



## DIPHTHERIA

### What is diphtheria?

Diphtheria is a serious infection caused by strains of bacteria called *Corynebacterium diphtheriae* (*C. diphtheriae*) that make toxin (poison). Infections can impact the upper respiratory tract, skin, or other mucous membranes.

### Who gets diphtheria?

Diphtheria occurs primarily in nonimmunized or under immunized children under the age of 15 but can be seen in adult populations with low vaccine coverage. Vaccines offer prolonged but not lifelong immunity.

### 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?**

Since the condition of patients with diphtheria may deteriorate very rapidly, a single dose of antitoxin should be administered based on clinical diagnosis. This should begin even before the culture results are available. Suspected diphtheria patients should be given antibiotics and adequate doses of antitoxin. It is important to complete the entire antibiotic course, which is typically 14 days, to ensure the bacteria is cleared from the body even if the patient is no longer considered to be contagious after 48 hours on treatment. Respiratory support and/or airway maintenance may also be necessary.

## **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 (CDC) 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.