have permanent disabilities (such as mental retardation, hearing loss, and loss of limbs). Infection is spread by direct contact with infected individuals (e.g., sharing a glass or cigarette, or kissing), or through the air via droplets of respiratory secretions (e.g., coughing or sneezing). Symptoms include the sudden onset of fever, chills, severe headache, stiff neck, rash, nausea, vomiting and lethargy.

**Meningococcal vaccine** is inactivated and contains no live organisms. Different strains of the meningococcus are more likely to produce disease and the vaccine is designed to prevent infections from groups A, C, Y and W-135. Serogroup B is the most common cause of meningococcal disease in children < 1 year of age; no vaccine is yet available to offer protection against serogroup B. Protective antibody levels may be achieved within 7-10 days after vaccination. Meningococcal vaccine may be given at the same time as other immunizations, if needed.

#### **Meningococcal Conjugate Vaccine (MCV4)**

There are 2 MCV4 vaccines: Menactra® by Sanofi Pasteur and Menveo® by Novartis

**Menactra** is currently licensed **for use in persons aged 2 through 55 years**

**Menveo** is currently licensed **for use in persons aged 11 through 55 years**

Immunity is expected to last 8 or more years following a single dose

MCV4 is recommended for routine use in preteens and other groups that are at elevated risk for meningococcal disease and are between 2 and 55 years of age

Where MCV4 is not available, Meningococcal Polysaccharide Vaccine (MPSV4, Menomune™) is an acceptable substitute for some, not all, persons for whom MCV4 is recommended; refer to Meningococcal Polysaccharide vaccine (MPSV4, Menomune) protocol as needed for additional information. MCV4 is always preferred to MPSV4.

**ACIP Recommended Populations** include the following:

- Adolescents (Routinely for all children 11 through 12 years and as catch up for any children 13 through 18 years not previously vaccinated with MCV4)
- College freshmen living in dormitories, including those enrolled in college who present for immunization before moving on campus, if not previously vaccinated with MCV4
- Persons age 2 through 55 years who have anatomic or functional asplenia or terminal complement component deficiencies, including such persons who had received one dose of MPSV4 three (3) or more years earlier (with physician order)
- Persons age 2 through 55 years who travel to, or reside in, countries in which *N. meningitidis* is hyperendemic or epidemic, particularly if contact with the local population will be prolonged
- Military recruits (Health departments should refer)
- Microbiologists who are routinely exposed to isolates to *N. meningitidis* (Health departments should refer)

**Contraindications** to giving the vaccine include the following:

- Persons under 2 years or over 55 years of age
- Hypersensitivity to any component of the vaccine, including diphtheria toxoid
- Menactra only: hypersensitivity to dry natural latex (contained in vaccine vial stopper)
- Menveo packaging does not contain latex.
- If pregnant, consult with health officer or refer to medical provider

**Precautions** include the following:

- Immunization should be deferred during the course of any moderate to severe illness
- Anyone who has ever had Guillain-Barre Syndrome

**Adverse Reactions** include the following:

- COMMON
  - Mild injection site pain and redness
  - Transient fever
- RARE
  - Headache, malaise, chills

**PLAN**

**Administration** of Vaccine:

- An age-appropriate vaccine may be administered for ages 2 through 55 years of age as outlined in program policy
- Targeted populations are:
  - All individuals 11 through 12 years of age
  - All adolescents age 13 through 18 years not previously vaccinated
  - College freshmen regardless of age who are, or will be, living in dorms, if not previously vaccinated
- If using Menveo, reconstitute product according to manufacturer package insert prior to administration.
- Administer a single dose of vaccine, 0.5 ml **INTRAMUSCULARLY**

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**Health Teaching:**

Provide current Vaccine Information Sheet (VIS) about meningococcal disease and the benefits of vaccination

If the vaccine is used in persons receiving immunosuppressive therapy, the expected immune response may not be obtained

Counsel regarding side effects of vaccine

**Referral:**

Pregnancy

Military recruits

Microbiologists occupationally exposed to isolates of *N. meningitidis*

**REFERENCES**

Meningococcal Disease and Meningococcal Vaccines Fact Sheet, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, April 2005

Menactra® [Meningococcal (Groups A, C, Y and W-135) Polysaccharide Diphtheria Toxoid Conjugate Vaccine] package insert, Sanofi Pasteur (Aventis Pasteur), April 2008

MENVEO® [Meningococcal (Groups A, C, Y and W-135) Oligosaccharide Diphtheria CRM197 Conjugate Vaccine] package insert, Novartis, February 2010

MMWR, Prevention and Control of Meningococcal Disease, Recommendations of the Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, GA 30333, May 27, 2005/Vol.54/No. RR-7

MMWR, Notice to Readers: Recommendation from the Advisory Committee on Immunization Practices (ACIP) for Use of Quadrivalent Meningococcal Conjugate Vaccine (MCV4) in Children Aged 2--10 Years at Increased Risk for Invasive Meningococcal Disease. December 7, 2007 / 56(48);1265-1266