

# Pneumonia- Causes and Treatment

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## Introduction

Pneumonia is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid, causing cough with phlegm or pus, fever and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause pneumonia. Pneumonia can range in seriousness from mild to life-threatening. It is most serious for infants and young children, people older than age 65, and people with health problems or weakened immune systems. The signs and symptoms of pneumonia vary from mild to severe Chest pain when you breathe or cough, Cough, which may produce phlegm, Fatigue, Fever, sweating and shaking chills, Lower body temperature, Nausea, vomiting or diarrhea, Shortness of breath. Many germs can cause pneumonia. The most common are bacteria and viruses in the air we breathe.

Community-acquired pneumonia is the most common type of pneumonia. Some people catch pneumonia during a hospital stay for an additional illness. Hospital-acquired pneumonia can be serious because the bacteria causing it may be more resistant to antibiotics and because the people who get it are already sick. Health care-acquired pneumonia is a bacterial infection that occurs in people who live in long-term care facilities or who receive care in outpatient clinics, including kidney dialysis centers. Aspiration pneumonia occurs once you inhale food, drink and saliva into your lungs. Aspiration is more likely if something disturbs your normal pharyngeal reflex, like a brain injury or swallowing problem, or excessive use of alcohol or drugs. Smoking damages your body's natural defenses against the bacteria and viruses that cause pneumonia. Bacteria that enter the bloodstream from your lungs can spread the infection to other organs, potentially causing organ failure. Pneumonia may cause fluid to create up within the thin space between layers of tissue that line the lungs and thoracic cavity. Physical examination may sometimes reveal low blood pressure, high heart rate, or low oxygen saturation. The respiratory rate may be faster than normal, and this may occur a day or two before other signs. Examination of the chest may be normal, but it may show decreased expansion on the affected side. Harsh breath sounds from the larger airways that are transmitted through the inflamed lung are termed bronchial breathing and are heard on auscultation with a stethoscope. Crackles may be heard over the affected area during inspiration. Percussion could also be dulled over the affected lung, and increased, instead of decreased, vocal resonance distinguishes pneumonia from a pleural effusion. Blood tests are used to confirm an infection and to try to identify the type of organism causing the infection. However, precise identification isn't always possible. Pulse oximetry measures the oxygen level in your blood. Pneumonia can prevent your lungs from moving enough oxygen into your bloodstream. Microbiological evaluation is addition-

ally indicated in severe pneumonia, alcoholism, asplenia, immunosuppression, HIV infection, and people being empirically treated for MRSA or pseudomonas. Although positive blood culture and pleural fluid culture definitively establish the diagnosis of the sort of micro-organism involved, a positive sputum culture has got to be interpreted with look after the possibility of colonisation of respiratory tract. Testing for other specific organisms could also be recommended during outbreaks, for public health reasons. In those hospitalized for severe disease, both sputum and blood cultures are recommended, also as testing the urine for antigens to Legionella and Streptococcus. Viral infections are often confirmed via detection of either the virus or its antigens with culture or polymerase chain reaction (PCR), among other techniques. Mycoplasma, Legionella, Streptococcus, and Chlamydia also can be detected using PCR techniques on bronchoalveolar lavage and nasopharyngeal swab. The causative agent is determined in only 15% of cases with routine microbiological tests.

Treatment for pneumonia involves curing the infection and preventing complications. People who have community-acquired pneumonia usually can be treated at home with medication. Although most symptoms ease in a few days or weeks, the feeling of tiredness can persist for a month or more. Antibiotics medicines are used to treat bacterial pneumonia. It may take time to identify the type of bacteria causing your pneumonia and to choose the best antibiotic to treat it. Cough medicine may be used to calm your cough so that you can rest. Because coughing helps loosen and move fluid from your lungs, it is a good idea to not eliminate your cough completely. In addition, you ought to know that only a few studies have checked out whether over-the-counter cough medicines lessen coughing caused by pneumonia. When influenza outbreaks occur, medications such as amantadine or rimantadine may help prevent the condition, but they are associated with side effects. Zanamivir or oseltamivir decrease the chance that people who are exposed to the virus will develop symptoms; however, it is recommended that potential side effects are taken into account. A variety of parasites can affect the lungs, including *Toxoplasma gondii*, *Strongyloides stercoralis*, *Ascaris lumbricoides*, and *Plasmodium malariae*. These organisms typically enter the body through direct contact with the skin, ingestion, or via an insect vector. Except for *Paragonimus westermani*, most parasites do not specifically affect the lungs but involve the lungs secondarily to other sites. Some parasites, in particular those belonging to the *Ascaris* and *Strongyloides* genera, stimulate a strong eosinophilic reaction, which may result in eosinophilic pneumonia. In other infections, such as malaria, lung involvement is due primarily to cytokine-induced systemic inflammation. In the developed world, these infections are commonest in people coming back from travel or in immigrants. Around the world, parasitic pneumonia is most common in the immune deficient. Pneumonia is typically diagnosed based on a combination of physical signs and often a chest X-ray. In adults with normal vital signs and a traditional lung examination, the diagnosis is unlikely. The underlying causes are often difficult to verify, as there's no definitive test ready to distinguish between bacterial and non-bacterial cause. The overall impression of a physician appears to be at least as good as decision rules for excluding the diagnosis. Prevention includes vaccination, environmental measures, and appropriate treatment of other health problems.

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