



DIPHTHERIA

What is diphtheria?

Diphtheria is a disease caused by the bacterium *Corynebacterium diphtheriae*. The bacteria produce a toxin or poison that can lead to breathing problems, heart failure and paralysis of the muscles used for swallowing. Because of immunization, diphtheria is now very rare in Canada but has caused outbreaks in other countries. Diphtheria may kill one out of every ten people who get the disease, with the highest death rates occurring among the very young and the elderly.

What are the symptoms?

Symptoms usually start two to five days after infection. Initial symptoms include a fever, red sore throat, weakness, and headache. The bacteria toxin destroys normal throat tissue and a thick, grayish white membrane forms that completely covers the throat. The neck and throat become swollen. Serious complications include difficulty breathing, damage to the heart or nervous system, and death. Diphtheria can also damage skin tissue and cause skin lesions or sores.

How is diphtheria spread?

Diphtheria is spread through close contact with an infected person. The bacteria can be found in the air after someone who is infected coughs or sneezes and can be inhaled. Diphtheria can also be spread by direct contact with infected nasal or throat secretions through sharing food, drinks, or kissing someone who has the infection. The bacteria can also be spread by direct contact with items like tissues used by an infected person or touching skin lesions or sores.

How is diphtheria diagnosed?

Diphtheria is diagnosed by a history of exposure to the disease, symptoms, during a clinical examination when the membrane can be seen in the throat, or by testing throat swabs in a laboratory. Special laboratory tests are needed to detect the toxin and confirm the diagnosis.

Who is at risk of diphtheria infection?

Diphtheria is very rare in Canada, but there are still outbreaks in other parts of the world. Anyone at any age who has not had the disease or been immunized is at risk.

How can diphtheria be prevented?

The best way to protect against diphtheria is to be immunized. The New Brunswick [Routine Immunization Schedule](#) provides diphtheria vaccine as part of a diphtheria, tetanus, pertussis, polio and haemophilus influenzae type b vaccine (DTaP-IPV-Hib) at two, four, six and 18 months of age and (DTaP-IPV) at four years of age. Diphtheria vaccine as part of tetanus, diphtheria and pertussis vaccine (Tdap) is provided to children in grade nine (at age 14).

All adults should get a diphtheria booster as part of a tetanus and diphtheria vaccine (Td) every ten years.

How is diphtheria treated?

Diphtheria is treated with antibiotics and anti-toxin. If a doctor suspects diphtheria, treatment should begin immediately, even before the results of the laboratory tests are available.

Anyone who has been in contact with someone sick with diphtheria should receive antibiotics and immunization, if their immunization is not up to date. They also will be tested to see if they are carriers of the disease (have the germ, but do not have disease symptoms) and therefore need further antibiotic treatment and tests.

What is the public health response?

Health-care providers, hospitals and laboratories, schools and childcare centres are required to notify cases of diphtheria to Public Health. Public Health staff will interview the health-care provider and patient (or care-givers) to find out how the infection occurred, identify other people at risk of infection, implement control measures (such as immunization and restrictions on attending school or work) and provide other advice and antibiotics if necessary.

Contacts who work in the food industry or with at risk persons will be excluded from work until it is proven that they are not carriers.

Further Information

For additional information, contact your health-care provider, [local Public Health office](#) or Tele-Care 811.

Useful websites:

- Canadian Coalition for Immunization Awareness and Promotion <http://www.immunize.cpha.ca>
- Public Health Agency of Canada <http://www.phac-aspc.gc.ca>
- Canadian Pediatric Society <http://www.cps.ca>

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