

Fact Sheet

Diphtheria

What causes diphtheria?

Diphtheria is caused by a bacterium, *Corynebacterium diphtheriae*. The actual disease is caused when the bacteria release a toxin, or poison, into the person's body.

How does diphtheria spread?

Diphtheria bacteria live in the mouth, throat, and nose of an infected person and can be passed to others by coughing or sneezing. Occasionally, transmission occurs from skin sores or through articles soiled with discharge from sores of infected persons.

How long does it take to show signs of diphtheria after being exposed?

The incubation period is short: 2-5 days, with a range of 1-10 days.

What are the symptoms of diphtheria?

Early symptoms of diphtheria may mimic a cold with a sore throat, mild fever, and chills. Usually, the disease causes a thick coating at the back of the throat, which can make it difficult to breathe or swallow. Other body sites besides throat can also be affected, including the nose, larynx, eye, vagina, and skin.

How serious is diphtheria?

Diphtheria is a serious disease: 5%-10% of all persons with diphtheria die. Up to 20% of cases lead to death in certain age groups of individuals (older than 40 years or younger than 5 years).

What are possible complications from diphtheria?

Most complications of diphtheria are due to the release of the toxin, or poison. The most common complications are inflammation of the heart, leading to abnormal heart rhythms, and inflammation of the nerves, which may cause temporary paralysis of some muscles. If the paralysis affects the diaphragm (the major muscle for breathing), the patient may develop pneumonia or respiratory failure. The thick membrane coating at the back of the throat may cause serious breathing problems, even suffocation.

How do I know if someone has diphtheria?

The diagnosis of diphtheria can only be confirmed after a physician takes a small sample of the infected material from the patient's throat (or other site) and has the sample tested in a laboratory. But because this disease progresses quickly, treatment usually should begin based on the health professional's assessment of the patient.

Is there a treatment for diphtheria?

Diphtheria is treated with both antibiotics and with diphtheria antitoxin. Diphtheria antitoxin is produced in horses and was first used in the United States in 1891. Antitoxin does not get rid of toxin that is already attached to the body's tissues, but will neutralize any circulating poison and will prevent the disease from getting worse. The patient should be tested for sensitivity to this antitoxin before it is given.

How long is a person with diphtheria contagious?

The disease usually becomes non-contagious 48 hours after antibiotics are started. However, some individuals continue to carry the diphtheria bacterium even after antibiotic therapy, and treatment should be continued until patients have three consecutive negative cultures.

People providing care for an individual with diphtheria should take standard contact precautions and make sure they have been adequately immunized against diphtheria.

How common is diphtheria in the United States?

Diphtheria was once a greatly feared illness in the United States. In the 1920s, there were 100,000-200,000 cases of diphtheria each year with 13,000-15,000 deaths. Because of widespread immunization and better living conditions, diphtheria is now rare in the United States (fewer than five cases reported per year since 1980).

However, surveys have found that up to 60% of adults in the United States are not protected against diphtheria. This is a concern because the disease continues to occur in other parts of the world. For example, after the breakup of the former Soviet Union vaccination rates fell, and large outbreaks of diphtheria began in 1990 in the Newly Independent States. From 1990 to 1998, more than 150,000 people got sick from diphtheria and more than 5,000 people died. This situation, and other outbreaks around the world, illustrates what can happen when immunity levels fall. Outbreaks in other countries also increase the risk of diphtheria importation into the United States.

Can you get diphtheria more than once?

Yes. Even individuals recovering from diphtheria should be immunized against the disease as soon as possible.

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This fact sheet is for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider. If you have any questions about the disease described above or think that you may have this infection, consult a health care provider.

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