



Inservices For Nursing Assistants



We hope you enjoy this inservice, prepared by registered nurses especially for nursing assistants like you.

After finishing this inservice, you will be able to:

- Discuss at least four measures that help prevent pneumonia.
- List the five categories of pneumonia.
- Describe four *main* symptoms of pneumonia and list at least three other possible symptoms.
- List the three main reasons the lungs become infected with pneumonia.
- Describe at least five ways you can help clients with pneumonia during your daily care.



A Disease Process Module:

Understanding Pneumonia

Instructions for the Learner

If you are studying the inservice on your own, please do the following:

- Read through **all** the material. You may find it useful to have a highlighting marker nearby as you read. Highlight any information that is new to you or that you feel is especially important.
- If you have questions about anything you read, please ask _____.
- Take the quiz. Think about each statement and pick the best answer.
- Check with your supervisor for the right answers. You need **8 correct** to pass!
- Print your name, write in the date, and then sign your name.
- Keep the inservice information for yourself and turn in the quiz page to _____ no later than _____. Show your Inservice Club Membership Card to _____ so that it can be initialed.

THANK YOU!



IN THE KNOW

Developing Top-Notch CNA's, One Inservice at a Time

A Disease Process Module: Understanding Pneumonia

IT'S STILL FRIGHTENING...

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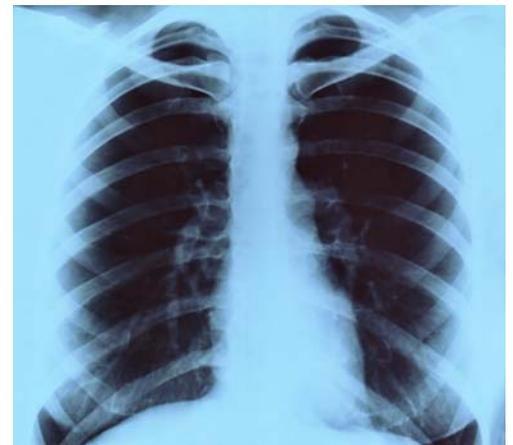
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Do you remember the **SARS** scare that happened several years ago? It stands for *Severe Acute Respiratory Syndrome*. It began in China in 2002, and within weeks had spread to almost 40 other countries. In the end, before it was contained, it infected around 8,000 people and killed about 800.

The news media created a sensation—and the United States nearly panicked—when 8 people came down with SARS. So, what was this scary disease? *SARS is a form of pneumonia*, an infection of the lungs that has ravaged humankind for thousands of years!

You may think that pneumonia is under control. Many people are not aware of the danger that pneumonia still poses. In the United States, we have the luxury of abundant antibiotics and high quality healthcare. Worldwide, though, pneumonia is still a leading cause of death, especially among children.

To learn how you can prevent pneumonia among your clients, continue reading this inservice.



An X-ray showing evidence of pneumonia

Despite the medical advances in this country, we are home to many pneumonic people, (those who have died from pneumonia) including many celebrities. Some famous folks who have died from pneumonia are Fred Astaire, James Brown, Charles Bronson, President Harrison (one month after taking office), Bernie Mac, Harriet Tubman, Freddie Mercury, Bob Hope and Jim Henson... just to name a few.

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WHAT IS PNEUMONIA?

Pneumonia is an infection in one or both lungs. Usually, the infection is caused by bacteria, but pneumonia can also be caused by a virus, fungi or other germs. Rarely, pneumonia can even be caused by a parasite! Anything that can create an infection in the lungs can eventually cause pneumonia.

Pneumonia varies greatly in seriousness. It is usually quite treatable, especially among children and healthy adults under 65. Often times, there is no need for any treatment aside from resting at home! Most people can recover within just a week or two.

Unfortunately, there are exceptions to this. Certain people are at greater risk for dangerous pneumonia. Infants, adults over 65, people with chronic illnesses and those with impaired immune systems are especially vulnerable. A growing concern, especially in healthcare settings, is pneumonia caused by antibiotic-resistant bacteria—which is difficult to treat.

Currently **5%** of deaths in the United States are due to pneumonia! *Today it is the 6th leading cause of death*, but before antibiotics became widely used about 70 years ago, pneumonia was the *number 1 cause of death*. In those days, one out of every three people infected with pneumonia died! Thankfully now (at least in the USA), we have medicine that can save many lives.

There are two major types of pneumonia, categorized by where it is spread:

Community Based

Community based pneumonia is simply that which spreads *outside* the healthcare setting, such as in schools, movie theaters or anywhere there are many people at one time. Generally, this type is not very serious and is the kind of pneumonia most people are familiar with. The majority of the time treatment is easy and recovery is quick, unless it strikes someone who has an existing lung or immune deficiency condition.



Healthcare Based

Healthcare based pneumonia is caught in a hospital, nursing home or another healthcare setting. It tends to be far worse than community based pneumonia because the people that get it are often already ill and weak. Generally, recovery from healthcare based pneumonia is much harder than community based cases. When pneumonia causes fatalities, it is usually in a healthcare setting. All healthcare workers should be aware of the dangers of this type of pneumonia.

The Infection!

Let's pretend you have pneumonia! Somehow your lungs have been invaded by foreign bacteria, probably by breathing in germs from another person.

This has caused your white blood cells to attack the bacteria. The battle started in your lung, which means tiny but vital air sacs (alveoli) are filling with pus and other fluid.

You have difficulty breathing because oxygen is not able to enter these air sacs. Your bloodstream cannot carry enough oxygen to the rest of your body, so you feel weak and tired.

In addition, since your body is fighting the infection, you have a fever.



WHAT'S NEW?

Grab your favorite highlighter! As you read through this in-service, **highlight five things** you learn that you didn't know before. Share this new information with your supervisor and co-workers!



SYMPTOMS OF PNEUMONIA

Pneumonia can begin slowly, and the initial signs are similar to those of a light cold. Let's say your 65 year old client, Mrs. Wilson, gets pneumonia after having the flu one winter.

At first, she might complain of a runny nose and a sore throat. Soon, you see her shiver from

chills and hear her **wet cough**.

A wet cough is the kind where mucus, or in this case,

sputum comes from the lungs. It can be bloody or otherwise colored. This is the result of the infected air sacs in her lungs.

If the pneumonia reaches the outer part of her lung (the surface) another symptom might be **chest pain**. Sure enough, the next time you see Mrs. Wilson, she complains of a sharp, stabbing pain when taking deeper breaths.

Mrs. Wilson's **skin begins to turn slightly purple** due to less oxygen in her blood.

Other Common Symptoms

There are more symptoms that most people with pneumonia (and Mrs. Wilson) might develop:

- High Fever
- Shortness of breath
- Sweating
- Headaches
- Muscle aches
- Fatigue



Specific Symptoms of Bacterial Pneumonia:

With bacterial pneumonia, there is a sudden onset of the symptoms above—often immediately following another illness such as the flu or a cold. Other symptoms include: shaking chills, shallow and quick breathing, a high pulse, nausea and vomiting and diarrhea.

Other Types:

Another kind of pneumonia is “walking pneumonia,” generally a non-bacterial infection of the lungs that is much less intense, hence the nickname. Sometimes people might not even notice they are sick! The symptoms can be a low fever, slight cough and shortness of breath. It often comes on gradually and recovery is quick.

The symptoms of pneumonia are often quite similar, despite the many types and variations. The seriousness of each case is determined by the particular germs that cause the infection, not necessarily the severity of the symptoms. For instance, bacterial and fungal pneumonia both might produce the same wet cough, but the bacterial infection could be much more dangerous and require a longer recovery time.



You Should Know...

- Sometimes, if the infection is far away from the larger airways of the lungs, there might not even be a cough.
- Children and the elderly might appear sick, but they may have *none* of the classic symptoms of pneumonia such as the wet cough.
- In infants, pneumonia can cause poor feeding, a fever and baby “grunting” (a kind of cough for an infant). It can also cause general lethargy, or lack of energy.
- In the elderly, a common sign of pneumonia is a low temperature! Also, since the lungs can't provide adequate oxygen to the brain, confusion and delirium can result from the lung infection.

HOW DO YOU GET PNEUMONIA?

Most of the time, the body filters out germs from the lungs with the help of the nose and the mouth. When germs get past the body's filter system, it is probably because 1) the person is weakened, 2) the germ is too strong or 3) the body somehow fails to filter the germs from the air.

Pneumonia is not a single disease. *There are over 30 different causes that fit into 5 categories:*

1. Bacterial
2. Viral
3. Fungal
4. Mycoplasmic
5. Parasitic



Most of the time, the bacterial and viral cases cannot be identified or diagnosed, due to limitations of testing (it's hard to test bacteria deep in the lungs). When bacteria *are* identified, however, doctors usually find the bug *Streptococcus*, or Strep for short.

Mycoplasma pneumoniae is usually less severe and is the main cause of "walking pneumonia."

Viruses such as the flu and Respiratory Syncytial Virus (RSV) can eventually cause pneumonia, as these conditions can weaken the immune system and allow further infection of the lungs.

People with depressed immune systems are also more likely to get pneumonia from fungi like *Pneumocystis jiroveci*. In fact, fungal pneumonia is often the first sign of health complications among people with AIDS.

The Main Causes of Pneumonia:

- Breathing germs into the lungs
- Breathing bacteria from the nose, mouth and throat into the lungs (during sleep)
- Weakened immune system
- Having a viral or upper respiratory infection
- A complication of another illness such as measles or chickenpox
- Breathing in food particles, stomach juices or vomit due to difficulty swallowing
- Having a chronic illness such as COPD (Chronic Obstructive Pulmonary Disease)

GERMS IN THE LUNGS...

Most of the time, the nose, mouth, throat and immune system filter out germs each time someone breathes. This is to keep the lungs from getting infected.

There are three main reasons the lungs become infected. Many of the more *serious* cases of pneumonia are due to the following:

- 1. Weakened Immune systems.** *Your clients will often be sick from another disease or illness, which makes it easier for bacteria and viruses to infect their lungs.*
- 2. The germ is too strong.** *There are some bugs out there that are hard to stop, even when all the precautions are taken. They include MRSA and other drug resistant organisms.*

3. Your client's body is not capable of filtering air. *This is often the case with COPD and stroke victims...their bodies just have a hard time fending off even mild germs.*



CONNECT
it now!

Apply what you know

Having pneumonia is one thing, but having another serious illness *and then* getting pneumonia is another!

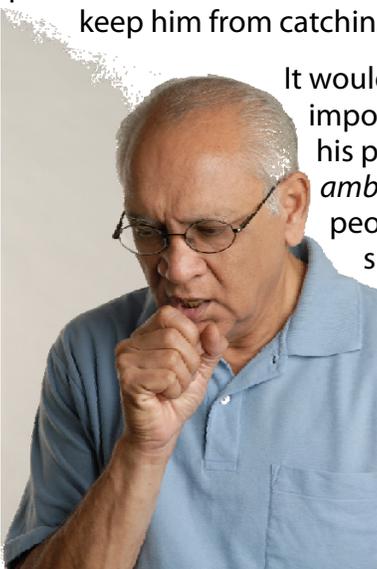
- Why would a client with AIDS be an easy target for a pneumonia infection?
- Why would a care-giver whose client has COPD be more careful about not getting pneumonia themselves?

A COUPLE OF CASE STUDIES

Mr. Jenkins

Let's pretend Mr. Jenkins is your home health client who has undergone surgery on his knee very recently. He is 67 and otherwise healthy, but what would happen if he caught bacterial pneumonia in the near future?

Luckily, because of his situation, Mr. Jenkins' chance of recovery from pneumonia is good. He is relatively healthy, so it is likely he will get better (and back on his feet) quickly. If his pneumonia is caught early, and his immune system functions normally, the infection should not spread much or at all. Mr. Jenkins is not suffering from other illnesses or conditions, only his knee surgery. Remember that having an existing illness can make pneumonia very dangerous. So...Mr. Jenkins should be fine, but there are certainly preventative measures that should be taken to keep him from catching pneumonia.



It would be extremely important for you to follow his plan of care for *ambulation*. After surgery, people tend to take shallow breaths and have a hard time clearing their lungs. The sooner he is able to get on his feet (and breathe deeply), the better.



Mrs. Sinclair

On the other hand, not everyone is as lucky as Mr. Jenkins. Mrs. Sinclair has COPD and has been hospitalized for one week. She is not eating well and stays mostly still, as moving around requires more oxygen than she can manage to breathe in. What would happen if she caught bacterial pneumonia in the near future?

Unfortunately, Mrs. Sinclair will have a tough time, as she falls into the *high risk* category for dangerous pneumonia. She has a lung condition, COPD which makes her lungs weak and unable to pass much oxygen to her blood. Pneumonia will only worsen that by further clogging her lungs' air sacs. She is older than 65, so her immune system is weaker than that of Mr. Jenkins. She is not eating much, which means her body isn't getting the right nutrients to fight the infection. If she were your patient, you would have to keep a very close eye on her and do your part to prevent her from developing pneumonia. Because if she does, it's possible that she might not pull through.

Other risk factors for pneumonia include:

- Heart disease, sickle cell anemia, diabetes and kidney disorders.
- Living in a nursing home or an assisted living facility. Pneumonia outbreaks tend to happen at places where many people have close contact, especially among children and the elderly.



SOME MAJOR TYPES OF PNEUMONIA

Remember, pneumonia is more dangerous when spread in **healthcare settings**. It is most often spread to people on *mechanical ventilators*. This is due to the breathing tube introducing germs into the lungs. Pneumonia is also more likely to spread during *extended stays* in a healthcare facility. Healthcare settings are also more likely to have (and spread) drug-resistant bacteria.



- In the healthcare setting, pneumonia accounts for 15% of all hospital based infections. It is the 2nd most common after urinary tract infections.
- In some reports, 20% to 33% of hospital patients who contracted pneumonia died. The primary risk factor for dying from healthcare based pneumonia is the need for a breathing tube. If a person is in the hospital for a serious lung condition and then gets pneumonia on top of that, the chance of death is much greater.

Other Types of Pneumonia

- *Streptococcus pneumoniae* is the leading cause of bacterial pneumonia among the overall population. This is certainly the most common form that infects people in a community setting. Fortunately there is a vaccine!
- Every year, nearly 2 million cases of pneumonia are caused by bacteria called *Mycoplasma pneumoniae*. This type of bacteria is the leading cause of pneumonia in school age children and young adults. Often, schools are hit with these outbreaks and the problem can be difficult to diagnose. Most kids are healthy again within a few days.
- Half of all pneumonia cases (especially among children) are believed to be caused by *viruses*. Most of these cases are not serious and do not last long. The treatment is easy: just get some rest!



- Fungi can enter and infect the lungs. A fungus has seeds, or spores, that can be easily breathed if they are in the air. Pneumonia caused by fungal infections is less common than bacterial or viral pneumonia, but can be very serious. PCP or *Pneumocystis carinii* pneumonia is caused by an organism scientists believe is a fungus. This type of infection is often the first sign of illness due to AIDS, as fungal infections thrive in a body without a strong defense.
- *Tuberculosis* pneumonia is a very serious lung condition that must be treated quickly. It is caused by bacteria that are often drug resistant, and treatment can take more than a year!



More Pneumonia Facts

- Most types of pneumonia are transferred from an infected person breathing *out* (or coughing) just as nearby healthy people are breathing *in*.
- Once healthy people breathe in pneumonia germs, it can take from 1 to 4 weeks for them to feel sick. This time period is called the *incubation period*. Since a month can pass before any symptoms develop, outbreaks can often occur without warning.
- You may have heard the term "double pneumonia". This does not refer to a special type of pneumonia. It simply means that the infection is in *both* lungs.
 - Even after people recover from the main symptoms of pneumonia, they may continue to feel fatigued for a month or more.
 - Pneumonia can occur at any time of year but is most common during the winter and spring.

PNEUMONIA PREVENTION

Observe Your Clients. Because you spend so much time with your clients, you may be the first person to notice changes that signal the onset of pneumonia. Keep in mind: *any respiratory changes that linger for two or more days should be reported to your supervisor immediately.*

Protect Your Clients from Illness. Chances are, your clients are either elderly and/or weakened by illness or surgery. This puts them at high risk for pneumonia. If you notice that friends or family members seem sick with a respiratory illness, don't be shy about asking them to wash their hands frequently and to cough into a tissue or their sleeve.

Handwashing. As you probably know, the number one way to stop the spread of *any* infection is with proper handwashing. Wash your hands often, according to your workplace policy or use alcohol-based sanitizer if a sink is not readily available.

Help Your Clients Become Non-Smokers. Smokers are more vulnerable to lung infections because their natural defense against bacteria is worn down. *A smoker's lungs and windpipe lack the hair-like cells that catch germs.* This puts them at a higher risk for catching pneumonia. Encourage your clients and anyone close to them to cease smoking.

Encourage Vaccinations. Because pneumonia can develop as a *complication* of the flu, it is important for both you and your clients to get the annual flu vaccine. There is also a shot for the most common bacterial pneumonia. It is recommended for people who are elderly and/or who have health conditions that would be worsened by pneumonia. Generally, the vaccine is given once to those over age 50, and again every five years. People with other health issues may receive the shot earlier in life.

Provide Frequent Mouth Care. Have you heard that there is a direct link between proper mouth care and pneumonia? Research has shown that providing oral care to people who are unable to do it themselves helps reduce their risk for pneumonia infection. By removing bacteria from the mouth, there is less chance of it entering the lungs.

Promote Healthy Living. Pneumonia prevention is easier if the immune system is functioning normally. *The easiest way to have a healthy immune system is to be healthy.* Encourage your clients to eat right, get adequate rest and to maintain a reasonable weight. In addition, light exercise has many benefits, including assisting with weight control and giving the immune system a boost.



PNEUMONIA TREATMENT

- Young and healthy people are the best equipped to deal with pneumonia and recover quickly. Generally, they can recover in a week or less and treatment can often take place at home. Middle-aged or older individuals might need several weeks to get better.
- If the germs are bacterial or fungal, antibiotic medicine will likely be required. If the pneumonia is viral, the main treatment is usually just rest.
- Some cases of pneumonia may require oxygen therapy and/or additional medications to relieve symptoms such as severe coughing. Treatment for *any* pneumonia should include a proper diet and adequate hydration.
- If your client is not resting and taking the recovery seriously, a relapse may occur. This means that the lung infection can come back, and it might even be worse than the initial attack!

TIPS FOR HELPING YOUR CLIENT WITH PNEUMONIA

General Recovery Tips

- Make sure your clients drink plenty of liquids. Being hydrated helps recovery by loosening and thinning the mucus in the lungs.
- If you notice clients trying to hold back their cough, explain to them that coughing is the body's way of clearing the lungs of mucus. So, encourage them to cough. If they complain that coughing keeps them from sleeping at night, let your supervisor know. They need to balance clearing the lungs with getting enough rest!
- Remember that your clients have a right to adequate pain control. If they are in pain from coughing or other body aches, tell the nurse. The physician will likely prescribe something to ease the pain.
- Your client's fever can also be controlled with medication, as ordered by the doctor. Report any abnormal temperature reading to your supervisor.
- Try to allow the client as much rest as possible, and ensure that the client is taking extra time to sleep. If rest is ignored, the infection may worsen and recovery will take longer.



Chest Therapy

If required, you might be ordered to help with, or monitor, *chest therapy*. Chest therapy includes:

- **Incentive Spirometry.** Your client might be given a device similar to the object in this picture. A spirometer is a plastic tube with a measuring canister. It improves breathing and loosens mucus. Watch your client *inhale* as quickly and powerfully as possible through the tube, and take note of the measurement. The higher the amount, the better your client's lung capacity. Share praise with the client and encourage regular use of a spirometer.
 
- **Breathing.** Encourage the client to take deep breaths, inhaling and exhaling as much and as deeply as possible. This will promote coughing.
- **Coughing.** Generally, coughing should be encouraged since it helps get sputum out of the lungs. Coughing should be deep and forceful, without being *violent*. The goal is to open the lungs by coughing up the blockage, so make sure there is a container or tissue nearby that your client can use for sputum collection. Notify your supervisor immediately if you see blood in a client's sputum.



**WHAT
excites
YOU?**

The World Health Organization, or WHO, is an international group determined to help provide adequate healthcare for all people. It reports that *every year*, **1,800,000** children under 5 years old *die from pneumonia* worldwide. It also reports that by giving out medication to the worst affected areas, almost half of these deaths could be avoided. The cost for the medicine is estimated at \$600 million dollars. Should something be done? Of course! But should the USA pay for it? Discuss the topic as a group and come up with an answer. Does anyone disagree? Why?

MORE TIPS FOR DEALING WITH PNEUMONIA

Nutrition

- Eating well-balanced meals is very important. Encourage your clients to continue to eat properly as they recover from pneumonia.
- If your clients experience shortness of breath during mealtimes, you can suggest that they: eat several small meals instead of three big ones; rest before eating; eat slowly and chew foods well; breathe evenly when chewing; take plenty of time to eat; and avoid hard to eat foods.
- If your clients don't feel like eating, you can suggest that they try: eating small amounts of *high calorie* foods; drink fluids after eating (instead of filling up with fluid before meals); or have liquid meals (like a smoothie) or soft foods.
- Staying *hydrated* is important, too. Encourage your clients to drink plenty of fluids. This is a good way to keep the mucus loose so that it can be brought up by coughing.
- If you cook for your client, remember to use the exhaust fan or make sure there is good ventilation in the kitchen.



Exercise

- It's important for your clients to get some type of regular exercise—even if it's only a short, *slow-paced* walk. (Of course, you need to follow each client's plan of care regarding their activity limitations.)
- Be sure to remind your clients to take rest periods during exercise time, especially if they become short of breath.
- Never let your clients exercise on a full stomach! It takes too much energy.

General Safety

- Encourage your clients to get a flu shot every year! People are more likely to get pneumonia after having the flu.
 - Remind your clients to be cautious about being around people who are sick with colds, the flu and especially pneumonia. These infections are all passed easily from one person to another.
 - Avoid wearing strong perfumes or using strong-smelling cleaning fluids around clients with pneumonia. Their respiratory systems are already compromised and strong odors may make them cough or feel short of breath.

You are caring for 67-year-old Mrs. Sinclair who has pneumonia. She becomes short of breath quickly with activity and is becoming frustrated and depressed because she can't seem to do anything for herself anymore.

- You know there are certain times of the day when your client has more energy and endurance.
- How can you help? **Think of three creative solutions** to help with energy levels, depression and discouragement.
- Share your ideas with your co-workers and supervisor.



FREQUENTLY ASKED QUESTIONS

Q: What is aspiration pneumonia?

A: Have you ever worked with a client who has been unable to swallow properly because of a stroke, surgery or another health complication? Swallowing difficulties are one of the risk factors for *aspiration pneumonia*, which is when food particles, stomach juices, vomit and other possible contaminants enter the lungs. Some of the other risk factors are being semi-conscious, having dementia and taking medications that cause drowsiness.

Aspiration pneumonia is different than infectious pneumonia because it is not caused by a germ. In addition to the usual symptoms of pneumonia, aspiration can cause foul-smelling breath and sputum. When foreign particles enter the lungs, an infection can result—especially if it happens regularly. If you have a client who you know (or suspect) is at risk for aspiration pneumonia, make sure to follow any special dietary restrictions such as a thickened liquids or a soft diet.

Q: How is pneumonia diagnosed?

A: A diagnosis of pneumonia starts with the doctor taking a medical history and doing a physical exam. Listening to the chest with a stethoscope is a key part of the exam. If there is a pneumonia infection in the lungs, the doctor may hear crackling sounds and/or wheezing. A chest x-ray can help confirm pneumonia—and show how widespread it is. Sputum and blood tests help pin down whether the cause is bacterial, viral or fungal.



Q: Is there such a thing as drug-resistant pneumonia?

A: Yes! Pneumonia caused by certain streptococcus bacteria (“strep” for short) or staphylococcus bacteria (“staph” for short) may be drug-resistant. In the past twenty years, the number of cases of drug-resistant pneumonia has been on the rise. Symptoms may be flu-like or, with the strep germ, may be like a typical strep throat with quick onset of fever, sore throat, nausea and vomiting. If the bacteria spread *beyond* the respiratory system, the person may go into shock and develop problems with the kidneys, liver and muscles. At this point, treatment may become more difficult, even with large doses of antibiotics.

Q: Is there a relationship between the H1N1 flu (swine flu) and pneumonia?

A: Yes, there is. Just like with the “regular” seasonal flu, one of the complications of H1N1 flu is pneumonia. So far, most of the deaths from swine flu have been due to severe pneumonia. The H1N1 virus is toxic to respiratory cells and causes a build up of inflammation in the lungs. Once the respiratory tissues are damaged, they become very vulnerable to bacteria—and pneumonia can set in quickly. The best course of action is *early treatment*. So, notify your supervisor immediately if you observe swine flu symptoms in any of your clients, including:

- Fever and chills
- Cough
- Sore throat
- Runny or stuffy nose
- Body aches and/or headache
- Fatigue



IN THE KNOW

Developing Top-Notch CNA's, One Inservice at a Time

A Disease Process Module: Understanding Pneumonia

Are you "in the know" about pneumonia? Circle the best choice or fill in your answer. Then check your answers with your supervisor!

EMPLOYEE NAME *(Please print)*:

DATE: _____

- ***I understand the information presented in this inservice.***
- ***I have completed this inservice and answered at least eight of the test questions correctly.***

EMPLOYEE SIGNATURE:

SUPERVISOR SIGNATURE:

1. True or False

It is important to keep the client hydrated during recovery to keep mucus thin and loosened.

2. True or False

Of the two ways to spread pneumonia (community and healthcare based), community is far more dangerous.

3. True or False

Coughing is good for people who are recovering from pneumonia.

4. True or False

There are over 30 causes of pneumonia broken down into 5 categories: Bacterial, viral, fungal, parasitic and mycoplasmic.

5. Incentive spirometry is used as therapy to:

- A. Reduce coughing.
- B. Loosen mucus in the lungs.
- C. Improve the appetite.
- D. Kill bacteria.

6. True or False

Clients should stay in bed as much as possible while recovering from pneumonia.

7. Which of the following is not a typical symptom of pneumonia?

- A. Chest pain.
- B. Sneezing.
- C. Wet cough.
- D. Chills.

8. True or False

"Walking pneumonia" tends to be the type with the mildest symptoms.

9. True or False

The elderly and infants are most vulnerable to pneumonia due to weak immune systems.

10. True or False

It is better to eat less while recovering from pneumonia because of the risk of breathing in food particles.

Inservice Credit:

<input type="checkbox"/> Self Study	1 hour
<input type="checkbox"/> Group Study	1 hour

File completed test in employee's personnel file.