Pertussis

Pertussis (also called whooping cough) is a highly contagious but preventable bacterial infection of the trachea (windpipe) and the bronchi (the air ducts to the lungs). It is caused by a bacterium called Bordetella pertussis. Pertussis usually affects young children who are not vaccinated. However, for the last 30 years it has been increasing among adults all over the world. The reason for this increase is decreasing immunity (protection from disease) after vaccination in childhood. The August 25, 2010, issue of JAMA includes an article about difficulties in diagnosing pertussis among adolescents and adults.

**SYMPTOMS**

Pertussis typically starts with cold-like symptoms (nose congestion, sneezing, and watery red eyes). However, unlike the common cold, the disease does not resolve after several days. One week later, the characteristic symptoms of pertussis may develop:

- spells of a long-lasting, hacking, wet cough
- sometimes vomiting after the cough
- characteristic high-pitched sound (a “whoop”) on inspiration (breathing in) after the cough spell

However, research shows that these classic symptoms are not very common in adolescents and adults with pertussis, and some patients with these symptoms do not have pertussis. The persistent cough of pertussis can last for several months, then gradually resolve. Because of this length of illness, the Chinese name for pertussis is the “100-day cough.”

**PREVENTION, DIAGNOSIS, TREATMENT**

The most important step for prevention of pertussis is vaccination during the first years of life. To reduce the reservoir of pertussis among adolescents and adults, in 2006 the Advisory Council on Immunization Practices recommended a booster vaccination (an additional vaccination increasing immunity) for all adolescents, as well as for adults at least once during their routine tetanus booster schedule. Vaccination of women prior to delivery is another important strategy for reducing pertussis infections in infants.

Early diagnosis of pertussis is difficult unless it affects a young child before vaccination, when it presents with severe and characteristic symptoms. In adults, more common causes of a persistent cough include smoking, asthma, gastroesophageal reflux disease (GERD), and treatment for hypertension (high blood pressure) with angiotensin-converting enzyme (ACE) inhibitors. Bacterial DNA tests for Bordetella pertussis are the most useful tests to diagnose pertussis in adults. These are performed on a nasal swab or wash specimen. If your doctor confirms the diagnosis of pertussis or suspects pertussis and you are in contact with infants at home or at work, he or she will start antibiotic therapy to prevent further spread of disease.

**PROGNOSIS**

The course of pertussis varies. Most children and adults completely recover, even without antibiotics, after several months of coughing. The severe cough of pertussis can be very disabling, interfere with sleep, expose unvaccinated persons to infection, and even cause rib fractures. Infants can experience nose bleeds, ear infections, pneumonia, seizures, brain damage, or even death due to impaired breathing.

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**FOR MORE INFORMATION**

- National Library of Medicine [www.nlm.nih.gov/medlineplus](http://www.nlm.nih.gov/medlineplus)
- Centers for Disease Control and Prevention [www.cdc.gov/ncidod/dbmd/diseaseinfo/pertussis_t.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/pertussis_t.htm)

**INFORM YOURSELF**

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at [www.jama.com](http://www.jama.com). Many are available in English and Spanish. A Patient Page on gastroesophageal reflux disease (GERD) was published in the May 9, 2001, issue of JAMA.

Sources: National Library of Medicine at the National Institutes of Health, Centers for Disease Control and Prevention

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