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By Dr. Edward Bailey  
Chief of Pediatrics,  
NSMC North Shore Children's Hospital



## Whooping cough's return renews call for vaccination

What is whooping cough? Why does a disease, long thought to be under control, suddenly appear as an epidemic, putting infants and children in harm's way? How can I protect my family? These questions were recently posed to me by a regular reader, in response to reports of a significant outbreak of the disease at a Boston teaching hospital.

Pertussis, as whooping cough is called, is a highly contagious infection caused by the bacteria *Bordetella Pertussis*. Nearly 90 percent of people exposed to a patient with whooping cough will contract the disease if they have not developed immunity. When vaccines first became available in the 1930s, there were more than 250,000 reported cases of pertussis in the United States each year. Vaccinations (the "P" in DTaP vaccine) reduced the rate dramatically to between 5,000 and 7,000 reported cases per year by 1980.

Isolated epidemics of whooping cough continue to reoccur every three to five years. Until recently, the vaccine used was available only to children under age 7 because it frequently led to complications in anyone older.

In addition, because some children were never vaccinated and many older children and adults were never re-vaccinated, their immunity declined, and they became a constant source of infection for those with no immunity. A combination of improved testing and a heightened level of physician concern and awareness of this disease has led to a realization that whooping cough is much more common than we ever thought.

Whooping cough is not an insignificant disease. Children are most severely affected; in the United States pertussis still claims a few young lives each year.

The illness occurs in three stages. It begins as an upper respiratory infection that may last up to two weeks. Instead of improving, the patient develops a characteristic cough that usually lasts up to six weeks, but this second, *paroxysmal*, stage can range from one to 10 weeks. In this stage, the coughing

occurs in bursts or paroxysms, which may occur as many as 30 times per day. These coughing spells usually conclude with a whooping sound, and are frequently followed by vomiting. In severe cases, the coughing interferes with breathing, eating, and drinking.

Young children, who contract whooping cough, are at risk for malnutrition, pneumonia, seizures, brain injury, and death during this period. Children under 6 months of age are most at risk as they are the least likely to be fully vaccinated, have the weakest immune systems and the most vulnerable airways.

As children grow older, their pertussis cough and symptoms are usually less severe, and may not be characteristic of whooping cough. For many adults, coughing lasts an average of 10 weeks, often in association with severe sweating, flushing and extreme exhaustion. Following this stage, the patient begins a two- to three-week convalescent stage of slow recovery.

Whooping cough is a bacterial infection meaning that antibiotics can be used to treat it. Antibiotics can both shorten the course of the pertussis and reduce its severity, if they are taken within the first week of the disease. Even though antibiotic treatment may have no impact on the patient if started after the first week, they can decrease the transmission rate of pertussis if they are taken within the first 21 days of infection. When there is a high level of suspicion that a patient has contracted whooping cough, antibiotics should be started even before laboratory tests confirm the infection.

Immunization remains the most effective intervention strategy to counteract whooping cough. Too often, these vaccination programs become the focus of concern as we all worry about potential immunization complications. In addition, society has become complacent, no longer worrying about diseases long thought to be under control.

The good news is that new vaccines with fewer side effects are now available. And for the first time, their use is approved for individuals up to age 64. Healthcare providers who work with children are given first priority for the new vaccine as we begin to immunize a whole new population of at-risk individuals. These and any new vaccines in the future will eventually wipe out the sources of these infections, and will finally gain control over the problem of whooping cough.

Parents who would like to know more about whooping cough should talk to their pediatrician, or visit the American Academy of Pediatrics website at [www.aap.org](http://www.aap.org)

[Dr. Edward Bailey is chairman of pediatrics at NSMC North Shore Children's Hospital, on staff at Massachusetts General Hospital for Children, and a father](#)

of three. He can be contacted at NSMC North Shore Children's Hospital, 57 Highland Ave., Salem, MA 01907 or at [ebailey@aap.org](mailto:ebailey@aap.org)