

Diphtheria

Definition:

Diphtheria is an acute bacterial disease caused by *Corynebacterium diphtheriae* that primarily involves the mucous membrane of the upper respiratory tract (nose, tonsils, pharynx, larynx), skin, or rarely other mucous membranes (e.g. conjunctivae, vagina, or ear).

Signs and symptoms:

Symptoms depend on where in the body a person is infected with diphtheria. The characteristic respiratory lesion is an asymmetrical adherent grayish white membrane with surrounding inflammation. Other symptoms may include malaise, sore throat, anorexia, low-grade fever, hoarseness, barking cough, or skin rash/sores.

Transmission:

Diphtheria is most often transmitted by contact with an infected person's respiratory droplets. It rarely may be transmitted by contact with articles soiled with discharges from skin lesions of an infected person. Raw milk has also served as a vehicle for transmission.

Diagnosis:

Diagnosis of diphtheria is usually made on the basis of clinical presentation since it is imperative to administer treatment early. Diphtheria is confirmed by culturing the lesion (e.g. nasopharyngeal, skin lesion) and identifying *C. diphtheriae*. If bacteria are isolated, they must be tested for toxin production.

Role of the School Nurse:

Prevention

- Review students' immunization records. Five doses of diphtheria toxoid-containing vaccine (DTaP) are routinely recommended for all children at ages 2, 4, and 6 months, 15-18 months, and 4-6 years.
- Another diphtheria toxoid-containing vaccine (Tdap) is routinely recommended for all children ages 11-12 years, or as young as 7 years if they did not complete the childhood series.

Treatment Recommendations

- People with diphtheria of the nose or throat must be treated with antitoxin (available from federal CDC). If given in time, it can prevent serious disease.
- Antibiotics are used to kill *C. diphtheriae*. Elimination of the organism should be confirmed with follow-up cultures after completion of treatment.

Exclusions

- Someone infected with diphtheria should be hospitalized on droplet precautions until their cultures are negative.
- Adult contacts whose occupations involve handling food (especially milk) or close association with nonimmunized children should be excluded from that work until treated as described and proven not to be carriers.

Reporting Requirements

- Diphtheria is reportable immediately by telephone on recognition or strong suspicion of disease.

Resources:

- Maine CDC website (including fact sheet)
<http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/diphtheria.shtml>
- Federal CDC website
http://www.cdc.gov/ncidod/dbmd/diseaseinfo/diphtheria_t.htm
- Immunization Action Coalition website (including vaccine information)
<http://www.immunize.org/diphtheria/>