



DIPHTHERIA

What is diphtheria?

Diphtheria is a serious infection caused by toxin producing strains of bacteria called *Corynebacterium diphtheriae* (*C. diphtheriae*). The toxin kills healthy tissues that can then lead to many serious health problems.

Who gets diphtheria?

Diphtheria occurs primarily in the nonimmunized or under-immunized but can be seen in adult populations with low vaccine coverage.

How is diphtheria spread?

It is spread through airborne transmission and through direct contact with saliva or secretions from nose and throat of an infected person. People can also get sick from touching infected open sores or ulcers.

What are the symptoms of diphtheria?

It begins like a common cold with a mild fever and weakness. It is usually characterized by a nasal discharge, containing both mucus and pus, which may become tinged with blood. A white membrane usually forms locally in the nose or throat area. This may cause a severe sore throat and swollen glands in the neck. The membrane may form on other sites such as skin, eyes, and genitalia. Fever is not usually high. Cutaneous diphtheria may result in lesions.

How soon do symptoms appear?

Symptoms usually begin in two to five days but may be as short as one day to as long as 10 days. An infected person can shed the organism in the discharges from the nose, throat, eye, and skin for two to six weeks after infection.

Should an infected person be excluded from work or school?

Individuals with respiratory diphtheria should be isolated and use droplet precautions until two cultures, at least 24 hours apart, are negative for *C. diphtheriae* or after 48 hours of appropriate antibiotic therapy.

What is the treatment for diphtheria?

Patients with suspected respiratory diphtheria should be given antibiotics and antitoxin even before the culture results are available. For cutaneous diphtheria, generally only antibiotics are used. Patients can't infect others 48 hours after starting their antibiotic



treatment, but they should fully complete their antibiotic regime, usually 14 days, to ensure the bacteria is completely gone.

What can a person or community do to prevent the spread of diphtheria?

Diphtheria is vaccine-preventable and keeping up to date with recommended vaccines is the best way to prevent diphtheria. In the United States, four vaccines are used to prevent diphtheria: DTaP, Tdap, DT, and Td. Each of these vaccines prevents diphtheria and tetanus; DTaP and Tdap also help prevent pertussis (whooping cough).

The Centers for Disease Control and Prevention recommends that close contacts of someone with diphtheria receive antibiotics to prevent them from getting sick. Experts call this prophylaxis. This is important for people with diphtheria infecting the respiratory system (parts of the body involved in breathing) and skin.

Resources

Centers for Disease Control and Prevention (2020). Diphtheria: Causes and spread to others. Retrieved from <https://www.cdc.gov/diphtheria/index.html>

Heymann, D. (2015). Pneumonia. In D. Heymann (Ed.), *Control of communicable diseases manual* (20th ed.) APHA Press.