Meningococcal Disease
Meningococcal Meningitis or Meningococcemia

Clinical Description:

Meningococcal meningitis is an acute inflammation of the lining of the brain and spinal cord caused by *Neisseria meningitidis (meningococcus)* bacteria. Symptoms include stiff neck, high fever, headache, nausea, vomiting, and possibly a petechial rash. Meningococcemia is a life threatening bloodstream infection caused by *N. meningitidis*. Both meningococcal meningitis and meningococcemia are considered medical emergencies.

Incubation Period:

The incubation period (the time between exposure to disease and development of symptoms) is short, ranging from 2 - 10 days; however, most commonly it is 3 - 4 days.

Mode of Transmission:

Not everyone exposed to meningococcal bacteria will develop disease. Transmission, when it does occur, is usually person-to-person by respiratory droplets from the nose and throat of infected people. Saliva exchange is the most common method of transmission. Transmission is highest among household contacts. Up to 10% of the general population has asymptomatic carriage of meningococcal bacteria at any given time.

Period of Communicability:

A person who is infected with *N. meningitidis* or a carrier can transmit infection until bacteria are no longer present in discharges from the nose and mouth. The bacteria will disappear from the nose and throat within 24 hours after the initiation of appropriate antibiotic therapy.

Exclusion/Reporting:

There are no specific exclusion provisions in Indiana communicable disease laws or rules for meningococcal meningitis. Almost all cases of meningococcal diseases are hospitalized and treated with antibiotics. All cases and suspect cases must be immediately reported to the local health department. Close contacts of cases that are considered high-risk should be given prophylactic antibiotics to prevent possible infection. Asymptomatic contacts do not need to be excluded from school. For information on laws and rules regarding meningococcal disease, see the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-85) at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Immediately contact caregiver if student develops classic meningeal symptoms (fever, severe headache, stiff neck) and provide education concerning urgency of receiving medical evaluation.
- Prophylactic antibiotic treatment is needed for high risk close contacts and family members and should be started within 24 hours of identification of a confirmed diagnosis of meningococcal disease.
- Prophylactic antibiotic treatment is not recommended for school contacts in most circumstances – consult local or state health authorities for guidance regarding who should receive prophylaxis.
- Consider sending letter to parents as determined to be necessary. Sample letter available from the ISDH. (See Appendix A: Management of An Outbreak in a School Setting for more information)

- All children should be vaccinated with meningococcal (MCV4) at entry to sixth grade (11-12 years of age). The CDC recommends that all teens also receive a booster dose of MCV4 at age 16 years. For those who receive the first dose at age 13 through 15 years, a one-time booster dose should be administered, preferably at age 16 through 18 years, before the peak in increased risk. Adolescents who receive their first dose of MCV4 at or after age 16 years do not need a booster dose (http://www.cdc.gov/vaccines/vpd-vac/mening/default.htm).
- Schools are required to notify parents each year about meningococcal disease and the availability of meningococcal vaccine. See IC 20-30-5-18 at: http://www.in.gov/legislative/ic/code/title20/ar30/ch5.html

Outbreaks:

The CDC MMWR reference defines an outbreak as the occurrence of at least three confirmed or probable cases caused by the same serogroup in ≤3 months, with the resulting attack rate of ≥10 cases per 100,000 population. If an outbreak is suspected, notify your local health department. The *Pink Book* reports "in the United States, meningococcal outbreaks account for less than 5% of reported cases (95%–97% of cases are sporadic)." Any case or suspect case must be immediately reported to the local health department and the ISDH. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/meningitis/index.html

http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf

CDC Vaccine information:

http://www.cdc.gov/vaccines/vpd-vac/mening/default.htm

Epidemiology and Prevention of Vaccine-Preventable Diseases
The Pink Book: Course Textbook - 12th Edition Second Printing (May 2012)

http://www.cdc.gov/vaccines/pubs/pinkbook/mening.html#neisseria

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD