

DIPHTHERIA FACT SHEET

Overview

Diphtheria is an acute bacterial disease caused by toxin-producing strains of *Corynebacterium diphtheriae* that usually affects the tonsils, throat, nose or skin. It is extremely rare in the United States. There have been only three cases of diphtheria reported in Pennsylvania since 1980.

Signs and Symptoms

There are two types of diphtheria. One type involves the nose and throat, and the other involves the skin.

- a. Respiratory diphtheria presents as a sore throat with low-grade fever and an adherent membrane of the tonsils, pharynx or nose. Neck swelling is usually present in severe disease.
- b. Cutaneous diphtheria occurs as infected skin lesions without any special visible characteristics.

Symptoms usually appear two to four days after infection, with a range of one to 10 days.

Causes and Transmission

Diphtheria is transmitted to others through close contact with discharge from an infected person's nose, throat, eyes or skin lesions. Diphtheria is most common where people live in crowded conditions.

People who are infected with diphtheria are contagious for up to two weeks or, rarely, for four weeks or longer. If the patient is treated with appropriate antibiotics, the contagious period can be limited to fewer than four days.

Risk Factors

Diphtheria occurs more frequently in parts of the world where vaccination levels are low. It remains a serious disease throughout much of the world. Most life-threatening cases occur in unvaccinated or inadequately-immunized persons.

- a. Travelers to areas where the disease is present are at increased risk for exposure to diphtheria when travel is for extended periods, when there is contact with children, or when conditions are crowded or foster sharing of respiratory secretions.
- b. Children traveling to countries where the risk of diphtheria is high should be vaccinated according to the Recommended Childhood Immunization Schedule.

Complications

In respiratory diphtheria, heart muscle and nerve inflammation as well as airway obstruction are common complications. If diphtheria goes untreated, serious complications such as paralysis, heart failure and blood disorders may occur. Death occurs in approximately five to 10 percent of all cases. 2

Tests and Diagnosis

If a patient is exhibiting the signs and symptoms of diphtheria and has risk factors for diphtheria, a doctor can take a swab from the back of the throat and test it for the bacteria that causes diphtheria. A doctor can also take a sample from a skin lesion and try and grow the bacteria to determine if a patient has bacteria.

Treatments

Certain antibiotics, such as penicillin and erythromycin, can be prescribed for the treatment of diphtheria. A diphtheria antitoxin is also used for treatment.

People who live in the same household with a person with diphtheria, and people who have close contact with a diphtheria patient, should receive antibiotics to prevent disease. These people should be tested for diphtheria and examined every day for seven days for signs of disease. Also, some may need to be immunized with diphtheria vaccine.

Prevention

The single most effective control measure is maintaining the highest possible level of immunization in the community. Travelers who are recommended to have the vaccine for travel to high risk areas require a booster dose every 10 years if a primary course has previously been given. Other methods of control include prompt treatment of cases and a community surveillance program.

Regular vaccination against diphtheria is important to maintain a high level of protection in the community.

- a. In children, diphtheria vaccine is usually combined with tetanus vaccine and acellular pertussis vaccine to form a triple vaccine known as DTaP. This vaccine should be given at 2, 4 6 and 15-18 months of age, and between 4 and 6 years of age. A booster shot is recommended every 10 years.
- b. In 2005, a new combination tetanus, diphtheria and acellular pertussis vaccine (Tdap) was approved for use in adolescents and adults. Tdap is recommended for use in all 11-12 year olds.
- c. For adults, a diphtheria-containing vaccine should be given every 10 years to maintain immunity. The next one of these doses should be Tdap if it has not been given previously.

d. Tdap is recommended for all pregnant women during the third trimester or late in the second trimester of each pregnancy to protect the newborn from pertussis (whooping cough).

Additional Information

Centers for Disease Control and Prevention: <http://www.cdc.gov/diphtheria/>

This fact sheet provides general information. Please contact your physician for specific clinical information.

Last reviewed/updated: September 8, 2016