



YOUR SOURCE FOR CNA INSERVICES

A Disease Process Module: Understanding CHF

Instructions for the Learner

We hope you enjoy this Inservice, prepared especially for nursing assistants like you. You work very hard, and we appreciate the effort you make to complete these educational materials. It shows your desire to continue learning and growing in your profession!

After finishing this inservice, you'll be able to:

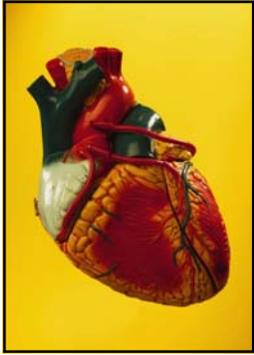
- Define CHF.
- Name at least three risk factors for CHF.
- Explain how a person can have heart failure and still be alive.
- Describe the relationship between lifestyle and the treatments for CHF.
- Discuss at least five ways that you can help your clients with CHF.

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

- Read through all the attached materials. 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 circle the best answer.
- Check with your supervisor for the right answers. You pass the quiz with at least eight correct answers! 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!



A Few Key Points About CHF:

- CHF is a chronic condition that tends to worsen with time.
- In the early stages, people with CHF may not have any symptoms.
- Heart failure is called “end-stage” or “advanced” when it progresses to the point where medications no longer control the symptoms.

Nearly one million Americans are hospitalized every year with CHF.

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Updated: 2006

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Congestive Heart Failure

What is CHF?

CHF stands for **C**ongestive **H**ear**F**ailure, a condition in which the pumping action of the heart is weak. CHF is not actually considered a disease; rather it is the result that comes from some kind of damage to the heart muscle. With congestive heart failure, the heart is *trying*, but it just can't push blood quickly enough throughout the body. As a result, the body doesn't get the oxygen and nutrition it needs to function. Without enough oxygen in their bodies, people with CHF often get tired very easily. Their hearts are *failing*.

What does "congestive" mean?

Heart failure is *congestive* when blood backs up instead of flowing forward. (Imagine watching four lanes of cars trying to drive into a two lane tunnel. Traffic will certainly back up and be congested!) When the heart is weakened by age or damaged by illness, it doesn't pump as efficiently. It has a hard time

keeping the blood pumping forward. Often, some of the blood “backs up” in to the lungs and other tissues, causing fluid to build up. Congestion and edema develop.

With CHF, the heart is failing to do its job, causing the lungs to develop congestion.

How can people still be alive if they have heart failure?

Someone with respiratory failure has stopped breathing and will die within minutes without medical attention, right? But, as frightening as it sounds, the term “heart failure” does not mean the heart has stopped. Instead, heart failure is usually a *slow*, gradual process. The condition is treatable—and some people live for many years with heart failure.

The Heart: An Amazing “Machine”

- An adult heart is pear-shaped, about the size of a large fist and weighs less than a pound.
- The heart is a muscle. In fact, it's the hardest working muscle in the body.
- For the average person, the heart beats 100,000 times every day. That's 36.5 million times a year and 2.5 billion times in a lifetime!
- In general, women's hearts beat faster than men's.
- The sound of a heartbeat is actually made by the closing of *valves* inside the heart.
- Throughout a person's lifetime, the heart pumps the equivalent of about 1 million barrels of blood!
- Each time the heart beats, it pumps “old” blood from the *veins* through the lungs so it can pick up oxygen. Then it pumps this “new” blood out the *arteries* into the body.
- An adult has about 6 quarts of blood which get pumped around and around the body—several times a minute.
- Even at rest, the heart muscle works harder than an Olympic runner's legs during a sprint!
- When pumping, the human heart creates enough pressure to squirt blood a distance of thirty feet.
- Blood is pumped from the heart to give oxygen and nutrition to the cells. Every cell in your body gets fresh oxygen every 60 seconds.
- The heart is located in the *center* of the chest—not on the left. However, it tips a little to the left and can be heard better with a stethoscope on the left side of the chest.
- Attached to the heart is a large artery called the *aorta*. It is as big around as a garden hose.
- If a person's blood vessels were stretched out flat, they would measure over 60,000 miles.
- Red is the color of blood, and has come to symbolize devotion and loyalty. That's why Valentine hearts are red!
- In ancient times, the part of the body that symbolized love was the *liver*—not the heart!



Heart disease is the number one killer of adults in America.

The normal heart has an average rate of 72 beats per minute, but in infants the rate may be as high as 120 beats, and, in children, about 90 beats per minute.



A physician who specializes in conditions of the heart is called a *cardiologist*.

Facts You Should Know About CHF

- According to the American Heart Association, about five million Americans have congestive heart failure.
- The risk of heart failure increases with age since the heart muscle loses some of its pumping power as we get older. More than 10% of people over 65 have been diagnosed with CHF.
- There are some children with heart failure—but it usually comes from a birth defect—not from disease.
- People who have mild heart failure can often live very normal lives—they may not even know that they have the condition! People with severe heart failure often become unable to walk more than a few steps or breathe comfortably.
- CHF affects men and women about equally, but seems to progress faster in men.
- The symptoms of heart failure may not appear until someone has had the condition for many years.
- African Americans are twice as likely as Caucasians to develop—and die from—congestive heart failure.
- People with diabetes are 2 to 8 times more likely to develop CHF than people without diabetes.
- Heart failure is the direct cause of 40,000 deaths every year in the U.S. It also contributes to 225,000 more deaths.
- There is no cure for “common” heart failure caused by damaged heart muscle.



Doctors see over 500,000 new cases of CHF every year.

Twenty percent of people with congestive heart failure die within one year of being diagnosed with the condition. The majority of CHF patients live five to eight years after diagnosis.

Left and Right-Sided Heart Failure

Heart failure can involve the chambers on the *left* side of the heart, the *right* side or *both* sides. Most commonly, the left side is affected first.

Left-sided heart failure involves the lower left chamber—known as a “ventricle”.

As “fresh” blood tries to enter the left ventricle from the lungs, it tends to get “stalled”. The blood backs up, causing fluid to leak into the lungs.

Right-sided heart failure is usually caused by failure on the left side. As the

left side weakens, the right side of the heart tries to take over. When the right side loses its pumping power, blood backs up into tissues throughout the body. This tends to cause swelling (known as edema), especially in the legs and ankles.



In people who have heart failure, the heart *tries* to compensate by getting larger and pumping faster.

What Causes Congestive Heart Failure?

CHF usually develops slowly—due to some type of damage to the heart muscle. The damage can be caused by a number of things, including:

- Scar tissue from a heart attack.
- Hardening of the arteries.
- Untreated high blood pressure.
- Diseases of the heart valves (usually from rheumatic fever).
- Birth defects.
- Diseases of the heart muscle.
- Severe lung disease.
- Uncontrolled diabetes.
- Toxic exposure to drugs or alcohol.
- Old age.
- Pregnancy. (In rare cases, CHF can develop shortly before or after a woman gives birth.)
- Viral infections.
- Severe anemia.
- Thyroid disease.



In a small percentage of cases, doctors are unable to find a specific cause for heart failure.

How Is CHF Diagnosed?

Some common ways that doctors diagnose congestive heart failure include:

- **Listening to the heart and lungs.** The doctor may notice a rapid heartbeat or an abnormal heart rhythm. There may also be a “crackling” sound in the lungs. This is caused by fluid congestion.
- **Taking a chest x-ray** to check the size of the heart and to look for fluid in the lungs.
- **Using ultrasound to “see” the heart.** This painless test (called an echocardiogram) allows the doctor to examine the pumping action of the heart and to see how well the heart valves are working.
- **Performing an exercise stress test.** This test helps the doctor learn how well the heart functions while at rest and during physical exercise.
- **Using a machine to measure electrical activity in the heart (EEG).** This test gives the doctor information about abnormal heart rhythms, an enlarged heart and other cardiac problems.

Once people are diagnosed with CHF, certain tests—like the echocardiogram—are usually repeated over time. This helps the doctor know if the heart failure is getting worse.

When diagnosing CHF, a doctor may do blood tests to look for problems such as anemia or an abnormal thyroid function.



There is no *single* test that can diagnose heart failure.

The Most Common Symptoms of CHF

The symptoms of heart failure can develop slowly, even over a period of years. The most common symptoms include:

- **Shortness of breath** (also called dyspnea). People with CHF may get short of breath while walking, just sitting or even while lying down. Some people even wake up in the middle of the night with shortness of breath. Dyspnea is one of the earliest symptoms of heart failure.
- **Fatigue.** People with heart failure tire very easily. Why? Congestive heart failure causes the heart to pump less blood to the tissues in the body. This means that people with CHF don't get enough oxygen and nutrition sent to their muscles. They causes them to suffer from fatigue.
- **Coughing.** Some of your clients with CHF may cough up mucus and/or pink or bloody sputum. Others may have a dry, hacking cough or an asthma-like wheeze.
- **Trouble Sleeping.** People with CHF may wake up frequently during the night, often due to shortness of breath. They may have trouble breathing while lying flat.
- **Abdominal Discomfort.** The discomfort may include abdominal swelling, tenderness or nausea. There can also be a loss of appetite and complaints of "indigestion".
- **Sudden Weight Gain.** It is not unusual for people with CHF to gain three or more pounds in one day due to fluid retention.
- **Edema.** Heart failure keeps the kidneys from getting rid of extra salt and water that the body doesn't need. This means that people with CHF "hang on" to that salt and water. This causes edema (swelling), especially in their legs, feet and abdomen. Edema can also be caused by blood backing up into veins throughout the body.
- **Memory Loss & Confusion.** People suffering from heart failure may become confused, restless and/or forgetful, usually due to reduced oxygen levels in the brain.
- **Palpitations.** CHF can cause the heart to race. It can also lead to an unpleasant "pulsing" sensation that can be felt in the chest, neck or upper arms.



Some people with mild CHF may have no symptoms at all.

People with CHF tend to get up frequently at night to urinate because their bodies are trying to get rid of excess fluid.



As heart failure gets worse, symptoms can occur during everyday tasks or even when just sitting quietly.

How Is CHF Treated?

There are a number of different ways that doctors treat congestive heart failure, including:

- **Medications.** (See below.)
- **Special diets** such as a low fat and/or low salt diet.
- **Fluid restrictions.**
- **Exercise**—as tolerated.
- **Lifestyle changes.** (See pg 7.)
- **Surgery.** The type of surgery depends on the *cause* of the heart failure. Some of the surgical procedures used to treat CHF include a **heart valve replacement, angioplasty** (to open up blood vessels in the heart) and a **coronary artery bypass**. For some people, having a **pacemaker** inserted is helpful and, for others, a **heart transplant** is the only effective treatment.



The goals of treatment for CHF are to improve any symptoms and to slow the progression of the condition.

Common CHF Medications

Heart failure can be treated with a number of different drugs. Some of the most common include:

ACE Inhibitors:

These medications, such as Vasotec and Lotensin, are usually the first choice for treating CHF. By relaxing blood vessels, ACE inhibitors help reduce blood pressure and slow the progression of heart failure. **Take Note:** Dizziness is a common side effect.

Diuretics:

Commonly called “water pills”, diuretics help get rid of excess

fluid and sodium in the body. Some common diuretics include Lasix, Diuril and Dyazide. **Take Note: People who take diuretics need to urinate frequently.**

Digitalis Medications:

These drugs, such as Lanoxin, boost the pumping action and efficiency of each heart beat. **Take Note: You may be ordered to record the pulse rate frequently for people who take this drug.**

Blood thinners: People with heart failure are at risk for

blood clots. To prevent this from happening, they may be ordered to take a blood thinner like heparin or Coumadin. **Take Note: Report any unusual bleeding immediately.**

Potassium:

This mineral is essential for controlling the rhythm of the heart. Since most diuretics “rob” the body of potassium, doctors often prescribe potassium supplements. **Take Note: Common side effects of potassium supplements include nausea and diarrhea.**

If the heart failure is life-threatening, some people are put on a list for a heart transplant. But these people often have to wait for months or even years for a donor heart.



The medications that fight CHF are less likely to help people who make unhealthy lifestyle choices.

How Do Lifestyle Choices Affect CHF?

There are certain habits that some people have—or choices they make—that put them at risk for CHF. For people who already have congestive heart failure, lifestyle choices can make their condition much worse. Unhealthy lifestyle choices include:

- **Smoking.** Tobacco smoking is a major cause of heart disease, including congestive heart failure.
- **A High Fat Diet.** Consuming an abundance of fatty foods can lead to obesity and high cholesterol levels—both of which contribute to heart problems.
- **Excess Fluid Intake.** As you've learned, people with congestive heart failure often have a problem with edema. Drinking too much fluid can make this problem worse.
- **A High Salt Diet.** Consuming too much salt can also cause people with CHF to retain excess fluid.
- **Lack of Exercise.** People with heart failure who are inactive suffer from a steady decline. But, those who exercise (with their physician's approval) typically show significant improvement.
- **Being Overweight.** Carrying extra pounds puts stress on the heart—which is especially bad for people with CHF. (Their hearts are already working overtime!)
- **High Blood Pressure.** Having high blood pressure and *not* controlling it is a major risk for CHF.
- **Diabetes.** Having diabetes and *not* controlling it can worsen congestive heart failure.
- **Alcohol and/or Drug Abuse.** CHF tends to damage the liver. Overuse of alcohol or drugs puts additional stress on the liver.
- **Stress.** Being constantly "stressed out" can raise blood pressure levels permanently, putting more strain on the heart.
- **Lack of Sleep.** Not getting enough rest can contribute to stress and leave the body unable to "fight" the CHF.
- **Chronic Depression.** Studies have shown that *chronic* depression is linked with a higher risk of developing high blood pressure and heart disease.



People who have uncontrolled high blood pressure have a 200% higher risk of developing CHF!

The best chance for survival is for people with CHF to follow their doctor's orders and to make healthy choices in their daily lives.



Keep in mind that some easy exercise—like a short daily walk—may help improve your client's condition.

Tips For Working With People Who Have CHF

Follow orders from the physician or the nurse regarding weighing your clients with CHF.

- Many CHF clients need to be weighed every day to check for increasing congestion and/or edema.
- Their medications may need to be adjusted if their weight is suddenly too high or too low. So, an accurate weight is very important!
- Be sure to weigh your clients on the same scale, at the same time of day, and wearing the same amount of clothing.

Help your clients with CHF keep a balance between activity and rest.

- If a CHF client is experiencing shortness of breath, be sure to encourage him or her to get plenty of rest.
- If your CHF client is not short of breath or too tired, encourage light exercise.

Watch for signs of drug toxicity (poisoning).

- Most CHF clients take a heart medication called digitalis. This drug can have a toxic effect of the body.
- Watch for—and report—any of the following:
 - Nausea
 - Vomiting
 - Diarrhea
 - Slow pulse
 - Headache
 - Increased shortness of breath.

If ordered, keep an accurate record of Intake and Output (I & O).

- People with CHF who take in more fluids than they excrete will develop edema. Because fluid balance is so important for CHF clients, you may be asked to record I & O amounts.
- Try to measure fluids at eye level for a more accurate reading.
- Follow Standard Precautions when measuring output.

- Check with your supervisor about how to record output for a client who wears diapers.

Observe your CHF clients closely.

- Be sure to tell your supervisor if you notice your CHF clients adding salt to their food, taking over-the-counter medications, or *not* taking their prescribed medications.
- Also, report any physical problems you observe with your CHF clients, such as:
 - Difficult breathing
 - Increased edema
 - Blue lips or fingernails
 - Jaundice (yellowish skin or eyes)
 - Confusion
 - Dizziness

With your help, your clients with CHF can improve the quality of their lives!



Be sure to follow your workplace policy for documenting I & O.

Help your CHF clients avoid temperature extremes since being too hot or too cold causes the heart to work harder.



Encourage your CHF clients to wear loose clothing that allows for good blood flow.

Helping CHF Clients Manage Their Stress

- Try playing some music for your clients. They may enjoy hearing a soothing melody or a popular tune from the past.
- Whenever possible, take time to really *listen* to your clients—especially if they are expressing their feelings about their illness.
- Let your words and actions show that you care. If your client is comfortable with physical contact, try giving a hug or holding a hand.
- Allow your elderly clients to make as many of their own decisions as possible. This allows them to feel “in control” and may keep them from becoming stressed by a loss of independence.
- Encourage your clients to find something to laugh about every day. (Studies show that laughter can strengthen the immune system, reduce depression and even provide a substitute for aerobic exercise!)
- Be patient with elderly clients who are dealing with chronic illnesses. It may sound to you like they are constantly complaining about their health, but would you trade places with them...even for just *one day*?

Helping Your CHF Clients Avoid Fatigue

- Note any activities that seem to bring on, or worsen, a client’s fatigue. Avoid or modify those activities, as possible.
- Alternate periods of activity with periods of rest.
- Remember that pain is a real energy zapper. If your CHF client suffers from chronic pain, be sure to schedule periods of activity shortly after the client’s pain medication.
- Ask your supervisor about getting some assistive devices for a fatigued CHF client, such as a shower chair, a bedside commode, a long handled bath brush and shoe horn, and an elevated toilet seat.
- Avoid rushing a your CHF clients and allow for periodic rest breaks. (Plan for *ten to fifteen minutes of rest* for every hour or two of activity.)
- Ask your clients to rate their fatigue from “zero” (no fatigue) to “ten” (the worst possible fatigue). Report the response to your supervisor so that the entire health care team is aware of the problem.



Stress can make any chronic condition worse—including CHF. So, help your clients de-stress.

Help your CHF clients perform the “boring” everyday activities like getting dressed and grooming themselves, so that they can save their energy for activities they really enjoy.



Remember that many people with congestive heart failure find the simplest activity leaves them gasping for air.

Where Can You Find Out More About CHF?

National Resources:

The American Heart Association

This is a national organization that can provide you with lots of different information about CHF and other forms of heart disease. They can also give you the location of your state and/or local AHA offices. Telephone calls to the AHA are free of charge.

Call.....1-800-242-8721

Or Check The Web....www.amhrt.org

The National Heart, Lung and Blood Institute

This institute is part of our country's National Institute of Health (the NIH). They have an Information Center that is available by phone Monday through Friday from 9:00 a.m. to 5:00 p.m. (Eastern time). You can order a booklet from them or just ask a question. Calling the NHLBI is **not** a toll-free call.

Call.....1-301-592-8573

Or Write.....The NHLBI Health Information Center

P. O. Box 30105

Bethesda, MD 20824-0105

Or Check The Web..... www.nhlbi.nih.gov

Local Resources:

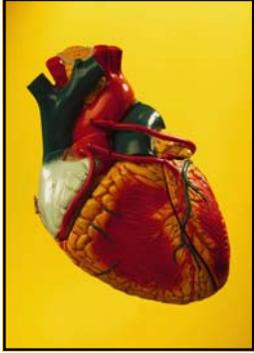
- Check your telephone book for local resources. These might include:
 - **American Heart Association**
 - Your local AHA office will be able to give you information about all kinds of heart disease. They also offer classes, including CPR.
 - **The Health Department**
 - The health department in your county may offer programs and/or information about CHF.
- Ask your supervisor for resources in your workplace.
- Ask your physician for more information.



Another informative web site is the Cardiology Channel: cardiologychannel.com/chf/

For additional helpful information, ask your supervisor about In the Know's inservices:

- The Normal Aging Process
 - Using Assistive Devices
 - Understanding Fatigue
 - Understanding Heart Attacks
 - Understanding Commonly Prescribed Diets
 - Understanding Hospice
 - Understanding Hypertension
 - A Vital Signs Update
-



A Disease Process Module: Understanding CHF

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: _____

Inservice Credit:

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

File completed test in employee's personnel file.

Are You "In the Know" about CHF?

Circle the best choice and then check your answers with your supervisor!

1. Congestive heart failure is caused by:

- A. Losing a lot of blood. C. Decreased pumping action in the heart.
B. Respiratory failure. D. Taking too many diuretic medications.

2. Mrs. Smith has CHF. Lately, she has been short of breath, very tired, and coughing frequently. In your daily work with her, you should:

- A. Encourage her to take a long walk every day.
B. Help her with her daily activities to keep her heart from being overworked.
C. Tell her to drink lots of fluids to help clear up her cough.
D. Reposition her only once a day so she can get some rest.

3. TRUE or FALSE

The term "heart failure" does **not** mean that the heart has stopped working.

4. TRUE or FALSE

The risk of developing heart failure is higher in people who are elderly, have diabetes or have hypertension.

5. TRUE or FALSE

CHF is a chronic disease that is rarely fatal and which can usually be cured.

6. Mr. Jones has CHF. He asks you to add salt to his food. You tell him:

- A. You can have the salt if you drink an extra glass of milk.
B. Extra salt will give you a headache.
C. I'll give you the salt if you promise to be good the rest of the day.
D. The doctor has ordered a low salt diet for you, and I have to follow his orders.

7. TRUE or FALSE

Dyspnea is the medical term for swelling in the legs and ankles.

8. TRUE or FALSE

Fatigue is a common symptom for people with congestive heart failure.

9. TRUE or FALSE

If your client takes ACE inhibitors for his CHF, you should watch him carefully for any unusual bleeding.

10. TRUE or FALSE

In general, people with CHF survive longer if they make healthy lifestyle choices.