

Whooping Cough

AN EPIDEMIC IN MICHIGAN AND ACROSS THE U.S.

Cities across the U.S. have been hit hard with a rise in pertussis, or what is commonly known as “whooping cough.” Pertussis, caused by the bacterium *Bordetella pertussis*, is an upper respiratory tract infection that is easily spread through airborne droplets when an infected person coughs or sneezes.

During the first few months of 2010, several states reported increased cases of pertussis compared to the same time period in 2009. California had the most reported cases last year, logging 6,700 cases and reporting that 10 infants have died from it.

In Michigan, the increase was first observed in the second half of 2008 and continued throughout 2009 and 2010. There were 902 reported cases in 2009, and as of Oct. 31, 2010, there were already 1,092 cases. In contrast, there were 315 cases reported in 2008, with an average of 340 cases reported annually since 2003.

Symptoms

The disease starts like a common cold with symptoms of runny nose, congestion, sneezing, mild cough and fever. After one to two weeks, severe coughing begins.

Infants and children with the disease cough violently and rapidly, over and over, until the air is gone from their lungs and they are forced to inhale with a loud “whooping” sound. The coughing can last for weeks, even months. Adults and adolescents typically will have a milder form of pertussis; however they can still easily spread the infection to others. Pertussis is most severe for babies. More than half of infants less than one year old required hospitalization.

Why is there such a big increase in pertussis cases?

There are several reasons for the marked increase in pertussis here in Michigan and across the country. They are:

- Decreasing immunity in teens and adults. Many have not yet gotten their Tdap vaccine booster, and more than half of the cases reported in 2010 have been in teenagers and adults.
- Unvaccinated children. Parents who opt out of vaccinating their children create pockets of vulnerability in the community.
- Change in pertussis testing. A newer test, called a PCR, has become the dominant method of testing, and most likely, more cases are being detected by the new test than in the past.



Treatment

If someone thinks they have been exposed, they should immediately call their doctor. Usually, an antibiotic is prescribed. Until a person has been on antibiotics for five days, they should try to stay away from other people and especially infants and young children.

How can pertussis be prevented?

The best way to prevent pertussis is to get vaccinated. Make sure infants and young children get their recommended shots on time. Consult a doctor for a vaccination schedule.

Protection from the childhood vaccine fades over time. Adolescents and adults may need to be revaccinated, even if they were completely vaccinated as children. This is especially important for families with new infants. Additionally, on a daily basis, one should carefully cover the nose and mouth when coughing or sneezing, wash hands often with soap and water and drink plenty of fluids to avoid dehydration.

Clinical Complications

Pertussis can cause serious and potentially life-threatening complications in infants and young children who are not fully vaccinated.

In infants younger than 12 months of age who get pertussis, more than half must be hospitalized. Hospitalization is most common in infants younger than 6 months of age. Of those infants who are hospitalized with pertussis, approximately 50% will have apnea, 20% get pneumonia, 1% will have seizures, 1% will die and 0.3% will have encephalopathy (as a result of hypoxia from coughing or possibly from toxin).

Whooping Cough *continued*

Of those infants younger than 12 months of age who die:

- Refractory pulmonary hypertension is a common, severe complication that contributes to death
- Encephalopathy occurs in approximately 20% of cases
- Other complications can include anorexia, dehydration, difficulty sleeping, epistaxis, hernias, otitis media, and urinary incontinence. More severe complications can include pneumothorax, rectal prolapse, and subdural hematomas.

Adolescents and adults can also develop complications from pertussis, but they are usually less severe in this older age group, especially in those who have been vaccinated.

In one study, hospitalization rates were 0.8% for adolescents and 3% for adults with confirmed pertussis. Pneumonia was diagnosed in 2% of each group.

The most common complications in another study of adults with pertussis were weight loss (33%), urinary incontinence (28%), syncope (6%), and rib fractures from severe coughing (4%).

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coughing or possibly from toxin, pneumothorax, rectal prolapse, subdural hematomas, and seizures. ❖

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