

## PERTUSSIS

### Report suspect pertussis cases

Pertussis is a Category I Reportable Disease according to Wisconsin Department of Public Health (WDPH) regulations (DHS 145.04). Health care providers should report a suspected or confirmed case of pertussis to the local or Tribal health department within 24 hours by either submitting a case report online through the Wisconsin Electronic Disease Surveillance System (WEDSS) or by fax using an [Acute and Communicable Disease Case Report \(F44151\)](#). LHD contact information can be found here: <https://www.dhs.wisconsin.gov/lh-depts/counties/index.htm>

For after-hours, weekends, and holidays, please contact the DHS epidemiologist on call at 608-258-0099.

### Laboratory testing for suspect patient

- **PCR testing (*preferred testing method*)**: Obtain a nasopharyngeal (NP) swab as soon as pertussis is suspected, preferably within 21 days of cough onset and prior to the initiation of antibiotic therapy. Many clinical labs and the Wisconsin State Laboratory of Hygiene perform this testing.
- **Culture**: Collect during first 2 weeks of illness following cough onset when viable bacteria are still present. Culture is less sensitive than PCR.
- **Serology (*not recommended*)**: Many of the commercially available serology assays available in the U.S. have variable or unknown clinical accuracy. This test is not performed at Wisconsin State Lab of Hygiene.

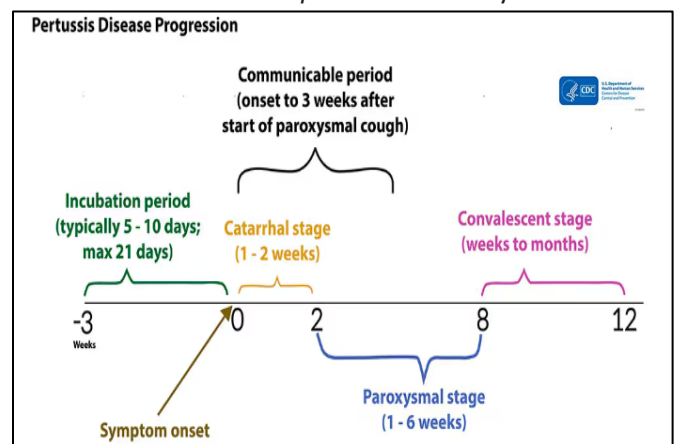
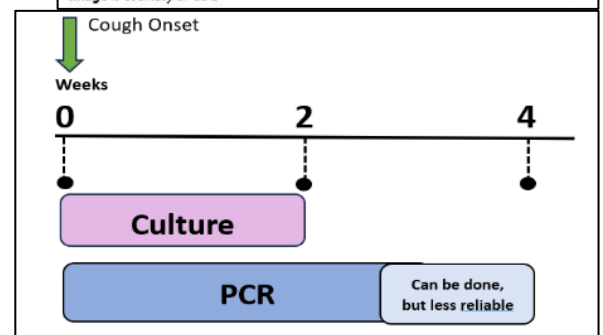
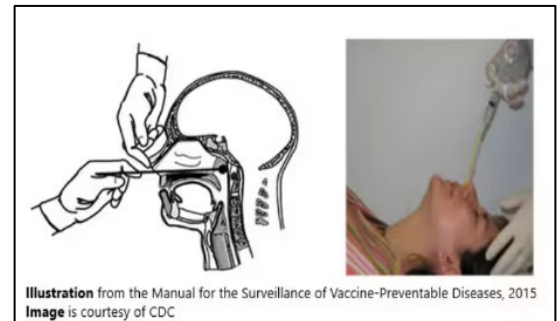
### Clinical presentation

- Pertussis has an insidious onset with **catarrhal symptoms** that are indistinguishable from those of minor respiratory tract infections.
- Next is the **paroxysmal stage** characterized by numerous, rapid coughs.
- The final stage is the **convalescent stage**, which can take from weeks to months to resolve.
- Transmission is usually person to person through respiratory droplets.
- Previously vaccinated adolescents, adults, and children may become infected with *B. pertussis* but may have milder disease than infants and young children.

### Differences in clinical presentation

In infants, apnea may be the only symptom and the cough may be minimal or absent.

It is easy to overlook pertussis in the differential diagnosis of cough illness in adolescents and adults. Illness is generally less severe, and the typical "whoop" less frequently seen in these populations.



### Communicability of pertussis

Pertussis is highly communicable, as evidenced by secondary attack rates of 80% among household contacts. People with pertussis are infectious from the beginning of the catarrhal stage through the third week (21 days) after the onset of paroxysms or until 5 days after the start of effective antimicrobial treatment. **Please note that for the purpose of public health follow-up, DHS uses 7 days prior to the cough onset for the start of the infectious period.**

### Treating pertussis

Recommended antimicrobial treatment and post-exposure prophylaxis for pertussis, by age group.<sup>1,2</sup>

Age group	Azithromycin	Erythromycin	Clarithromycin	TMP-SMX (Alternative)
<1 month	10 mg/kg/day as a single dose daily for 5 days <sup>3,4</sup>	40 mg/kg/day in 4 divided doses for 14 days	Not recommended	Contraindicated for infants younger than 2 mo
1-5 months	10 mg/kg/day in a single dose for 5 days <sup>3</sup>	40 mg/kg/day in 4 divided doses for 14 days	15 mg/kg/day in 2 divided doses for 7 days	2 mo or older: TMP 8 mg/kg/day, SMX 40 mg/kg/day in 2 doses for 14 days
6 months or older and children	10 mg/kg as a single dose on day 1 (max: 500 mg) then 5 mg/kg/day as a single dose on days 2-5 (max: 250 mg) <sup>3,5</sup>	40 mg/kg/day in 4 divided doses for 7-14 days (max: 2 g/day)	15 mg/kg/day in 2 divided doses for 7 days (max: 1 g/day)	TMP 8 mg/kg/day, SMX 40 mg/kg/day in 2 doses for 14 days
Adolescents and adults	500 mg as a single dose on day 1 then 250 mg as a single dose on days 2-5 <sup>3,5</sup>	2 g/day in 4 divided doses for 7-14 days	1 g/day in 2 divided doses for 7 days	TMP 320 mg/day, SMX 1600 mg/day in 2 divided doses for 14 days

<sup>1</sup>CDC. Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis: 2005 CDC guidelines. MMWR 2005.

<sup>2</sup>Committee on Infectious Diseases, American Academy of Pediatrics. David W. Kimberlin, MD, FAAP, ed. 2024. Red Book: 2024-2027 Report of the Committee on Infectious Diseases - 33rd Ed. American Academy of Pediatrics. ISBN 978-1-61002-734-2. eISBN 978-1-61002-735-9. ISSN 1080-0131.

<sup>3</sup>Azithromycin should be used with caution in people with prolonged QT interval and certain proarrhythmic conditions.

<sup>4</sup>Preferred macrolide for this age because of risk of idiopathic hypertrophic pyloric stenosis associated with erythromycin.

<sup>5</sup>A 3-day course of azithromycin for PEP or treatment has not been validated and is not recommended.

### Recommended exclusion

Exclude and isolate the patient until 5 days of appropriate antibiotic therapy has been completed. If the patient has been coughing for more than 21 days (or more than 42 days in an infant aged less than 12 months), isolation and exclusion is not necessary.

### Postexposure antimicrobial prophylaxis (PEP)

[PEP](#) should be provided within 21 days of onset of cough in the index patient to:

Household contacts of a pertussis case.

People at high risk of developing severe pertussis infection including pregnant women in their third trimester, infants less than 12 months of age, people who have asthma, or are immunocompromised, and medically fragile individuals. Those who will have contact with people at high risk of developing severe pertussis infection (e.g. those who work in healthcare or childcare settings).

### Resources

CDC's Manual for the Surveillance of Vaccine-Preventable Diseases, [Chapter 10: Pertussis](#)

[CDC's Clinical Overview of Pertussis](#)