Whooping Cough (Pertussis)

Hilliard Pediatrics, Inc. -- Dr. Tim Teller – 5/13

Introduction.

Whooping cough or pertussis is a **bacterial infection** causing a **prolonged cough**. It is caused by bacteria called *Bordetella pertussis*. Whooping cough is on the rise in recent years. From 2011 to 2012, the State of Washington went from 50 cases to 4000 cases in one year. Before the vaccine against whooping cough became available, the U.S.A. averaged 300,000 cases and 10,000 deaths per year.

Whooping cough is spread through coughing from person to person. Most cases are in infants and 10-18 year olds, but can occur at any age. As many as 80% of those exposed in a household will develop whooping cough. The number of children who would develop whooping cough after an exposure at school, daycare, or other place outside the home is less than this 80%.

The increase in whooping cough is related to the increase in the number of families nationwide delaying or avoiding vaccines for their children. This is true in the State of Washington.

Vaccines for Whooping Cough.

The vaccine for whooping cough is given routinely at 2 months, 4 months, 6 months, 15 months, 5 years of age, 10-12 years of age, and then as a booster dose every 10 years. The vaccine is given with the vaccines for tetanus and diphtheria as a "DaPT" (the "P" stands for pertussis) or "Tdap" if older than 6 years of age. The vaccine gives people good but not great protection against whooping cough. A **fully immunized child or adult can still become ill with whooping cough** when exposed to the bacteria.

Adults who have not had the whooping cough vaccine in the last 10 years are at significant risk for becoming sick from whooping cough. Many adults have more mild symptoms but can then spread the bacteria to others, especially children, who may become much more ill.

The Classic Case of Whooping Cough.

An infant or child with a "full blown" case of whooping cough shows symptoms **7-10 days after being exposed** to the germ. For the first two weeks, there are typical "cold" (viral upper respiratory infection) symptoms that are **no different than a usual "cold"**: runny nose, mild cough, nasal congestion, and possibly reddened white of the eyes (without thick eye discharge). For the next 2 or more weeks, there will be an intermittent dry, hacking cough. A **series of forceful coughs** after one breath in will happen, sometimes with **a "whooping" sound** at the end of coughing spell when the child tries to catch their breath. Very young infants rarely make the "whoop", but may have gagging, gasping, apnea (brief periods when their breathing stops), and a blue color around the mouth and face. During this time, some children cough so forcefully that they will have broken blood vessels in the white of the eyes and small pin-point red dots on their face, neck, and chest called petechiae. This stage of the illness is followed by a long period of time (weeks or months) when the cough gradually lessens, although it may worsen again if the child is exposed to a new "cold" virus. **Fever is not usually seen** during a whooping cough illness, except when another infection is also present at the same time (such as an ear infection).

The Typical Case of Whooping Cough.

A child or adult who is fully immunized with the pertussis vaccine may have an illness not that different from a typical cough and cold, sinusitis, bronchitis, or walking pneumonia. The most likely things to make us concerned with whooping cough in this situation are these following things:

1. An **exposure to whooping cough** in recent weeks.

2. **A prolonged cough** (more than 21 days), especially if the cough is more severe or more frequent.
3. A cough where there are stretches with no cough followed by "**coughing jags**" where someone coughs frequently over a few minutes.
4. A violent or choking **cough followed by vomiting** (throwing up).
5. A **"whooping" sound** as a child breathes in at the end of a series of coughs.
6. **No fever**.

When to worry if your child have been exposed to Whooping Cough.

Persons with whooping cough are **contagious** from the beginning of the cold symptoms as the illness starts through the third week after the start of the cough. Once **5 (five) full days on antibiotics** are completed your child is **no longer contagious**.

The longer the exposure to someone who is contagious with whooping cough, the more likely someone is to "catch" the germ from that person. Many persons with whooping cough are not aware of where they caught the infection. An exposure in an enclosed area for an extended time increases the likelihood that one person will spread the pertussis bacteria to another person. **Common situations would include the classroom, long car or bus rides, sleepovers, playing with friends, and spending vacation with an infected person**. A brief exposure (such as during a brief car ride, passing in the school hallway, sitting next to someone for a few minutes in the office's waiting room) is much less likely to pass the bacteria from one person to another.

Preventing the spread of Whooping Cough.

One of the few illnesses that we actively offer a **preventative ("prophylactic") antibiotic** for is whooping cough. The reason is that with a significant exposure (see above), the chance of becoming ill with whooping cough is so high. The medications used for preventing the illness and active treatment of the illness are the same (see details below).

Children and adults who are not fully immunized should make sure they catch up with the needed doses of the vaccine. **Vaccination** is not a substitute for a preventative antibiotic if a significant exposure has happened and may not prevent the illness if someone who has already been infected.

Having a case of whooping cough does not prevent someone from having whooping cough in the future.

Antibiotics for Whooping Cough.

For years, the antibiotic used to treat whooping cough was erythromycin. Now, the vast majority of our patients are treated with **azithromycin** (**Zithromax®**). Azithromycin is a once daily for 5 days medicine that does come as a generic. It has less stomach upset compared to erythromycin. It comes as a liquid or tablets (no chewables). Erythromycin for whooping cough is given 4 doses a day for 14 days.

For children who are allergic to **azithromycin** (**Zithromax®**) are treated with the generic of Bactrim® (trimethoprim-sulfamethoxazole) twice a day for 14 days. The penicillins (such as Amoxicillin) and cephalosporins (such as cefdinir/Omnicef®) are **not** recommended because they are not effective against the whooping cough germ.

Testing for Whooping Cough.

The test for whooping cough is done in the office (or urgent care or emergency department) by a physician or nurse practitioner. It is a **swab done in the back of the nose** ("nasopharyngeal") with two soft plastic swabs. We send the swabs off to the lab at Nationwide Children's Hospital and typically get the results the next day. When we get the results, we will call you whether the test shows pertussis ("positive") or not ("negative"). If your child is found to have whooping cough and has not been started on antibiotics, we will call in the antibiotics to the pharmacy.

The "What To Do When" List.

** If your child has a **cough** that began **at least 14 days** ago and the cough is frequent, not improving (or worse) or you hear a "whoop" when they cough or they vomit after coughing => your child should be seen in the office for a walk-in visit at 8 a.m. or for an appointment.

** If your child has **no symptoms** (no cough, no runny nose, no nose congestion) **but** has been **exposed** to whooping cough => call to discuss with us during regular business hours whether your child needs to take a course of preventative antibiotics. We often are able to do this after you have discussed the issue over the phone with the nurse.

** If your child has an **exposure** to whooping cough and **has a cough** (even a mild cough) => your child should be seen in the office for a walk-in visit or an appointment during regular hours. Typically, we will test these children for whooping cough. Depending on how suspicious we are of whooping cough, we may start the azithromycin (Zithromax®) antibiotic before the test results are available.

** If your child was found to have whooping cough, the cough stopped, and now a week or more later a cough starts without any new exposure to whooping cough => the **new cough** is very likely due to something other than whooping cough. We would treat it like an upper respiratory virus unless it goes past 14 days of symptoms.

** If after more than 6 weeks of coughing your child was found to have whooping cough and after the 5 days of azithromycin (Zithromax®) they are **not coughing any less** => the longer the cough has gone on before beginning the antibiotics, the less likely it is that the antibiotics will help with the cough. However, the antibiotics will decrease the chances of the bacteria being spread to other people. As the weeks go by, the cough will gradually lessen.

** If your child is on antibiotics for whooping cough, the **cough is worsening** and they have a **fever** => we want to see your child in the office for walk-ins or an appointment to determine if your child now has pneumonia, which can be a complication of whooping cough.

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