



Pertussis (Whooping Cough)



General Information

Pertussis, a respiratory illness commonly known as **whooping cough**, is a very contagious disease caused by the bacteria, *Bordetella pertussis*. The bacteria attach to the lining of the upper respiratory system causing the airway to swell.

Transmission

The disease is only found in humans and is spread from person to person. People with pertussis spread the disease by coughing or sneezing while in close contact with others, who **breathe in the pertussis bacteria**. Symptoms of pertussis usually develop within 7–10 days after being exposed, but sometimes not for as long as 6 weeks

Symptoms

Pertussis can cause serious illness in infants, children and adults. The disease usually starts with cold like symptoms and a mild cough or fever. After 1 to 2 weeks, severe coughing can begin. Unlike the common cold, pertussis can become a series of coughing fits that continues for weeks. In infants, the cough can be minimal or not even there. Pertussis is most dangerous for babies, about half of infants younger than 1 year of age who get the disease are hospitalized. Infants may have a symptom known as "apnea." Apnea is a pause in the child's breathing pattern.

Because pertussis in its early stages appears to be nothing more than the common cold, it is often not suspected or diagnosed until the more severe symptoms appear. Infected people are most contagious up to about 2 weeks after the cough begins. Antibiotics may shorten the amount of time someone is contagious. As the disease progresses, the traditional symptoms of pertussis appear and include paroxysms (fits) of many, rapid coughs followed by a high-pitched "whoop", vomiting (throwing up), and exhaustion (very tired) after coughing fits.

Although patients are often exhausted after a coughing fit, they usually appear fairly well in-between. Coughing fits generally become more common and severe as the illness continues, and can occur more frequently at night. The coughing fits can go on for up to 10 weeks or more. The illness can be



milder (less severe) and the typical "whoop" absent in children, teens, and adults who have been vaccinated with the pertussis vaccine. Recovery from pertussis can happen slowly. The cough becomes less severe and less common. However, coughing fits can return with other respiratory infections for many months after pertussis started.

Diagnosis

Only patients with signs and symptoms of pertussis should be tested. A nasopharyngeal swab (NP= swab) of the back part of the nose/throat (posterior nasopharynx) in addition to clinical presentation. The NP swab should be done within the first 3 weeks.

Prevention

Vaccines

The best way to prevent pertussis among infants, children, teens, and adults is to get vaccinated. In the United States, the recommended pertussis vaccine for infants and children is called Tdap. This is a combination vaccine that protects against three diseases: diphtheria, tetanus and pertussis. Children should receive a total of 5 doses of the vaccine starting at ~ 2 months of age. Vaccine protection for these three diseases fades with time. Before 2005, the only booster available contained protection against tetanus and diphtheria (called Td), and was recommended for teens and adults every 10 years. Today there is a booster for preteens, teens and adults that contains protection against tetanus, diphtheria and pertussis (Tdap).

It is recommended adults should get Tdap instead of their next regular tetanus booster- Td shot they are supposed to get every 10 years. The dose of Tdap can be given earlier than the 10-year mark, so it is to discuss with a healthcare provider the best option for their specific situation.

Pertussis vaccines are very effective in protecting people from the disease, but no vaccine is 100% effective. If pertussis is circulating in the community, there is a chance that a fully vaccinated person, of any age, can catch the very contagious disease. The infection can be less severe in persons who have been vaccinated.

As of February 2013, the ACIP (Advisory Committee on Immunization Practices) has changed their recommendations to vaccinate pregnant women with Tdap, to protect the unborn infant through antibodies from the mother. Recommendations state that a pregnant women be vaccinated with each pregnancy between 27 – 36 weeks of gestation.























Environmental Hygiene

Bordetella pertussis is a Gram-negative coccobacillus, very short rods which may be mistaken for cocci (the shape is intermediate between cocci (spherical) and bacilli (rods)). The disease is spread by droplets; its incubation period is seven to 14 days.

The bacterium does not live on surfaces for long, as drying out (desiccation) kills the organism. Disinfection of surfaces can be performed. Although contact with contaminated surfaces is not the primary route of transmission, if contact occurs and proper hand hygiene is not performed, transmission may be possible to those who are not immune. Environmental surfaces should be properly cleaned and disinfected using a hospital disinfectant that has label claims for Gram negative bacilli.

The following Diversey disinfectants carry claims against Gram negative bacilli:

Product	Oxivir® 1 RTU / Wipes	Oxivir® Tb RTU / Wipes	Oxivir® Five 16	Alpha® HP Multisurface Disinfectant Cleaner	Avert™ Sporicidal Disinfectant Cleaner/Wipes	Virex® II 256	Virex® Tb	Virex® Plus	Expose® II 256	MoonBeam®3 UV Disinfection
Contact Time (Min)	1	1	5	5	1	5	3	3	10	3
										
Product	Oxivir® Tb RTU / Wipes	Oxivir® Plus (Concentrate)	Virox® 5 Concentrate	Virox® 5 (RTU & Wipes)	Percept™ (TMMC) (Concentrate, RTU & Wipes)	Virex® II 256	Avert™ Disinfectant Cleaner	MoonBeam®3 UV Disinfection		
Contact Time (Min)	1	5	5	5	5	5	1	3		
										

References:

1. MMWR, February 22, 2013/Vol. 62/No. 7
2. Centers for Disease Control – www.CDC.gov