



Clinical Overview of Pertussis



Health Care Providers

DEC. 1, 2025

KEY POINTS

- Pertussis, also known as whooping cough, is an acute infectious disease caused by the bacterium *Bordetella pertussis*.
- Pertussis is a human disease and no animal or insect source, or vector is known to exist.
- CDC recommends vaccination and postexposure antimicrobial prophylaxis to prevent pertussis.



Cause

B. pertussis is a fastidious, gram-negative bacterium requiring special media for isolation. *B. pertussis* produces multiple antigenic and biologically active products including:

- Adenylate cyclase
- Agglutinogens
- Filamentous hemagglutinin
- Pertactin
- Pertussis toxin
- Tracheal cytotoxin

These products are responsible for the clinical features of pertussis. An immune response to one or more of them produces immunity following infection.

Immunity

Some observational studies suggest that pertussis infection can provide immunity for 4 to 20 years, but that it's not lifelong.



This illustration of *Bordetella pertussis* is computer generated.

Incubation

Pertussis symptoms usually develop within **5 to 10 days** after exposure, but sometimes not for as long as 21 days.

How it spreads

Transmission is usually person to person through **respiratory droplets** or contact with airborne droplets.

Clinical features

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.

KEEP READING
[Clinical Features](#)

Prevention

CDC recommends vaccination and postexposure antimicrobial prophylaxis to prevent pertussis.

Vaccination

CDC recommends pertussis vaccination for people of all ages.

KEEP READING
[Pertussis Vaccination Recommendations](#)

Postexposure antimicrobial prophylaxis

CDC supports providing postexposure antimicrobial prophylaxis especially to

- **Household contacts** of a pertussis case
- **People at high risk** of developing severe pertussis infection
- **Those who will have contact** with people at high risk of developing severe pertussis infection

FOR PUBLIC HEALTH
[Postexposure Antimicrobial Prophylaxis](#)

Hygiene

CDC recommends practicing good hygiene to prevent the spread of respiratory illnesses. Healthcare providers can encourage patients to cover their cough or sneeze and wash their hands often with soap and water.

Testing and diagnosis

Determining who has pertussis can be difficult. Whenever possible, healthcare providers **should obtain** a nasopharyngeal **swab or aspirate** from everyone with suspected pertussis for laboratory testing.

FOR PUBLIC HEALTH
[Laboratory Testing](#)

Treatment and recovery

Ideally, treat pertussis during the **first 1 to 2 weeks** before coughing paroxysms occur. Treatment is ineffective if started later in the course of illness.

KEEP READING
[Treatment](#)

Complications

Anyone, but especially infants and young children, may experience serious and potentially life-threatening complications from pertussis.

Complications are usually less severe in those who received pertussis vaccines.

KEEP READING
[Complications](#)

Trends and surveillance

Pertussis is common and a reportable condition in the United States.

Healthcare providers should report pertussis cases to the local public health department as soon as possible. This prompt information helps public health authorities with preventing additional cases.

FOR PUBLIC HEALTH
[Surveillance and Trends](#)

Resources

[Pink Book's Chapter on Pertussis](#)

Epidemiology & Prevention of Vaccine-Preventable Diseases textbook

[Pertussis and *Mycoplasma pneumoniae* infections in the U.S., 2024](#)

CDC presentation to partners

SOURCES

CONTENT SOURCE:
[National Center for Immunization and Respiratory Diseases; Division of Bacterial Diseases](#)