



# Diphtheria

## ***What is Diphtheria?***

Diphtheria is a serious infection caused by the bacteria *Corynebacterium diphtheriae*. It is rare in Ontario. It is spread from person-to-person through coughing or sneezing or can be spread indirectly by touching contaminated objects. Diphtheria has become a rare disease because of children's routine immunizations.

## ***How is it spread?***

Diphtheria is passed to others through coughing and sneezing or by contact with fluid from skin lesions of an infected person. In untreated people, diphtheria can be present in discharge from the nose, throat and eye and/or skin lesions for 2 to 4 weeks. The bacteria can be passed through very close contact with people who have the germs in their nose, throat or on their skin and who have travelled to areas where diphtheria is more commonly seen. Rarely items that have fluid from the lesions, pets and raw milk or milk products can serve as a source for transmission.

## ***What are the symptoms?***

Signs and symptoms of diphtheria may include:

- Sore throat and hoarseness
- Painful swallowing
- Swollen glands in your neck
- A thick, gray membrane covering the throat and tonsils
- Difficulty breathing or rapid breathing
- Nasal discharge
- Mild fever and chills

Diphtheria can also affect the skin, resulting in ulcers covered by a gray membrane. Symptoms typically appear two to five, and up to ten days after someone becomes infected.

People may experience a mild case of the illness or have no signs or symptoms of the disease. These people are said to be 'carriers' of the disease as they may spread the bacteria without knowing they are sick. Persons with severe illness can experience heart or central nervous system problems, a blocked airway, or death.

## ***How is Diphtheria diagnosed?***

Diagnosis of diphtheria made by taking a sample of the gray membrane from the person's throat with a swab and having the sample grown (cultured) in a laboratory. Doctors can also take a sample of tissue from an infected wound, and have it tested in a laboratory, to check for the type of diphtheria that affects the skin (cutaneous diphtheria).

## ***What is the treatment for Diphtheria?***

Diphtheria is a serious illness requiring immediate and aggressive treatment with these medications:

- **Antitoxin**  
After confirmation that a person has diphtheria, the infected person receives a special antitoxin. The antitoxin neutralizes the diphtheria toxin already circulating in the body. Doctors may perform skin allergy tests to make sure that the infected person doesn't have an allergy to the antitoxin. People who are allergic must first be desensitized to the antitoxin. Doctors accomplish this by giving small doses of antitoxin and then gradually increasing the dosage.
- **Antibiotics**  
Diphtheria is also treated with antibiotics. Antibiotics help kill bacteria in the body, clearing up infections. Antibiotics reduce to just a few days the length of time that a person with diphtheria is contagious.

Children and adults who have diphtheria often need to be in the hospital for treatment. They may be isolated in an intensive care unit because diphtheria can spread easily to anyone not immunized against the disease.

For information call Infectious Diseases: ext. 8809.



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### ***How do I protect myself and others?***

Diphtheria is not only treatable but also preventable with a vaccine. The diphtheria vaccine is usually combined with vaccines for tetanus and whooping cough (pertussis). The three-in-one vaccine is known as the diphtheria, tetanus, and pertussis, or DTaP, vaccine. The DTaP vaccine are part of the routine childhood immunizations and is required for all school aged children upon entry to school. The vaccine consists of a series of five shots, typically administered in the arm or thigh, and is given to children at ages:

- 2 months
- 4 months
- 6 months
- 12 to 18 months
- 4 to 6 years

Adolescents should receive a booster dose of tetanus, diphtheria and acellular pertussis (TDaP) vaccine at 14 to 16 years of age.

Adults should receive a booster of diphtheria containing vaccine every ten years given in combination with tetanus toxoid as Td.

### ***Are there any special concerns about Diphtheria?***

It is important to maintain routine immunizations and improving immunity for travellers and new immigrants.

If you have had close contact with someone who has diphtheria you will be contacted by public health. Close contacts are persons living in the same household, sharing the same room at school, daycare, nursery school or work and health care workers exposed to oropharyngeal secretions from the infected person. Close contacts also include those who have had close face-to-face contact with an infected person. This could be through kissing, sharing toys, foods, drinks, vapes or cigarettes.

Immunization with diphtheria toxoid produces prolonged but not lifelong immunity. Lifelong immunity is generally, but not always, acquired following disease or inapparent infection.

Close contacts that are at increased risk (shared saliva) may be advised to take a specific antibiotic that will help to prevent them from developing the infection.