

Pneumonia Fact Sheet

1. **What is pneumonia?** - Pneumonia is a serious infection and/or inflammation of the lungs that causes mild to severe illness in people of all ages when the air sacs in the lungs fill with pus and other fluid. Under those conditions the patient has increased difficulty breathing as oxygen has trouble entering the blood from the lungs. Too little oxygen in the blood causes the body's cells and organs to fail and may even cause death. Prior to the antibiotic era (pre-1945), pneumonia was the primary cause of death in the United States.
2. **What are the symptoms of pneumonia** - The onset of pneumonia can vary from gradual to sudden. Signs of pneumonia can include coughing, fever, fatigue, nausea, vomiting, rapid breathing or shortness of breath, chills, or chest pain. In the most severe cases, the patient may experience shaking chills, chattering teeth, severe chest pain, and a cough that produces rust-colored or greenish mucus. A person's temperature may rise as high as 105°F. The patient sweats profusely and breathing and pulse rate increase rapidly. Lips and nail beds may have a bluish color due to lack of oxygen in the blood. A patient's mental state may become confused or delirious.

Certain people are more likely to become ill with pneumonia. This includes adults 65 years of age or older and children younger than 5 years of age. People up through 64 years of age who have underlying medical conditions (like diabetes or HIV/AIDS) and people 19 through 64 who smoke cigarettes or have asthma are also at increased risk for getting pneumonia.

3. **What causes Pneumonia?** – The most common causes of pneumonia are bacterial or viral infection; however, pneumonia may have several different causes:
 - a. The most common bacterial cause of pneumonia is *Streptococcus pneumoniae* (pneumococcus). Bacteria that can produce pneumonia such as *Streptococcus pneumoniae*, *Haemophilus influenzae* and *Staphylococcus aureus* are often present in the throats of healthy people. Additionally, *Mycoplasma pneumoniae* is a frequent bacterial cause of community-acquired pneumonia.
 - b. The most common viral causes of pneumonia are influenza, parainfluenza, and respiratory syncytial virus (RSV). Viral pneumonia often occurs as a consequence of viral respiratory infections.
 - c. Fungal organisms, such as *Pneumocystis jirovecii*, may cause pneumonia in immunocompromised persons. It can be successfully treated in many cases; however, it may recur a few months later.
 - d. Aspiration pneumonia occurs when you aspirate foreign matter into your lungs, most often when the contents of your stomach enter your lungs after you vomit. This can occur when a brain injury affects your normal gag reflex or consuming too much alcohol causes unconsciousness. Diseases which cause difficulty swallowing such as ALS, Parkinson's disease, and stroke may also lead to aspiration pneumonia.

- e. Hospital-acquired pneumonia is the second most common healthcare-associated infection in the United States. It is caused by the same pathogens that can cause bacterial or viral community-acquired pneumonias but may be more likely to be caused by multi-drug resistant organisms or other agents more common in the hospital than in the community.
 - f. Ventilator-associated pneumonia may occur in any person who is on a ventilator. Ventilators are used to help a patient breath by giving oxygen through a tube placed in a patient's mouth or nose, or through a hole in the front of the neck. While ventilators are often life-saving, they also increase a patient's chance of getting pneumonia by making it easier for pathogens to get into the patient's lungs. The risk of developing ventilator-associated pneumonia is highest during the first few days after intubation.
4. **How do you treat pneumonia?** – The treatment for pneumonia depends on its cause and successful treatment is most likely to occur when pneumonia is detected early. The drugs used to fight your pneumonia are determined by your doctor. Prescribed medications must be taken as instructed, otherwise the pneumonia may recur. Relapses can be far more serious than the first attack.
5. **Can pneumonia be prevented?**
- a. Talk to your healthcare provider about available vaccinations. In the United States, there are several vaccines that prevent infection by bacteria or viruses that may cause pneumonia. Vaccines exist for the following infections:
 - (1) Pneumococcal disease (*Streptococcus pneumoniae*)
 - (2) *Haemophilus influenzae* type b (Hib)
 - (3) Pertussis (whooping cough)
 - (4) Varicella (chickenpox)
 - (5) Measles
 - (6) Influenza (flu)
 - b. Since pneumonia often follows ordinary respiratory infections, the most important preventive measure is to be alert to any symptoms of respiratory trouble that linger more than a few days. Good health habits, proper diet and hygiene, rest, regular exercise, etc., increase resistance to all respiratory illnesses. They also help promote fast recovery when illness does occur.
 - c. Quit smoking

d. For ventilated patients healthcare providers can do the following things:

- (1) Keep the head of the patient's bed raised between 30 and 45 degrees, if possible
- (2) Check the patient's ability to breathe on their own every day – take them off the ventilator as soon as possible
- (3) Clean hands with soap and water or an alcohol-based hand rub before and after touching the patient or the ventilator
- (4) Clean the inside of the patient's mouth on a regular basis
- (5) Clean or replace equipment between use

6. What do I do if I have symptoms of pneumonia?

- a. Call your doctor immediately. Even with the many effective antibiotics, early diagnosis and treatment are important.
- b. Follow your doctor's advice. In serious cases, your doctor may advise a hospital stay.
- c. Continue to take the medicine your doctor prescribes until told you may stop. This will help prevent recurrence of pneumonia and relapse.
- d. Remember, even though pneumonia can be treated, it is an extremely serious illness. Don't wait, get treatment early.

7. For more information about pneumonia:

http://www.cdc.gov/ncidod/dbmd/diseaseinfo/streppneum_t.htm
http://www.cdc.gov/ncidod/dbmd/diseaseinfo/pneumchilddevcount_t.htm
<http://www.cdc.gov/HAI/vap/vap.html>
<http://www.cdc.gov/Features/Pneumonia/>

This fact sheet provides general information. Please contact your physician for specific clinical information.