**Diphtheria**

*Research provided by the Kansas Association of Local Health Departments*

***What is it?***

Diphtheria is an infection caused by a bacterium of the same name. While most infections are asymptomatic or mild, most outbreaks can cause a 10% death rate. Symptoms of the disease can start five to seven days after infection and occur gradually. The most common symptoms include a sore throat, fever, and potentially a grey or white patch in the throat that can cause a barking cough and a blocked airway. In addition, the lymph nodes in the neck may swell and cause inflammation of nerves.

In addition, there is a form of Diphtheria that can cause infections in the skin, eyes, and even genital area. These complications are more severe, with myocarditis, nerve problems, and bleeding problems due to low platelet counts.

Diphtheria is spread through the air and on infected objects. Some people can care the bacterium and spread it to others without symptoms.

***History***

Diphtheria was first described by Hippocrates in fifth century BCE. Throughout history, Diphtheria has been the leading cause of death, particularly in children. Various outbreaks occurred in Europe, with the worst being in Spain in 1613. This epidemic, also known as The Year of Strangulations, killed thousands of people. By 1878, the disease had spread to England, killing Queen Victoria’s daughter Princess Alice. Like Tetanus, a Diphtheria antitoxin was developed in the 1890s, with the first vaccine being available in the 1920s.

The most notable outbreak of Diphtheria occurred after the dissolution of the Soviet Union in 1991. By that year, vaccination rates had decreased significantly, allowing for the disease to spread. Through 1991 and 1998, over 200,000 cases were reported along with 5,000 deaths.

***“The Great Race of Mercy”, Iditarod and Balto the Dog***

As a public health professional, you may have heard the story of the dog sled team that delivered over 300,000 units of the Diphtheria antitoxin to a rural town in Alaska. But there is much more to the story. Nome, Alaska, is a rural community isolated by ice and snow, and in 1925, it was impossible to deliver goods to the town via mail or airplane. Nome was also experiencing an outbreak of Diphtheria and no antitoxin was available to treat the disease. So, a team of sled dogs worked around the clock to deliver the 300,000 units in a little under 5 days on what today is known as the Iditarod Trail.

[In addition, you many have seen the animated movie *Balto* which came out in the 1990s.](https://www.imdb.com/title/tt0112453/) This movie chronicles the race to prevent diphtheria from spreading in Nome, Alaska.

***Vaccination Development and Efforts***

The first Diphtheria vaccine was developed in the early 1920s but was not widely available in the United States until 1948, when the first diphtheria, pertussis, and tetanus vaccines were developed and combined. The first DTaP vaccine was recommended by the ACIP in 1991 and for infants in 1996. A booster dose was recommended in 2006. By 2020, there were no Diphtheria cases in the United States.

Eradication efforts of Diphtheria began in the 1930s, with vaccination pushing down cases to 4.4 to 100,000 people in 1932 alone. However, it continues to be a problem in various countries including Europe and East Asia. It is also not only confined to poorer countries, with most outbreaks occurring in wealthy urban areas such as Antwerp, Belgium.

***Personal Connections from Your Resident Millennial***

If you were anything like me, you probably watched *Little House on the Prairie,* which was a TV show based on the books by Laura Ingalls Wilder. In one of the episodes, Laura’s husband Almanzo was infected by Diphtheria and became partially paralyzed by the disease (consequently while she was pregnant). The TV show mimics real life, as Wilder’s real-life husband delt with the disease too. Laura also got Diphtheria later in life. [Many people believe that both Wilder and her husband were toxic mold victims.](https://paradigmchange.me/wp/wilder/) – this may be why they both suffered from Diphtheria.

If you would like to watch the episode(s), they are titled *Days of Sunshine, Days of Sorrow Parts I and II.* You should be able to find them on many streaming services.

***What We Can Learn***

Diphtheria, like Tetanus, is an interesting disease. Caused by bacteria, it can affect anyone. Because of this, it is important to get vaccinated against it – even if you never encounter the bacteria.

Sources:

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