CONDITION

# Atypical pneumonia

Learn what atypical pneumonia is, which infections can cause it, how symptoms are assessed, and when breathing problems need urgent care.

**WHAT IT IS**
Pneumonia caused by certain bacteria or respiratory viruses

**BODY SYSTEM**
Lungs and breathing

**MAIN SYMPTOMS**
Persistent cough, fever or chills, tiredness, shortness of breath

**WHAT CAUSES IT**
Bacterial or respiratory viral infection

**HOW IT IS DIAGNOSED**
Chest X-ray and organism-specific tests

**MAIN TREATMENT**
Antibiotics or antivirals with supportive care

**CAN IT BE CURED?**
Yes, most people recover after treatment

**IS IT AN EMERGENCY?**
Sometimes, with severe difficulty breathing

**LONG-TERM OUTLOOK**
Most recover, though cough and tiredness may persist

## Overview

Atypical pneumonia is a broad term for pneumonia caused by certain bacteria and, in some uses, respiratory viruses. Pneumonia is inflammation and infection in the small air sacs of the lungs. These air sacs can fill with fluid, making it harder for oxygen to move into the blood.

The word "atypical" describes the organisms involved and the way the illness may appear. It does not mean that the infection is rare, unusually dangerous, or impossible to treat. The term developed because these infections often differ from "typical" bacterial pneumonia in their symptoms, chest imaging, and laboratory findings. The bacteria may not be visible on a standard Gram stain and may not grow on routine bacterial cultures.

Common bacterial causes include Mycoplasma pneumoniae , Chlamydia pneumoniae , and Legionella species. Less common causes include Chlamydia psittaci , usually linked to birds,

and Coxiella burnetii , which can be associated with farm animals. Influenza, COVID-19, and other respiratory viruses can produce a similar pattern, although clinicians may call these illnesses viral pneumonia rather than atypical pneumonia.

"Atypical pneumonia" is sometimes called "walking pneumonia," especially when referring to a mild Mycoplasma infection. That nickname can be misleading. Some people remain active while ill, but others develop significant breathing problems or need hospital care. Legionella , in particular, can cause severe pneumonia.

Identifying the likely cause matters because antibiotics like amoxicillin or doxycycline used for some common bacterial pneumonias do not work against all atypical bacteria. However, symptoms alone usually cannot confirm the organism. Clinicians consider the full pattern, including illness severity, local infections, medical history, test results, and possible exposures.

## Symptoms

Symptoms may begin gradually or appear over a few days. A cough is common and may be dry at first. Some people later produce mucus.

Possible symptoms include:

Symptoms vary by organism. Mycoplasma pneumoniae may cause a slow-developing cough, headache, and sore throat. Legionella can cause high fever, marked weakness, digestive symptoms, or confusion in addition to breathing symptoms. These patterns can offer clues, but they cannot reliably identify the cause.

Older adults may have less obvious fever or cough. New confusion, weakness, falls, or reduced appetite may be more noticeable. Infants and young children may breathe quickly, feed poorly, become unusually sleepy, or show increased effort while breathing.

Seek prompt medical advice if a cough, fever, chest discomfort, or breathing difficulty is persistent or worsening. People who are pregnant, immunocompromised, older, or living with significant heart or lung disease may need earlier assessment.

Contact a clinician urgently for worsening shortness of breath, dehydration, coughing up blood, a fever that returns after improvement, or symptoms that worsen after treatment has started.

Call emergency services for severe difficulty breathing, blue or gray lips or skin, new severe confusion, fainting, inability to stay awake, or severe and persistent chest pain. If a clinician has provided a personal oxygen-saturation plan, follow its emergency instructions.

- Persistent cough
- Fever or chills

- Tiredness and weakness
- Headache
- Muscle aches
- Sore throat or hoarse voice
- Shortness of breath
- Chest discomfort that worsens with coughing or deep breathing
- Reduced appetite
- Nausea, vomiting, or diarrhea

## Causes and risk factors

Mycoplasma pneumoniae spreads through respiratory droplets produced when an infected person coughs or sneezes. Transmission is more likely after prolonged close contact. Outbreaks can occur in households, schools, colleges, military facilities, and other crowded settings.

Chlamydia pneumoniae also spreads through respiratory secretions. It can cause upper respiratory symptoms, bronchitis, or pneumonia. Reinfection can occur because previous infection does not always provide lasting protection.

Legionella bacteria grow in freshwater environments and can multiply in poorly maintained building water systems. People usually become infected by breathing in fine water droplets from sources such as showers, hot tubs, cooling towers, or decorative fountains. Infection can also occur when contaminated water accidentally enters the lungs. Legionnaires' disease does not usually spread from one person to another.

Chlamydia psittaci can spread when a person breathes dust containing dried secretions or droppings from infected birds. Parrots, parakeets, cockatiels, pigeons, and poultry are possible sources. Coxiella burnetii , which causes Q fever, can spread through contaminated dust around infected livestock, especially during animal births.

Factors that may increase the chance of infection, exposure, or serious illness include:

Most people exposed to these settings do not develop pneumonia. Risk depends on the organism, intensity of exposure, personal health, and other factors.

- Close contact in a household or crowded group setting
- Smoking or vaping, which can impair the lungs' defenses

- Chronic lung, heart, kidney, or liver disease
- Diabetes
- A weakened immune system
- Older age
- Recent hotel, hospital, cruise ship, or hot-tub exposure
- Work involving building water systems
- Contact with birds, livestock, or animal-birth materials

## Diagnosis

A clinician will ask when symptoms began, how they have changed, and whether there has been contact with sick people. Questions about travel, overnight stays, hot tubs, birds, livestock, work environments, medicines, and existing health conditions can reveal important clues.

The examination often includes checking temperature, breathing rate, heart rate, blood pressure, and oxygen saturation. The clinician listens for abnormal lung sounds and looks for signs that breathing requires extra effort.

A chest X-ray may be used to confirm pneumonia or assess its extent. Imaging findings can support the diagnosis, but they usually cannot identify the exact organism. Lung ultrasound or a CT scan may be considered in selected situations, such as when the diagnosis remains uncertain or complications are suspected.

Testing depends on severity and whether a result is likely to change treatment. It may include:

Not every person needs organism-specific testing. Mild pneumonia is often treated based on the overall clinical picture. Broader testing is more likely for severe illness, hospital admission, treatment failure, an outbreak, or a specific exposure.

Other illnesses can resemble atypical pneumonia. These include bronchitis, asthma or chronic obstructive pulmonary disease flare-ups, blood clots in the lungs, heart failure, tuberculosis, and some noninfectious lung conditions. Evaluation is tailored to the symptoms and risk factors.

- A nasal or throat test for influenza, COVID-19, or other respiratory infections
- Molecular testing, such as PCR, for Mycoplasma or Chlamydia pneumoniae
- A urine antigen test for Legionella

- Blood tests to assess inflammation, organ function, or oxygen levels
- Sputum or blood cultures in more serious illness

## Treatment and management

Treatment depends on the likely cause, illness severity, test findings, allergies, other medicines, and local antibiotic-resistance patterns.

Bacterial atypical pneumonia is treated with an antibiotic that can reach and act inside infected cells. Some antibiotics commonly used for "typical" bacterial pneumonia do not cover organisms such as Mycoplasma , Chlamydia pneumoniae , or Legionella . A clinician may choose treatment that covers both typical and atypical bacteria when the cause is uncertain.

Antibiotics do not treat influenza, COVID-19, or other viral infections. Antiviral treatment may be appropriate for some people with influenza or COVID-19, particularly when started early or when there is a higher risk of complications. A clinician can assess whether it is suitable.

People treated at home should take prescribed medicine exactly as directed. Do not save antibiotics for later, share them, or use someone else's prescription. Contact the prescribing clinician if side effects are difficult to manage or doses cannot be kept down. Severe swelling, breathing difficulty, or other signs of a serious allergic reaction need emergency care.

Supportive care may include rest, adequate fluids, and nonprescription medicine for fever or discomfort when it is safe for the individual. Cough medicines do not treat the infection and may not be appropriate for everyone. A pharmacist or clinician can help check for interactions or health conditions that affect which products are safe.

Hospital care may be needed when oxygen levels are low, breathing is difficult, blood pressure is unstable, oral medicine cannot be taken, or complications are present. Treatment may include oxygen, intravenous fluids, antibiotics or antivirals like acyclovir or oseltamivir , and close monitoring. Severe respiratory failure may require advanced breathing support.

Vaccination against influenza and COVID-19 can lower the risk of pneumonia from those viruses. Staying current with other recommended vaccines may reduce additional respiratory infections or coinfection. There are no routinely used vaccines against Mycoplasma pneumoniae or Legionella .

Good ventilation, hand hygiene, covering coughs, and avoiding close contact while acutely ill can reduce respiratory spread. Proper maintenance of building water systems helps limit Legionella . Safe handling and cleaning practices are important around birds and livestock.

## Complications

Most people recover, but pneumonia can sometimes affect breathing or other organs. The risk is greater with severe infection, delayed treatment, older age, immune suppression, or major underlying health conditions.

Possible complications include:

Some atypical organisms can cause problems outside the lungs. Mycoplasma pneumoniae is occasionally associated with significant skin rashes, anemia caused by red blood cell breakdown, or inflammation involving the brain, nerves, heart, or joints. Legionella can affect kidney or liver function and may cause low blood sodium. These complications are not expected in most cases, but they may require hospital treatment.

- Low blood oxygen or respiratory failure
- Sepsis, an extreme body-wide response to infection
- Fluid around the lung, called a pleural effusion
- Infected fluid around the lung, called empyema
- A lung abscess
- Worsening of asthma, chronic lung disease, or heart disease

## Follow up

Symptoms should be monitored after treatment begins. Fever and breathing may improve before the cough and tiredness fully resolve. A cough or reduced stamina can last for several weeks because lung inflammation takes time to settle.

Contact the treating clinician if symptoms are not improving within the expected period, are getting worse, or return after initial improvement. The clinician may reconsider the diagnosis, check whether the organism is resistant, review whether medicine has been absorbed and taken as directed, or look for a complication.

A repeat chest X-ray is not needed for every person who recovers as expected. It may be advised when symptoms persist, the original imaging showed an unusual finding, or there is concern about another lung condition. People who smoke or have other risk factors for lung disease may receive a different follow-up plan.

Return to work, school, and exercise should be gradual. Fever should be gone and breathing should be comfortable during basic activities. Follow any specific public-health guidance if

testing confirms influenza, COVID-19, or another infection with isolation recommendations.

## Sources

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