

Partners in Pediatrics, PC
7110 Forest Ave
Suite 105
Richmond, VA 23226
804-377-7100

Pneumonia

Pneumonia is a general term that refers to an infection of the lungs, which can be caused by a variety of microorganisms, including viruses, bacteria, fungi, and parasites.

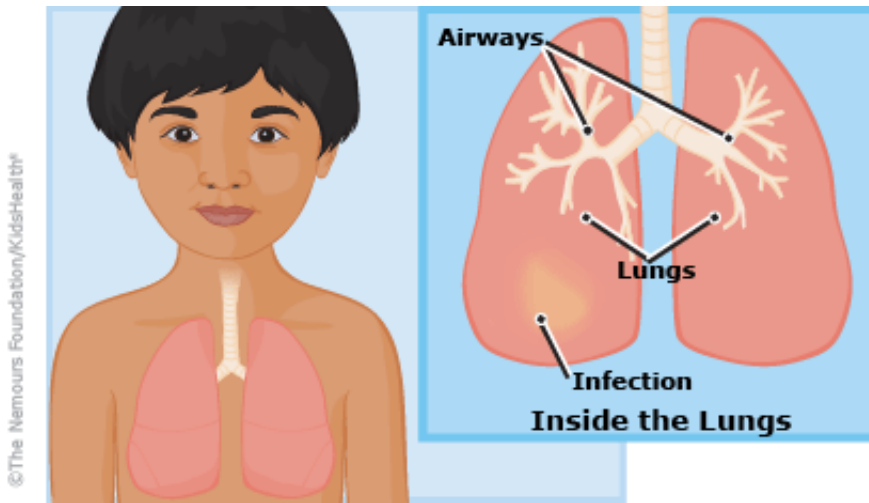
Most cases of pneumonia are caused by viruses, including adenoviruses, rhinovirus, influenza virus (flu), respiratory syncytial virus (RSV), and parainfluenza virus (which causes croup).

Often, pneumonia begins after an upper respiratory tract infection (an infection of the nose and throat), with symptoms of pneumonia beginning after 2 or 3 days of a cold or sore throat.

Signs and Symptoms

Symptoms vary depending on the age of the child and the cause of the pneumonia, but common ones include:

- fever
- chills
- cough
- nasal congestion
- unusually rapid breathing (in some cases, this is the only symptom)
- breathing with grunting or wheezing sounds
- labored breathing that makes the rib muscles retract (when muscles under the ribcage or between ribs draw inward with each breath) and causes nasal flaring
- vomiting
- chest pain
- abdominal pain
- decreased activity
- loss of appetite (in older kids) or poor feeding (in infants), which may lead to dehydration
- in extreme cases, bluish or gray color of the lips and fingernails



Someone with pneumonia in the lower part of the lungs near the abdomen might have fever and abdominal pain or vomiting but no breathing problems.

Kids with pneumonia caused by bacteria usually becomes sick fairly quickly and will have a sudden onset of a high fever and unusually rapid breathing.

Kids with pneumonia caused by viruses probably will have symptoms that appear more gradually and are less severe, though wheezing can be more common in viral pneumonia.

Some types of pneumonia cause symptoms that give important clues about which germ is causing the illness. For example, in older kids and adolescents, pneumonia due to *Mycoplasma* (also called walking pneumonia) is notorious for causing a sore throat, headache, and rash in addition to the usual symptoms of pneumonia.

In infants, pneumonia due to chlamydia may cause conjunctivitis (pinkeye) with only mild illness and no fever. When pneumonia is due to whooping cough (pertussis), a child may have long coughing spells, turn blue from lack of air, or make the classic "whoop" sound when trying to take a breath.

Incubation

The incubation period (the length of time between exposure and feeling sick) for pneumonia varies, depending on the type of virus or bacteria causing the infection. For instance, for RSV, this is 4 to 6 days; for influenza, 18 to 72 hours.

Duration

With treatment, most types of bacterial pneumonia can be cured within 1 to 2 weeks. Viral pneumonia may last longer. Mycoplasmal pneumonia may take 4 to 6 weeks to resolve completely.

Contagiousness

The viruses and bacteria that cause pneumonia are contagious and usually found in fluid from the mouth or nose of someone who's infected. Illness can spread when an infected person coughs or sneezes on others, by sharing drinking glasses and eating utensils, and when someone touches the used tissues or handkerchiefs of an infected person.

Prevention

Some types of pneumonia can be prevented by vaccines. Kids usually receive routine immunizations against *Haemophilus influenzae* and pertussis (whooping cough) beginning at 2 months of age. (The pertussis immunization is the "P" part of the routine DTaP injection.)

Vaccines are now also given against the pneumococcus organism (PCV), a common cause of bacterial pneumonia.

Children with chronic illnesses, who are at special risk for other types of pneumonia, may receive additional vaccines or protective immune medication. The flu vaccine is strongly recommended for kids with chronic illnesses such as chronic heart or lung disorders or asthma, as well as otherwise healthy kids ages 6 months through 19 years.

Because they're at higher risk for serious complications, infants born prematurely may be given treatments that temporarily protect against RSV, which can lead to pneumonia in younger kids.

Doctors may give prophylactic (disease-preventing) antibiotics to prevent pneumonia in kids who have been exposed to someone with certain types of pneumonia, such as pertussis. Those with HIV infection might receive prophylactic antibiotics to prevent pneumonia caused by *Pneumocystis carinii*.

Antiviral medication is now available, too, and can be used to prevent some types of viral pneumonia or to make symptoms less severe.

In addition, regular tuberculosis screening is performed yearly in some high-risk areas because early detection will prevent active tuberculosis infection including pneumonia.

In general, pneumonia is not contagious, but the upper respiratory viruses and bacteria that lead to it are, so it is best to keep your child away from anyone who has an upper respiratory tract infection.

If someone in your home has a respiratory infection or throat infection, keep his or her drinking glasses and eating utensils separate from those of other family members, and wash your hands frequently, especially if you are handling used tissues or dirty handkerchiefs.

When to Call the Doctor

Call your doctor immediately if your child has any of the signs and symptoms of pneumonia, but especially if he or she:

- is having trouble breathing or is breathing abnormally fast
- has a bluish or gray color to the fingernails or lips
- has a fever of 102°F (38.9°C), or above 100.4°F (38°C) in infants under 6 months of age

Professional Treatment

Doctors usually make a pneumonia diagnosis after a physical examination, but also might

order a chest X-ray, blood tests, and (sometimes) bacterial cultures of mucus produced by coughing.

In most cases, pneumonia can be treated with oral antibiotics given at home. The type of antibiotic used depends on the type of pneumonia. In some cases, other members of the household might be treated with medication to prevent illness.

Children may be hospitalized for treatment if they have pneumonia caused by pertussis or other bacterial pneumonia that causes high fevers and respiratory distress, or if:

- supplemental oxygen is needed
- they have lung infections that may have spread to the bloodstream
- they have chronic illnesses that affect the immune system
- they are vomiting so much that they cannot take medicine by mouth
- they have recurrent episodes of pneumonia

Home Treatment

If your doctor has prescribed antibiotics for bacterial pneumonia, give the medicine on schedule for as long as directed. This will help your child recover faster and will decrease the chance that infection will spread to other household members. For wheezing, a doctor might recommend using a nebulizer.

Ask the doctor before you use a medicine to treat your child's cough because cough suppressants stop the lungs from clearing mucus, which may not be helpful in some types of pneumonia. Over-the-counter cough and cold medications are not recommended for kids under 6 years old.

Take your child's temperature at least once each morning and each evening, and call the doctor if it goes above 102°F (38.9°C) in an older infant or child, or above 100.4°F (38°C) in an infant under 6 months of age.

Check your child's lips and fingernails to make sure that they are rosy and pink, not bluish or gray, which is a sign that the lungs are not getting enough oxygen.

Reviewed by: Yamini Durani, MD

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Note: All information is for educational purposes only. For specific medical advice, diagnoses, and treatment, consult your doctor.