



Diphtheria Disease

What is diphtheria?

Diphtheria is a contagious bacterial infection caused by toxin-producing strains of *Corynebacterium diphtheriae* and *Corynebacterium ulcerans*. In some cases, it can be life-threatening.

Diphtheria was a common cause of death in children up until the 1940s but occurs mainly in countries with poor levels of immunisation. Cases in Australia are rare now due to high immunisation rates.

What are the symptoms of diphtheria?

- Symptoms usually begin two to five days but sometimes don't start for as long as 10 days after being exposed to the bacteria.
- Symptoms will depend on the site of infection. The most severe form of diphtheria affects the throat and tonsils. The first symptoms are usually a sore throat, loss of appetite and a mild fever. Within 2-3 days, a greyish-white membrane forms over the throat and tonsils that can make it hard to swallow and breathe. The infection can also cause the neck to swell.
- The toxin formed by diphtheria bacteria can cause inflammation of heart muscle and the nerves which can be fatal in 5-10 per cent of people infected.
- Sometimes diphtheria can cause small skin sores that form larger ulcers, commonly on the legs. This form of diphtheria is more common in the tropics.
- Illness can also occur with non-toxin-producing strains of the diphtheria bacteria, but the disease is generally milder.

How is diphtheria spread?

- Diphtheria bacteria can live in the mouth, nose, throat or on the skin of infected people.
- Diphtheria is usually spread from respiratory droplets after an infected person has coughed or sneezed. Sometimes the bacteria spreads from close contact with discharges from an infected person's mouth, nose, throat or skin but this is rare.
- Without antibiotic treatment, people with diphtheria are infectious for up to 4 weeks from when their symptoms first begin. Some people are infectious for longer.
- A second and less common type of diphtheria, *Corynebacterium ulcerans* infection, occasionally occurs, sometimes after consuming unpasteurised milk or after contact with animals.

Who is at risk of diphtheria?

- Anyone who is not fully immunised is at risk of diphtheria.

How is diphtheria prevented?

- Vaccination against diphtheria are part of the childhood immunisations and is given in combination with other vaccines known as 'DTP' vaccine, which contains vaccines against diphtheria, tetanus and pertussis (whooping cough).
- The DTP vaccine should be given at 2,4, 6 and 18 months of age, followed by booster doses at 4 years and at 15 years of age.
- A high vaccination rate in the community is important to protect everyone from the disease. In 2021, over 90% of Australian children under 6 years of age were fully immunised against diphtheria (Australian Childhood Immunisation Register (ACIR) statistics).

How is diphtheria diagnosed?

If you have any diphtheria symptoms, you should see a doctor immediately. The doctor may notice a greyish-white membrane in your throat and if diphtheria is suspected, a throat swab will be taken and sent to a laboratory. Special laboratory tests are needed to detect and diagnose diphtheria.

How is diphtheria treated?

Diphtheria infection is treated with antibiotics and antitoxin to stop the infection from developing and may also require a course of vaccination if unimmunised. Some people may require hospitalisation.

What is the public health response to diphtheria?

Laboratories, hospitals, school principals and directors of childcare centres are required to notify cases of diphtheria to the local Public Health Unit under the Public Health Act, 2010. Public health units investigate cases and their contacts to identify possible sources of infection and prevent further spread. Cases are isolated until they are not infectious.

More information

If you or your child have symptoms of diphtheria and you are concerned, speak to your doctor right away, or **in an emergency call 000**. For health advice you can call also health direct on 1800 022 222 for free 24 hour health advice or speak to your local pharmacist.

For more information, please call your local Public Health Unit on 1300 066 055