

# Diphtheria

## Information for the Public

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### What is Diphtheria?

Diphtheria is an infection caused by the bacterium *Corynebacterium diphtheriae*. Diphtheria causes a thick covering in the back of the throat. It can lead to difficulty of breathing, heart failure, paralysis, and even death. Vaccines are recommended for infants, children, teens and adults to prevent diphtheria.

Diphtheria once was a major cause of illness and death among children. The United States recorded 206,000 cases of diphtheria in 1921 and 15,520 deaths. Before there was treatment for diphtheria, up to half of the people who got the disease died from it.

In the past decade, there were less than five cases of diphtheria in the United States reported to CDC. However, the disease continues to cause illness globally. In 2014, 7,321 cases of diphtheria were reported to the World Health Organization, but there are likely many more cases

### What are symptoms of Diphtheria?

When the bacteria that cause diphtheria get into and attach to the lining of the respiratory system, which includes parts of the body that help you breathe, they produce a poison (toxin) that can cause:

- Weakness
- Sore throat
- Fever
- Swollen glands in the neck

The poison destroys healthy tissues in the respiratory system. Within two to three days, the dead tissue forms a thick, gray coating that can build up in the throat or nose. This thick gray coating is called a "pseudomembrane." It can cover tissues in the nose, tonsils, voice box, and throat, making it very hard to breathe and swallow.

The poison may also get into the blood stream and cause damage to the heart, kidneys, and nerves.

### How is Diphtheria Spread?

Diphtheria is spread (transmitted) from person to person, usually through respiratory droplets, such as from coughing or sneezing. Rarely, people can get sick from touching open sores (skin lesions) or clothes that touched open sores of someone sick with diphtheria. A person also can get diphtheria by coming in contact with an object, like a toy, that has the bacteria that cause diphtheria on it.

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### Can Diphtheria be treated?

It is important to start treatment right away if a doctor suspects diphtheria and not to wait for laboratory confirmation. In the United States, before there was treatment for diphtheria, up to half of the people who got the disease died from it.

Diphtheria treatment today involves:

- Using diphtheria antitoxin to stop the poison (toxin) produced by the bacteria from damaging the body
- Using medicines (called antibiotics) to kill and get rid of the bacteria

Diphtheria patients are usually kept in isolation, until they are no longer contagious — this usually takes about 48 hours after starting antibiotics. After the patient finishes taking the antibiotic, the doctor will run tests to make sure the bacteria are not in the patient's body anymore.

Even with treatment, about 1 out of 10 people who gets diphtheria will die.

### Can Diphtheria be prevented?

The best way to prevent diphtheria is to get vaccinated. In the United States, there are three kinds of vaccines used to prevent diphtheria: DTaP, Tdap, and Td. Each of these vaccines prevent diphtheria and tetanus; DTaP and Tdap also help prevent pertussis (whooping cough). DTaP are given to children younger than seven years old, while Tdap and Td are given to older children, teens, and adults.

#### Babies and Children

The current childhood immunization for diphtheria includes five doses of DTaP for children younger than seven years old.

#### Preteens and Teens

The adolescent immunization schedule recommends that preteens get a booster dose of Tdap at 11 through 12 years old. Teens who did not get Tdap when they were 11 or 12 years old should get a dose the next time they see their doctor.

#### Adults

Adults should get a dose of Td or Tdap every 10 years according to the adult immunization schedule. For added protection against whooping cough, any adult who never received a dose of Tdap should get one as soon as possible. The dose of Tdap takes the place of one of the Td shots.

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