

To Your HEALTH Fresno County



Highlighting public health issues and ways to improve personal, family, neighborhood and community health

Whooping Cough – The Cyclic Epidemic

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First recognized in the Middle Ages and referred to as “the kink” (fit or spasm) and “kindhoest” (child’s cough), the misery that is whooping cough made about 200,000 children ill, and killed 9,000 of them, each year in this country until vaccines were available in the 1940s. It was one of the most common childhood diseases and a major cause of childhood death in the U.S.

Whooping cough, also called pertussis, is caused by the bacteria *Bordetella pertussis* and is spread from person to person through respiratory droplets containing the bacteria when ill persons cough, sneeze, laugh, etc. The bacterium attaches to the hair-like cilia that line part of the upper respiratory tract and releases toxins that damage the cilia and cause the airways to swell. Debris accumulates in the airway due to ineffective clearance mechanisms. More mucous is produced, and uncontrollable coughing spasms result that end in the characteristic sharp, high-pitched intake of air (the whoop).

Symptoms of whooping cough can develop from 6 to 20 days after being exposed, and begin as cold-like symptoms (the catarrhal stage) that last 1 to 2 weeks. The paroxysmal stage then begins with fits, or paroxysms, of coughing that increase in severity over another 1 to 6 weeks (sometimes as long as 10 weeks – the Chinese know whooping cough as the 100 day cough). Coughing is severe enough to cause vomiting, passing out, loss of bladder control, exhaustion, and even abdominal hernia and rib fractures, as well as the whoop. During a convalescent stage, coughing lessens gradually over 2 to 3 weeks, but the coughing fits can return with other respiratory infections for many months.

Whooping cough is particularly dangerous to babies younger than one year where, rather than the characteristic cough, the illness presents as apnea (episodes of interrupted breathing). In addition to

apnea, complications of whooping cough in babies include pneumonia, seizures, encephalopathy, and death.

Whooping cough may also result in severe complications for teens and adults, including pneumonia, encephalitis, pulmonary hypertension, and secondary bacterial superinfection, but the illness is generally milder, especially for those who have gotten the vaccine.

Whooping cough is commonly treated with antibiotics, which can reduce the severity of the illness and help reduce the spread of the illness to others, but must be initiated early in the illness to be effective (which is unlikely because of the difficulty recognizing the illness during its early, mild catarrhal stage). Antibiotics can be given to individuals recently exposed to whooping cough to prevent the illness, especially exposed household members and exposed individuals at high risk for severe illness or who have routine contact with individuals at high risk for severe illness.

Other things to consider in treating individuals with the illness include:

- Keeping your home free of irritants such as smoke, dust, and chemical fumes
- Using a clean cool mist vaporizer to help loosen mucous and soothe cough
- Drinking plenty of fluids
- Eating small, frequent meals to reduce vomiting.

Cough medications are unlikely to have any benefit.

Prior to vaccines for whooping cough, the illness was epidemic with cycles every 2 to 5 years. Although a dramatic reduction in numbers of cases followed introduction of vaccine, the cyclical nature of epidemic did not change. The reason for this is that protection against the illness, from both vaccination and recovery from natural illness, wanes over time so that the illness continues in a reservoir of adults (many of whom don't even know they have it) who subsequently transmit the illness to unvaccinated children. It is estimated that 120,000 people in the U.S. still get whooping cough every year with as many as 90% not being diagnosed.

The last peak whooping cough years in California were 2010 and 2014. The next epidemic peak may well occur next year.

Critical to the protection of our infants from serious effects of the next epidemic is our effort to vaccinate. All children should be vaccinated against whooping cough at 2, 4, 6, and 15 to 18 months of age. They should be vaccinated again at 4 to 6 years of age and at 11 years of age. Adults should receive a vaccination if not vaccinated as a pre-teen or teen.

Finally, to protect newborns too young to be vaccinated it had previously been recommended that mothers be vaccinated at delivery, as well as all other potential care providers of the baby. This postpartum vaccination and so-called "cocooning" do not provide direct protection to the newborn infant, and these strategies are no longer considered optimal for preventing infant whooping cough. Best practice at this time is for ALL pregnant women to receive vaccination at the earliest opportunity between 27 and 36 weeks gestation during EVERY pregnancy regardless of prior vaccination. This provides protection to the newborn through maternal antibodies until the infant is old enough to be vaccinated.

The next cycle of whooping cough epidemic is coming. Vaccinate!

Here's to your health!

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