



Diphtheria cases detected in South Africa

Description

Medscheme has warned that there is a concern that diphtheria, once thought to be eradicated, is re-emerging. Here's what you need to know about this life-threatening disease.

What is diphtheria?

Diphtheria is a contagious bacterial infection caused by strains of *Corynebacterium diphtheriae* (*C. diphtheriae*). The organism produces a toxin that causes tissue necrosis (tissue death), leading to respiratory obstruction, myocarditis, heart failure and death.

The mortality associated with diphtheria used to be as high as 50% but declined to about 15% after antitoxin use became widespread in the 1940s. Following the introduction of the vaccine in the 1940s to 1950s, diphtheria was practically eradicated and clinical diphtheria became an uncommon disease globally, including in South Africa.

However, there is global concern that diphtheria is re-emerging due to a drop in vaccine coverage during the Covid-19 pandemic. Some cases of the disease may also be going undetected.

What is the history of diphtheria in South Africa?

Since diphtheria immunisation started in South Africa in the 1950s, only sporadic cases of the disease, mostly involving children younger than 15, have been identified and reported.

Between January 2008 and March 2015, three laboratory-confirmed cases of respiratory diphtheria were reported. An outbreak of diphtheria in KwaZulu-Natal with 15 confirmed cases occurred during March to June 2015, and another two cases were found in 2016.

In April 2023, the Department of Health reported two laboratory-confirmed cases of diphtheria in South Africa, one being an adult in KwaZulu-Natal and the other a child in the Western Cape. No new cases have been reported.

How is diphtheria transmitted?

Humans are the only known natural hosts for *C. diphtheriae*. It spreads from person to person through contact with respiratory droplets or hand-to-mouth contact with secretions from an infected person's mouth, nose, throat or skin, for example, through coughing or sneezing. It may also spread by touching contaminated clothing and objects. *C. diphtheriae* can survive on inanimate surfaces from seven days to six months.

What are the signs and symptoms?

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Signs and symptoms usually start two to five days after exposure and range from mild to severe. A few of the main signs and symptoms include fever, malaise, chills, sore throat, nausea and vomiting, difficulty swallowing, a thick grey or white patch at the back of the throat, a barking cough and a swollen neck due to enlarged lymph nodes.

Who is at risk of contracting diphtheria?

Diphtheria usually occurs among susceptible (i.e., non-immune) individuals and reflects inadequate vaccination coverage. In endemic settings and outbreaks, healthcare workers may be at greater risk of

becoming infected with diphtheria than the general population. Consequently, special attention should be paid to immunising healthcare workers who may have occupational exposure to *C. diphtheriae*.

How can diphtheria be prevented?

Diphtheria is prevented by immunisation with a diphtheria-containing vaccine. In South Africa, the Expanded Programme on Immunisation (SA-EPI) schedule includes six doses of diphtheria vaccine given as follows:



- A primary series of vaccinations given in three doses at 6, 10 and 14 weeks of age. The

diphtheria toxoid is given in combination with other vaccines.

- Boosters are given at 18 months, 6 years and 12 years of age.

Individuals who missed their childhood vaccines or were only partially vaccinated can still be vaccinated at any age.

How is it treated?

Diphtheria infection is treated with either the administration of a diphtheria antitoxin given intravenously or through an intramuscular injection and/or antibiotics. Diphtheria antitoxin is in short supply globally but the World Health Organization is working to secure additional supplies.

Treatment in the absence of antitoxin entails antibiotics and supportive care.

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