

# **Pertussis (whooping cough)**

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## **What is pertussis?**

Pertussis, or whooping cough, is a highly contagious bacterial infection that causes an uncontrollable, violent cough lasting several weeks or even months. It is caused by a bacterium that is found in the mouth, nose and throat of an infected person. Pertussis may begin with cold-like symptoms or a dry cough that progress to episodes of severe coughing.

## **Who gets pertussis?**

Pertussis can occur at any age. Children who are too young to be fully vaccinated and those who have not yet completed the primary vaccination series are at highest risk for severe illness. Since the 1980s, the number of reported pertussis cases has gradually increased in the United States. In 2005, over 25,000 cases of pertussis cases were reported in the United States, the highest number of reported cases since 1959. Approximately 60% of the cases were in adolescents and adults and may be a result of decreasing immunity in this population.

## **How is pertussis spread?**

Pertussis is primarily spread from person to person by direct contact with mucus or droplets from the nose and throat of infected individuals. Frequently, older siblings who may be harboring the bacteria in their nose and throat can bring the disease home and infect an infant in the household.

## **What are the symptoms of pertussis?**

Pertussis begins as a mild upper respiratory infection. Initially, symptoms resemble those of a common cold, including sneezing, runny nose, low- grade fever and a mild cough. Within two weeks, the cough becomes more severe and is characterized by episodes of numerous rapid coughs followed by a crowing or high pitched whoop. A thick, clear mucous may be discharged from the nose. These episodes may recur for 1 to 2 months, and are more frequent at night. Older people or partially immunized children generally have milder symptoms.

## **How soon after infection do symptoms appear?**

The incubation period is usually 7 to 10 days with a range of 4 to 21 days and rarely may be as long as 42 days.

## **When and for how long is a person able to spread pertussis?**

If untreated, a person can transmit pertussis from onset of symptoms to 3 weeks after the onset of coughing episodes. The period of communicability is reduced to 5 days after treatment with antibiotics.

## **What are the complications associated with pertussis?**

Major complications of pertussis are more common among infants and young children and may include pneumonia, middle ear infection, loss of appetite, sleep disturbance, syncope (temporary loss of consciousness), dehydration, seizures, encephalopathy (a disorder of the brain), apneic episodes (brief delay in breathing) and death.

## **What is the treatment for pertussis?**

The recommended antibiotics for the treatment and postexposure prevention of pertussis include azithromycin (Zithromax), erythromycin and clarithromycin (Biaxin). Alternately, trimethoprim-sulfamethoxazole (Bactrim) can be used.

## **Does past infection with pertussis make a person immune?**

Neither vaccination nor natural infection with pertussis guarantees lifelong protective immunity against pertussis. Since immunity decreases after 5-10 years from the last pertussis vaccine dose, older children, adolescents and adults are at risk of becoming infected with pertussis and need vaccination.

## **What is the vaccine for pertussis?**

### **Infants and Children**

The childhood vaccine for pertussis is usually given in combination with diphtheria and tetanus. Immunization authorities recommend that DTaP (diphtheria, tetanus, acellular pertussis) vaccine be given at 2, 4, and 6 and 15-18 months of age and between 4 and 6 years of age.

### **Pre-teens and Adolescents**

In 2005, a new vaccine was approved as a single booster vaccination for adolescents and adults called Tdap (tetanus, diphtheria, and acellular pertussis).

The preferred age for routine vaccination with Tdap is 11 or 12 years old. Adolescents, aged 11 through 18 should receive a single dose of Tdap instead of Td (tetanus, diphtheria) for booster immunization against tetanus, diphtheria, and pertussis if they have completed the recommended childhood DTP/DTaP vaccination series.

A single dose of Tdap vaccine is also recommended for children aged 7 through 10 years who are not fully vaccinated against pertussis.

### **Adults**

All adults over 19 years of age who have or who anticipate having close contact with an infant should receive a single dose of Tdap to protect against pertussis and reduce the likelihood of transmission. For other adults aged 65 years and older, a single dose of Tdap vaccine may be given instead of Td vaccine in persons who have not previously received Tdap. Tdap can be administered regardless of interval since the last Td vaccine.

Healthcare personnel, regardless of age, should receive a single dose of Tdap if they have not previously received Tdap and regardless of the time since their most recent Td vaccination.

In New York State, pertussis vaccine is required of all children born after 1/1/2005 who will be enrolled in pre-kindergarten programs and schools. Tdap vaccine is required for children born on or after 1/1/1994 and enrolling in the 6<sup>th</sup> through 10<sup>th</sup> grade.

## **What can be done to prevent the spread of pertussis?**

The single most effective control measure is maintaining the highest possible level of immunization in the community. Treatment with appropriate antibiotics, such as Zithromax, will shorten the time a person can spread pertussis to 5 days after the beginning of treatment. People who have or may have pertussis should stay away from young children and infants until properly treated. Treatment of people who are close contacts of pertussis cases is also an important part of prevention.

## **What is parapertussis?**

Parapertussis is a bacterial illness that is similar to pertussis (whooping cough) but is not as common and generally causes less severe symptoms. Up to 40% of all cases of parapertussis will present with no symptoms. Very young infants (<6 months of age) may have a more severe course of parapertussis than older persons. Parapertussis is spread through the air in droplets produced during coughing and sneezing. A person can be infected with parapertussis and pertussis at the same time. Parapertussis can be distinguished from pertussis by certain laboratory tests. Antibiotic treatment should be started as soon as parapertussis is suspected. All infants less than 6 months of age should receive antibiotics as a preventive measure if they have been in contact with a person who has parapertussis.