

When the Cough is Pertussis

Case Definition

The following clinical case definition for pertussis was approved by the Council of State and Territorial Epidemiologists (CSTE) in 2013:

A cough illness lasting at least 2 weeks with one of the following:

- Paroxysms of coughing, OR
- Inspiratory “whoop,” OR
- Post-tussive vomiting, OR
- Apnea (with or without cyanosis) (FOR INFANTS AGED < 1 YEAR ONLY)

Differential Diagnosis

The clinical presentation of pertussis often mimics many other more commonly encountered bacterial and viral respiratory infections. These include; *Bordetella parapertussis*, *Mycoplasma pneumonia*, *Chlamydia trachomatis*, *Chlamydia pneumonia*, *Bordetella bronchiseptica*, *Bordetella holmesii*, *Respiratory Syncytial Virus*, and Rhinoviruses. Non-infectious etiologies include reactive airways disease and/or cough of irritant or allergic origin.

Exam Findings

<u>Signs or Symptom</u>	<u>Consistent with Pertussis</u>		<u>Comments</u>
	YES	NO	
Gagging and/or apneic episodes in an infant	+		Infants presenting with these symptoms should always be ruled out for pertussis
Fevers of >101.0 F with accompanying non-productive cough		+	Consider other bacterial and/or viral etiologies
Productive cough for 2-3 weeks with intermittent low grade fevers		+	Consider other bacterial, viral and/or allergic etiologies
Non-productive cough for ≥2 weeks without any other known cause, with inspiratory “whoop” and/or paroxysms of coughing and post-tussive vomiting	++		Consider allergic and/or irritant etiologies
Non-productive cough of > 3 weeks in duration without inspiratory “whoop”, post-tussive vomiting, cough paroxysms, apnea or any other known cause	+/-		Higher suspicion if symptoms occur in a community experiencing an outbreak
Non-productive chronic cough (e.g. emphysema, asthma) with a recent change in character	+/-		Investigate for any other source for cough change (infectious, environmental)

Confirming the Diagnosis

Clinical suspicion must be confirmed with laboratory tests. Tests to confirm the diagnosis of pertussis should be ordered and performed regardless of an individual's vaccination history.

Testing

Testing for pertussis is most reliable when performed early in the course of the illness and prior to the initiation of antibiotic treatment. Testing of asymptomatic contacts is NOT necessary and should be discouraged.

In an individual with a clinical syndrome compatible with pertussis AND without other apparent cause, testing should be considered, especially if:

- the individual maintains close contact with infants younger than age 12 months (e.g. parents, grandparents, childcare providers), OR
- the individual is pregnant and/or immunocompromised.

In a community experiencing a pertussis outbreak, testing should be considered if:

- the individual has a non-productive cough of seven days or greater without any other known cause even if no epidemiologic link can be established, OR
- the individual has a non-productive cough of any duration and an epidemiologic link to a known pertussis case.

Reporting

All potential pertussis cases must be reported to the local health department (LHD) in the county in which the individual resides within 24 hours of when a case is suspected or identified. Prompt reporting supports prevention and control efforts. The LHD and the New York State Department of Health (NYSDOH) Bureau of Immunization can assist in investigating any potential cases of pertussis.

Resources

- Immunization, NYSDOH: www.health.ny.gov/prevention/immunization/
- Pertussis (Whooping Cough), Centers for Disease Control and Prevention (CDC): www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm
- Health Care Professionals -Use of Polymerase Chain Reaction (PCR) for Diagnosing Pertussis, CDC: <http://www.cdc.gov/pertussis/clinical/diagnostic-testing/diagnosis-pcr-bestpractices.html>
- Control of Communicable Diseases Manual, 20th ed. (2014) American Public Health Association (APHA)
- Red Book: Report of the Committee on Infectious Diseases, 29th ed. (2012), American Academy of Pediatrics
- Pink Book: Epidemiology and Prevention of Vaccine-Preventable Diseases, 12th ed. 2nd printing (2012,) CDC: www.cdc.gov/vaccines/pubs/pinkbook/index.html