

## Pneumonia

### Overview

Pneumonia is a form of acute respiratory infection that affects the lungs. The lungs are made up of small sacs called alveoli, which fill with air when a healthy person breathes. When an individual has pneumonia, the alveoli are filled with pus and fluid, which makes breathing painful and limits oxygen intake.

Pneumonia is the largest infectious cause of death in children worldwide. Pneumonia affects children and families everywhere however is most prevalent in South Asia and sub-Saharan Africa. Children can be protected from pneumonia; it can be prevented with simple interventions, and treated with low-cost, low-tech medication and care.

### Causes

Pneumonia is caused by a number of infectious agents, including viruses, bacteria and fungi. The most common are:

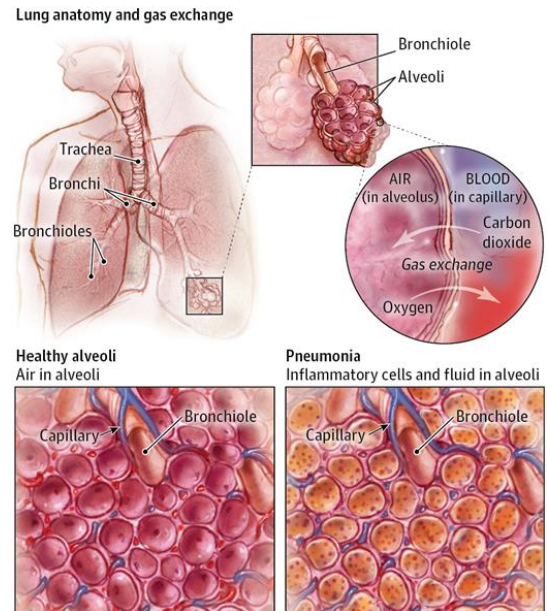
- Streptococcus pneumoniae – the most common cause of bacterial pneumonia in children;
- Haemophilus influenzae type b (Hib) – the second most common cause of bacterial pneumonia;
- respiratory syncytial virus is the most common viral cause of pneumonia; and
- in infants infected with HIV, Pneumocystis jiroveci is one of the most common causes of pneumonia, responsible for at least one quarter of all pneumonia deaths in HIV-infected infants.

Pneumonia can be spread in a number of ways. The viruses and bacteria that are commonly found in a child's nose or throat, can infect the lungs if they are inhaled. They may also spread via air-borne droplets from a cough or sneeze. In addition, pneumonia may spread through blood, especially during and shortly after birth. More research needs to be done on the different pathogens causing pneumonia and the ways they are transmitted, as this is of critical importance for treatment and prevention.

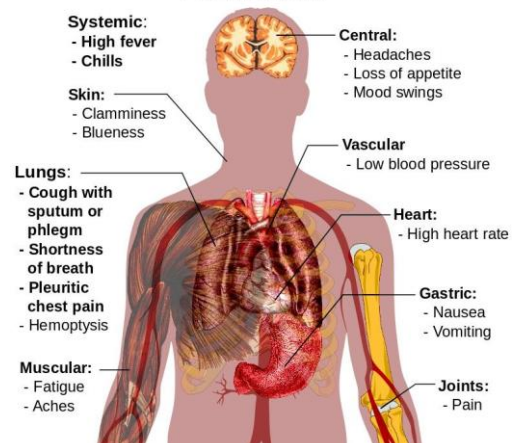
### Symptoms

The symptoms of pneumonia depend on the age of the person, the cause and severity of the infection, and any pre-existing problems with immunity. Patients with pneumonia may demonstrate the following:

- fever;
- rapid, shallow breathing;
- rapid heart rate;
- difficulty breathing;
- chest pain;
- hypertension; and
- nausea, vomiting.



#### Main symptoms of infectious Pneumonia



Bacterial pneumonia, which is the most common form, tends to be more serious than other types of pneumonia, with symptoms that require medical care. The symptoms of bacterial pneumonia can develop gradually or suddenly. Fever may rise as high as a dangerous 105°F, with profuse sweating and rapidly increased breathing and pulse rate. Lips and nailbeds may have a bluish colour due to lack of oxygen in the blood. A patient's mental state may be confused or delirious.



The symptoms of viral pneumonia usually develop over a period of several days. Early symptoms are similar to influenza symptoms: fever, a dry cough, headache, muscle pain, and weakness. Within a day or two, the symptoms typically get worse, with increasing cough, shortness of breath and muscle pain. There may be a high fever and there may be blueness of the lips.

Symptoms may vary in certain populations. Newborns and infants may not show any signs of the infection. Or, they may vomit, have a fever and cough, or appear restless, sick, or tired and without energy. Older adults and people who have serious illnesses or weak immune systems may have fewer and milder symptoms. They may even have a lower than normal temperature. Older adults who have pneumonia sometimes have sudden changes in mental awareness. For individuals that already have a chronic lung disease, those symptoms may worsen.

## Treatment

Pneumonia should be treated with antibiotics. The antibiotic of choice is amoxicillin dispersible tablets. Most cases of pneumonia require oral antibiotics, which are often prescribed at a health centre. These cases can also be diagnosed and treated with inexpensive oral antibiotics at the community level by trained community health workers. Hospitalisation is recommended only for severe cases of pneumonia.

## Prognosis

Most people with pneumonia improve after three to five days of antibiotic treatment, but a mild cough and fatigue can last longer, up to a month. Patients who required treatment in a hospital may take longer to see improvement.

Pneumonia can also be fatal. The mortality (death) rate is up to 30% for patients with severe pneumonia who require treatment in an intensive care unit. Overall, around 5%-10% of patients who are treated in a hospital setting die from the disease. Pneumonia is more likely to be fatal in the elderly or those with chronic medical conditions or a weakened immune system.

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