Respiratory Diphtheria
Fact Sheet

What is respiratory diphtheria?

Respiratory diphtheria is a disease caused by *Corynebacterium diphtheriae* bacteria. These toxins destroy local tissue and can form a layer of pseudo-membrane over the tonsils, pharynx, and larynx. The toxins can be absorbed into the bloodstream, which can lead to severe airway obstruction and potentially death.

Who gets respiratory diphtheria?

Respiratory diphtheria is a rare disease in the United States due to childhood vaccinations and low circulation of the toxigenic strains of *Corynebacterium diphtheriae*. Unvaccinated and under-immunized persons are most at risk.

What are the symptoms of respiratory diphtheria?

The incubation period is 2-5 days with a range of 1-10 days. Clinical features are sore throat, hoarseness, barking cough, low-grade fever, chills, throat tenderness, malaise, and difficulty swallowing.

- A bluish-white membrane starts to build up in the nose, tonsils, pharynx, and larynx during the initial stages of the disease. Dangerous levels of excessive membrane buildup can cause severe airway obstruction as the disease progresses.
- As respiratory diphtheria symptoms advance, the membrane may appear as a greyish-white membrane, black if bleeding, with inflammation around the tonsils, pharynx, and/or larynx. Inflammation of the lymph nodes can produce “bull neck” (swelling of the neck), which is a sign of severe disease.

How is respiratory diphtheria spread?

Respiratory diphtheria is spread person-to-person via contact with respiratory droplets or direct contact with the respiratory secretions of an infected person. Examples include mucus, saliva, coughing, sneezing, and sharing drinks.

Is respiratory diphtheria dangerous?

Yes, respiratory diphtheria is dangerous! If the diphtheria toxin is absorbed into the bloodstream with no treatment, respiratory diphtheria may result in death within 6 to 10 days.

- Severe complications include myocarditis, which can progress into congestive heart failure within one week after symptom onset. Neurologic complications that occur two weeks after the onset of illness are severe weakness, paleness, and increased pulse, which may lead to coma.
- Respiratory diphtheria has a case fatality rate of 5%-10%, with higher death rates (up to 20%) for children under the age of 5 and adults over the age of 40.

How is respiratory diphtheria diagnosed?

Respiratory diphtheria can only be diagnosed by a health care professional based on symptoms and laboratory testing. They will swab the back of the throat or nose and test it for *Corynebacterium diphtheriae* bacteria.

How do you treat respiratory diphtheria?

Respiratory diphtheria requires immediate medical attention; any delay in treatment could result in death. A diphtheria antitoxin and antibiotics are pharmaceutical therapies that assist in recovery. Diphtheria antitoxins are used to stop the poison produced by the bacteria from damaging the body, and antibiotics are used to kill and eliminate the bacteria. Diphtheria patients are usually kept in isolation until they are no longer contagious, which is after two cultures from the nose and throat are collected at least 24 hours after the individuals finish antibiotic therapy and the cultures are negative for *Corynebacterium diphtheriae* bacteria.

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How do you prevent respiratory diphtheria?

Active immunization in infancy is the best prevention method to protect against respiratory diphtheria. The Advisory Committee on Immunization Practices (ACIP) recommends that all children receive a routine series of five doses of diphtheria vaccine at ages 2, 4, 6, 15–18 months, and 4–6 years. Booster doses should be administered beginning at age 11-12 years (if at least five years have passed since last dose) and every 10 years thereafter.

For adults 19 and over, it is recommended that an additional dose of diphtheria vaccine be given every 10 years.

Is the diphtheria vaccine safe?

The reported risks of vaccine reaction are soreness or swelling at the injection site, fatigue, loss of appetite, and vomiting. Serious reactions, such as seizures and high fever, are less common. There is minimal chance of the vaccine causing anaphylaxis, a severe reaction, serious injury, or death.

Is there any diphtheria in Illinois?

There have been no reported cases of respiratory diphtheria in the U.S. since 2003.

Where can I get more information?

Your health care provider can provide more information regarding respiratory diphtheria and vaccination. Other information sources include **https://www.cdc.gov** or **https://dph.illinois.gov**.

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