

## *Pertussis Facts*

- Pertussis, a.k.a. "whooping cough" is a gram-negative bacterial disease. "Pertussis" means "violent cough."
- It is transmitted by droplets during coughing. The strongest transmission is in the first 2 weeks of coughing. But for as long as a person coughs, they are contagious.
- The incubation period is 1-3 weeks (you get sick 1-3 weeks after exposure).
- In adult coughs lasting more than a week, about 1 in 5 is pertussis. Adults do not feel as sick as babies or kids, so they often do not get treated or vaccinated. Adults and teenagers are a major source of disease spread to unvaccinated or under-vaccinated babies and kids.

### *Diagnosis:*

It is **not** necessary to get a nasal-throat swab to diagnose pertussis. A clinical case of pertussis is defined as:

An acute cough illness lasting at least 14 days, accompanied by one of the following:

- paroxysms of coughing ("coughing fits")
- post-tussive vomiting (you cough so hard you throw up)
- inspiratory whoop (loud gasp for air during a coughing fit)

If you were exposed to a known case, then a clinical case is defined as a cough illness for at least 14 days, without any other signs.

Using this definition, 80% of negatively diagnosed cases ("you do not have pertussis") are "true," and 60% of positively diagnosed cases are "true." (If we tell you that you DO have pertussis based on these signs, there's a 40% chance you really don't, and that the cough is caused by something else. If we tell you that you do NOT have it, there is still a 20% chance you DO.)

**Lab test** - a culture swab from the back of the nose where it meets the throat. Takes a long time (days to weeks). Has a lot of false negatives, and gets worse over time (more time since first becoming sick)\*. Don't wait for lab results, to treat the disease.

**Blood test** - complete blood count shows a very high white blood cell count, especially "lymphocytes."

**Chest x-ray** - doesn't usually show much, but useful if there are signs of pneumonia, a common complication of pertussis. CDC guidelines for testing: <http://www.cdc.gov/nip/publications/pertussis/guide.htm>

### *Treatment:*

Under 2 months of age, consult pediatrician and consider hospitalization.

Inhalers/nebs, steroids, and cough suppressants have not been shown to help people with pertussis.

Antibiotics, when given early in illness, may shorten the illness and keep it from spreading.

If the person has been coughing for 3 weeks or more, antibiotics might not help with the illness much, but may still reduce the spread.

The American Academy of Pediatrics recommends that people should take antibiotics, even if they are not sick, but if they are "close contacts" of someone who has pertussis. ("Close contact" means: face-to-face exposure within three feet, sharing a space (e.g. bedroom, car) with a symptomatic patient for  $\geq 1$  hour, or direct contact with secretions from coughing, kleenex, etc.)

#### **Antibiotics:**

##### Azithromycin:

Age 2-5 months: 10 mg/kg per day in a single dose for 5 days

Age 6 months to 12: 10 mg/kg in a single dose on day 1 then 5 mg/kg per day (maximum: 500 mg) on days 2-5

Age 12+: 500 mg in a single dose on day 1 then 250 mg per day on days 2-5

##### TMP-SMX (sulfa drug, for azithromycin allergy):

Age 2 months to 12 yrs: 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days

Age 12+: TMP 320 mg per day, SMZ 1600 mg per day in 2 divided doses for 14 days

### *Home nursing:*

People with frequent coughing fits have increased fluid and calorie needs, which can be difficult to provide if the person is coughing or vomiting. Pay close attention to the sick person's fluid and nutritional status.

### *Indications for hospitalization:*

Respiratory distress (working hard to breathe)

Inability to feed

Pneumonia

Spells of not breathing +/- coughing

Spells of turning blue or grey

Seizures

\*"The decline in culture sensitivity over time was illustrated in a review of 261 pertussis case patients in whom the sensitivity ("true-negative" rate) was 55 percent for specimens obtained within the first week after cough onset and then fell progressively to 42, 25, and 10 percent in specimens obtained in the second, third, and fourth weeks after cough onset." --UpToDate.com