Signs and Symptoms
Symptoms of early pertussis may be difficult to distinguish from other respiratory infections and include a cough that gradually becomes paroxysmal and may last 1-2 months. Paroxysms may be followed by a characteristic inspiratory whoop, and may induce vomiting. However, infants under 6 months, vaccinated children, adolescents, and adults often do not have the typical whoop or cough paroxysm.

Recommendations for Testing and Treatment:

- Close contacts that are symptomatic with a cough are infectious and should stay at home for five days following the start of appropriate antibiotic treatment.
  - Close contacts that are symptomatic with a cough may need to be tested to assist in controlling disease spread and should be given antibiotic treatment.
- Asymptomatic close contacts are NOT infectious but may need to be given prophylactic antibiotics.
  - They may continue to engage in activities during the course of their prophylaxis.
  - They should not be tested for pertussis.
- Persons who are not a contact of a case, but have symptoms compatible with pertussis (prolonged cough, paroxysms of coughing, posttussive vomiting, inspiratory whoop, and apnea) should be tested.
- Patients with symptoms of pertussis that have been coughing for more than 30 days are not infectious and may NOT require treatment. Transmission may have occurred during the patient’s infectious period and therefore a follow-up investigation may be indicated. Contact your local health department or CADE for consultation.
- To determine who is a close contact, consult your local health department or CADE.
- Patients can remain symptomatic after successful treatment.
- Inappropriate testing can lead to false-positive results. No test is perfect. Patients who do not meet epidemiological and symptomatic criteria for pertussis have a greater chance of returning a FALSE POSITIVE result. This is due to the positive predictive value (PPV) of a test and is a function of disease prevalence. Diagnosis of pertussis in ALL patients should be made on the basis of clinical and epidemiological criteria.

Laboratory Testing at SHL:
A positive PCR result DOES NOT mean that a patient is infectious or that they have clinically relevant disease. Laboratory tests should be used in conjunction with clinical symptoms for diagnosis and can be used to confirm but not rule out pertussis.
- The test performed at SHL is molecular (PCR) detection of *B. pertussis*. DNA PCR testing is very sensitive and collection instructions must be followed carefully.
http://www.shl.uiowa.edu/testmenu/clinicaltestmenu.xml and scroll to the test “Bordetella pertussis” for collection instructions. Specimens should not be collected in the same area as is used for giving pertussis vaccinations. The DNA in the vaccine can lead to false-positive patient results.  

- The best specimen for *B. pertussis* detection by PCR is a Dacron or rayon posterior nasopharyngeal swab.  
- The SHL Pertussis Collection Kit contains swabs and tubes that have been demonstrated to not interfere with our PCR test.  
- Please contact SHL for testing information and to order SHL collection kits (319-335-4500).  

**Test Interpretation**  

- A result of “Detected” means that DNA for the bacterium that causes pertussis (*Bordetella pertussis*) has been found in the specimen. The PCR test detects both live and dead bacteria and cannot be used as a test of cure. Individuals can retain detectable *B. pertussis* DNA in their respiratory tract even after successful treatment with antibiotics.  
- A result of “Not Detected” means that no DNA from the bacteria has been found in the patient’s specimen. This test is very sensitive, so should detect *B. pertussis* DNA in a specimen that was properly collected and at the right time post disease on-set.  
- A result of “Equivocal” means that this test is a borderline result that falls between the cut-off values for positive and negative. This is not the same as a “Detected” result and patients must be diagnosed based upon clinical and epidemiological criteria.  
- A result of “Indeterminate” means that there was a technical issue with the test, so it is not possible to determine a result. The patient should be retested. The most common causes for this result are either interference with the PCR test, or our test indicates that the specimen was suboptimal due to the inability to detect any human DNA from the specimen. This occurs on average in <1% of the specimens.  

**Prevention:**  

- A person with pertussis is infectious for 21 days after cough onset or until they have completed 5 days of appropriate antibiotics. **They should stay home while infectious.**  
- Adult and adolescent vaccination is highly encouraged. Pertussis is an endemic disease that can lead to significant illness. Vaccination in children and adults helps to reduce the risk of infecting babies, who are at most risk for severe illness.  

**Additional Information**  

Please contact IDPH at 800-362-2736 or your local public health department for information on treatment and prevention. For additional information about pertussis visit http://www.idph.state.ia.us/CADE/DiseaseIndex.aspx?disease=Pertussis. A weekly surveillance report can be found at http://www.idph.state.ia.us/Cade/Default.aspx