



Pneumonia

MU Patient Education Series

Definition:

Pneumonia is a bacterial, viral or fungal infection in one or both of the lungs. This infection leads to inflammation, or swelling, in the lungs' air sacs. The air sacs may fill with fluid or pus, causing symptoms such as a phlegm-producing cough, a high or moderate fever, chills and mild to severe breathing difficulties.

CAUSES:

There are more than 30 causes for pneumonia infections, and treatment is directly linked to the specific cause. Three small germs—bacteria, viruses, and fungi—may cause pneumonia. Bacteria and viruses living inside one's nose, sinuses or mouth can easily spread to the lungs, causing the infection. You may also breathe these germs directly into your lungs. Some inhaled food, liquids, vomit or other fluids may contain pneumonia-infected germs. Pneumonia caused by bacteria is the most prevalent and serious. Bacterial pneumonia is most common in adults, while viral pneumonia is more often seen in infants and young children. In addition to viruses, bacteria and fungi, mycoplasmas, which are dangerous bacteria lacking a cell wall, and various chemicals can also cause pneumonia. Aspiration pneumonia is another form of pneumonia that may occur when you inhale foreign matter into your lungs.

HOW DOES PNEUMONIA AFFECT PEOPLE?

In a healthy body, with healthy lungs, germs are filtered out of the air we inhale. In this case, the lungs avoid infection. But under certain circumstances, the germs find a way to enter and infect the lungs. These circumstances include:

- A weak immune system
- Strong germs
- Body's inability to filter germs out of our inhaled air
- Smoking
- Certain chronic diseases



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Once the pneumonia-causing germs reach the lung's air sacs, inflammation occurs and the pneumonia symptoms begin. When infected with pneumonia, oxygen has difficulty reaching the blood. Lack of oxygen in the blood alters the function of normal body cells and could consequently lead to death.

SYMPTOMS:

Listed below is the range of pneumonia symptoms. **If you begin to feel any or a combination of many of these symptoms, be sure to contact your healthcare provider.**

- Cough (often accompanied with a green, yellow or even bloody mucous)
- Mild or high fever (Temperature can be lower than normal in the elderly)
- Shaking
- Chills
- Difficulty breathing
- Sharp chest pain (gets worse when you cough or breathe deeply)
- Headache
- Extreme sweating
- Clammy skin
- Loss of appetite
- Decreased energy level
- Exhaustion
- Confusion (more prevalent in older people)
- Muscle pain

DIAGNOSIS/TESTS:

After experiencing some of the aforementioned symptoms and contacting your healthcare provider, one of many diagnostic tests will be performed. When your doctor listens to your breathing, he or she will likely hear crackling or rumbling sounds. If so, you will most likely have a chest X-ray to confirm pneumonia. Other tests to detect pneumonia include:

- Arterial blood gases —Checks the oxygen arriving in your lungs from your blood
- Checking the white blood cell count
- Chest x-ray and/or a CT scan of your chest
- Gram stain and sputum culture —Checks for the bacteria or virus that is causing your symptoms
- Pleural fluid culture — Checks the fluid in your lungs

TREATMENT/CARE:

After confirming your diagnosis of pneumonia, your doctor will create a treatment plan specific to you. If



your case of pneumonia is serious enough, you will be admitted into the hospital. Less serious cases of pneumonia can be treated in the home.

Hospital Care

If determined that you must begin your care at the hospital, your doctor will provide you with fluids and antibiotics through an IV, extra oxygen and potentially additional breathing treatments. You are more likely to require hospitalization if you have an additional medical condition, are experiencing severe symptoms, are older than 65 or a young child, have been on unsuccessful antibiotics or you are unable to recover at home.

Recovering at home

Many people will recover normally at home. Most doctors will prescribe antibiotics to treat bacterial pneumonia. If put on antibiotics, make sure not to skip any doses. Finish the prescription even if you feel 100 percent better. Also, do not take cough or cold medicines unless approved by your physician. Your doctor also may suggest breathing in warm, moist air to relax and lessen the mucous in your lungs. Coughing will help to clear your airways. Other home treatments include:

- Drink lots of fluids (juice, tea, water)—6-10 cups are suggested each day
- Lots of rest and relaxation
- Try to control fever with antipyretic drugs
- No alcohol or smoking

POSSIBLE COMPLICATIONS:

Certain individuals are more likely to experience pneumonia complications: young children, older adults, individuals with other severe medical conditions, smokers or individuals with weak immune systems. Complications caused by pneumonia include severe breathing failure (acute respiratory distress syndrome), uncontrolled inflammation in your body (sepsis), the accumulation of fluid and infection around your lungs (pleura) or lung abscesses. Experiencing any of these complications would warrant admission to a hospital.

PREVENTION:

If you take the necessary precautions, pneumonia may be avoided. The following list gives tips for preventing pneumonia:

- Wash your hands thoroughly and often. (For example, after you blow your nose, after you go to the bathroom, after you change a diaper, before you cook food, before you eat, after you shake someone's hand, after you use a communal computer or other device)



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- Do not smoke
- Receive a flu shot every year because it has been found that the flu can lead to pneumonia
- Research various pneumonia vaccination options
- Eat a healthy diet
- Rest and exercise can also aid in maintaining a healthy immune system

CALL YOUR HEALTHCARE PROVIDER IF:

As a wrap-up, it is important to be proactive—the earlier you catch the infection, the more likely you are to have a speedy, effective recovery. Call your healthcare provider immediately if you experience any of the following:

- Night sweats
- Inexplicable weight loss
- A cough accompanied with bloody or rust-colored mucus
- Worsening breathing trouble
- Quick or aching breathing
- Constant fever or chills
- Chest pain

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