THE SYMPTOMS AND TREATMENT OF Pneumonia

Pneumonia is a common illness that affects millions of people each year in the United States. For some individuals with a brain injury, contracting pneumonia can be a concern and the proper steps to prevent it should be taken.

What is Pneumonia?
Pneumonia is an infection in one or both lungs that is caused when bacteria, viruses, or (in rare cases) fungi are inhaled and spread to an individual's lungs. These bacteria and viruses can live in someone's nose, mouth or sinuses.
A person can also catch the bacteria or viruses from people who are infected, whether those people are sick or not. Pneumonia can be acquired just about anywhere in the community or at home.

Aspiration pneumonia
Aspiration pneumonia occurs when stomach contents, saliva, food or nasal fluids are inhaled into the respiratory tract and lungs. Those who are most susceptible to aspiration pneumonia are those with impaired consciousness, depressed immune systems, swallowing or coughing difficulties. Coughing is the most common symptom of aspiration pneumonia. Pneumonia associated with aspiration is often missed and diagnosed with other symptoms later. (Opilla, M., 2003)

Individuals receiving tube feeding are at risk for aspiration pneumonia. Stomach contents can be regurgitated into the throat and enter the lungs on the way back down. Aspiration is considered to be the most serious complication for individuals who are tube fed. (Opilla, M., 2003)

The signs of pneumonia
It is important to recognize the early signs of pneumonia, especially in people who are high risk or low functioning.

1. Initial symptoms of a cold (upper respiratory infection), sneezing, sore throat, coughing
2. High fever, sometimes as high as 104° F, but even a slight increase may be very important
3. Above normal heart (60-100 beats per minute is normal) and respiratory rate (12-20 breaths per minute is normal). These may be the first significant signs of illness
4. Chills
5. Cough with sputum (mucus) production, may be discolored and sometimes bloody
6. Shortness of breath
7. Color of skin, lips and finger tips may change to dusky or purplish (cyanosis) due to poorly oxygenated blood. The use of a pulse oximeter or handheld pulse oximeter helps to monitor pulse rate and blood oxygen saturation
8. Diaphoretic (sweating)
9. Pain. The only pain fibers in the lung are on the surface of the lung, in the area known as the pleura. Therefore, chest pain—or pleurisy pain—may develop if the outer parts of the lung, close to the pleura, are involved. Pain is usually sharp and worsens when taking a deep breath

In some cases of pneumonia, depending on the cause, there can be a slow onset of symptoms. A worsening cough, headaches and muscle aches may be the only symptoms.

Symptoms of aspiration pneumonia are very similar to those listed above. Symptoms and severity can vary depending on the size and what was inhaled. If an individual inhales a large amount of a substance, symptoms can develop within one or two hours. However, in most cases, symptoms can develop at a very slow pace and then can worsen quickly.

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Symptoms and Treatment of Pneumonia continued

Treatment
Proper treatment of pneumonia will depend on the individual’s age and overall health, if the pneumonia is bacterial or viral, and where it may have developed—either in the community or a healthcare setting. (www.mayoclinic.com)

Most people who have bacterial pneumonia can be treated at home with doctor-prescribed antibiotics, plenty of fluids and fever reducers.

If a physician deems it necessary for the individual to be admitted to a hospital, they may be provided fluids and antibiotics intravenously if the pneumonia is bacterial. Antivirals may be recommended if the pneumonia is viral. Antibiotics will have no effect on a viral form of pneumonia.

An individual with pneumonia will likely be admitted to the hospital if they:
- Are 65 years old or over, or a young child
- Have serious symptoms: blood pressure drops, breathing becomes rapid
- Have another serious medical problem

Other treatment options could include oxygen therapy or breathing treatments. Fever reducers may be taken for mild or high fevers, common in people with pneumonia. Cough medicine may be taken to calm the cough, though coughing is a way the body can clear mucus from the lungs and throat. (www.ncbi.nlm.nih.gov)

Ways to prevent pneumonia
The following practices are good ways to prevent pneumonia:
- Frequent hand washing, particularly after nose blowing and using the bathroom. Hands should also be washed before and after eating.
- Practice good respiratory hygiene by covering your cough, coughing into a tissue or your elbow. Use a mask if needed.
- Good oral care and dental hygiene is also important because you could inhale bacteria from your mouth into your lungs.
- Mobility, standing, sitting upright and moving about—just about any kind of activity—is also helpful to keep your lungs clear and help you breathe deeply.
- Smoking is discouraged because tobacco damages your lung’s ability to ward off infection. Smoking also damages or paralyzes the cilia, the tiny hairs that line the surface of the bronchial tubes, making it hard to remove irritants, impurities and secretions, usually resulting in an unproductive cough that makes one at higher risk for pneumonia. (www.webmd.com)

What is a cough?
Coughing is a common occurrence that many people take for granted. The ability to cough is essential to life. Normally, the lining of the airways produces small amounts of mucus, which traps dirt and bacteria. If allowed to accumulate, this can result in infection. Coughing is the body’s way of removing mucus from the lungs, reducing the risk of infection.

A cough begins with a deep breath in. The glottis, which is the opening at the top of the voice box, closes and allows pressure to build up in the lungs. When the glottis reopens, there is a rush of air leaving the lungs.

Muscles located in the rib cage, neck and abdomen play an important role during coughing. With many diseases, a loss of respiratory muscle strength results in a weakened ability to cough and an increased chance of respiratory infections.
• Certain vaccines, such as pneumococcal or the influenza vaccine, may help with prevention in children, the elderly, and people with diabetes, respiratory conditions or long-term conditions such as HIV or cancer.

To help prevent aspiration pneumonia, individuals should sit up while eating or being tube fed and should remain that way for 30-45 minutes after eating. Oral and dental hygiene is also very important for these individuals.

References:

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CoughAssist device helps to decrease recurring respiratory infections
Rainbow’s NeuroRehab Campus® uses the CoughAssist, a pneumonia prevention device that helps clients who have ineffective coughs or the inability to take deep breaths.

This mechanical insufflation-exsufflation device simulates a natural cough that produces a significant increase in peak cough flow and facilitates airway secretion clearance.

The device is a non-invasive therapy that safely removes secretions by gradually delivering a large volume of air to the lungs when someone breathes in (positive pressure). Once the lungs have been expanded (similar to a normal deep breath), the device quickly reverses the flow to push secretions out (negative pressure). The rapid shift in pressure produces a high expiratory flow, simulating a natural cough. The device helps to make a cough stronger and more effective. It helps keep the airways clear to reduce the chance of recurring respiratory infections. Users report that it feels “easier to breathe” following treatment.

Device benefits:
- Removes secretions from the lungs, comfortably and effectively
- Reduces the occurrence of respiratory infections commonly associated with suctioning
- Produces more volume of secretions than suctioning alone
- Safe, non-invasive alternative to suctioning, causing less trauma, airway damage and infections
- Easy for patients and caregivers to operate

It’s been clinically proven to:
- Increase peak cough expiratory flows by more than four-fold
- Reduce recurrent respiratory infections in patients with weakness from neuromuscular disease