

IN THE KNOW

The Inservice Club for Nursing Assistants

A Disease Process Module: Understanding Hypertension

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 will be able to:

- Define the word "hypertension".
- Discuss the risk factors for hypertension.
- Name the four main ways of treating hypertension.
- Describe and/or demonstrate at least six ways you can help your clients reduce their blood pressure.



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!

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A Disease Process Module: Understanding Hypertension



The real name for the tool used to measure someone's blood pressure is a "**sphygmomanometer**". No wonder most people just call it a blood pressure cuff!

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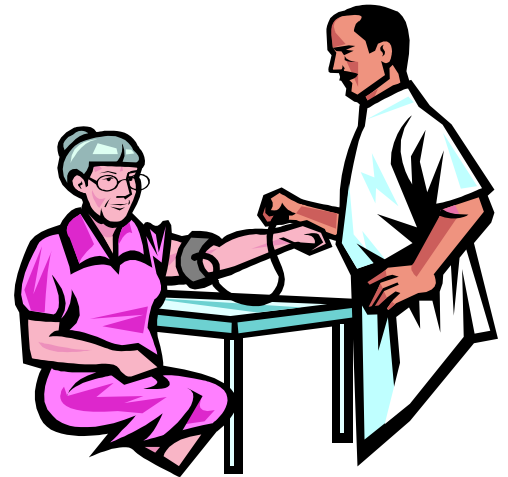
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Blood Pressure Can Be Deadly!

Are you responsible for checking blood pressures on some or all of your clients? If so, do you know how important this routine task is to their health? Well...*consider these facts:*

- High blood pressure can cause serious health problems including strokes, heart attacks, congestive heart failure, blindness and kidney disease.
- Studies have shown that the brain ages *ten years faster* in people who have high blood pressure.
- There is no cure for high blood pressure.
- When blood pressure is too high, the blood vessels throughout the body become thick and stiff.
- For 95 out of 100 people, doctor's *don't know* what's causing their high blood pressure.
- High blood pressure kills about 50,000 Americans every year.
- High blood pressure causes the heart to work harder than it should.
- One out of every four adults in this country have high blood pressure—and *many of them don't even know it!*
- More than half of all Americans over the age of 65 have high blood pressure.
- Nearly 30% of African American men with high blood pressure die from their condition.
- More than 75% of women over age 75 have high blood pressure.
- There are about 100 million doctor visits made every year because of high blood pressure.



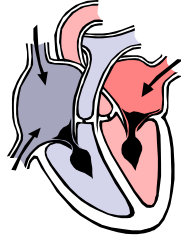
The Good News:
High blood pressure is *treatable*...and you can help!

Blood Pressure Basics



What Is Blood Pressure?

As you know, the heart pumps blood through blood vessels into every part of the body. As the blood flows, it pushes against the sides of the blood vessels. When you measure blood pressure, you are measuring how *hard* the blood is pressing against the blood vessels. The *harder* the blood presses, the *higher* the blood pressure will be.



When you see a blood pressure (or BP) reading, it usually includes two numbers:

120 Systolic

80 Diastolic

1. The Top Number

- The top number is called the **systolic pressure**. It measures blood pressure at its highest point—as the *heart muscle contracts to squeeze out more blood*.

2. The Bottom Number

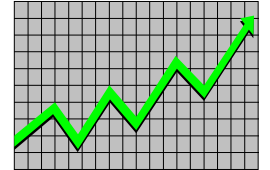
- The bottom number is called the **diastolic pressure**. It measures blood pressure at its lowest point—as the *heart relaxes between heartbeats*.

Remember...a normal blood pressure:

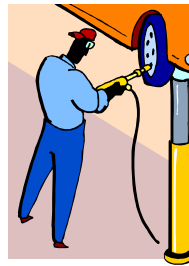
- Stays *below* 140/90 most of the time.
- Goes up and down throughout the day and night.
- Is affected by the way people treat their bodies.

What Is Hypertension?

Hypertension...“HTN” for short...is the name for blood pressure that stays high *over a long period of time*. With hypertension, the blood vessels become stiff, thick and/or narrow. It takes more pressure to push blood through these damaged blood vessels—making the heart work harder and harder to pump blood throughout the body.



Think of it like this...



Most of us find it easy to blow up a thin rubber balloon on our own, but imagine trying to blow up a *car tire* without an air pump! It would be impossible. Why? Because it takes *much more work* to inflate the stiff, thick rubber of a tire.

Remember...hypertension:

- Is a blood pressure that stays higher than 140/90 most of the time.
- Often develops as people age.
- Affects more men than women—until age 55 when women take over the “lead”.
- Develops earlier in African Americans.
- Tends to be more common in people with diabetes.

So what can you do?

Well...you can't keep your clients from getting older or from getting diabetes. And, you can't change someone's race. But...you can encourage your clients to make smart lifestyle choices every day that help keep their blood pressure under control. *Keep reading to learn more...*

Who Gets Hypertension?



Anyone can develop hypertension, even children. For most people, doctors can't pinpoint one specific cause for their high blood pressure. Instead, hypertension *sneaks up* on them, and is caused by a *combination* of things that might include:



- Smoking.
- Being overweight.
- Drinking too much alcohol.
- Being African American.
- Eating foods that are high in fat and cholesterol.
- Being a "couch potato".
- Getting older.
- Being under too much stress.

- Eating lots of salty foods.
- Being a diabetic.
- Having a family history of high blood pressure.

A few people—about 5 out of 100—develop high blood pressure because of a *specific* health situation such as:

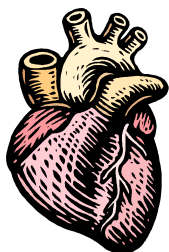
- Being pregnant.
- Taking birth control pills.
- Having kidney disease or a problem with the glands near the kidneys.



Usually, when the problem is fixed (or the baby is born), the high blood pressure goes away.

What Are the Symptoms?

Hypertension is called the "Silent Killer" because there are usually no early symptoms! Most people can walk around with hypertension for twenty years or more without feeling bad! Unless they get their blood pressure checked, they won't know they have hypertension. Unfortunately, living with high blood pressure for years does a lot of damage to the body.



Every day in the average adult, the heart beats over 100,000 times and pumps a total of 8,000 gallons of blood 12,000 miles through the body!

Some people do develop symptoms after they've had high blood pressure for many years. Their symptoms are actually clues that their heart and blood vessels have been damaged. They include:

- Headaches (*often severe*)
- Heart palpitations
- Dizziness
- Nose bleeds
- Shortness of breath
- Chest pain
- Fatigue

Diagnosing Hypertension



Here's some good news! High blood pressure is one of the *easiest* health problems to discover!

"Testing" for hypertension is :

- Painless.
- Quick.
- Inexpensive.
- Easy for someone to learn and do.

It's important for people to have their blood pressure checked regularly—even if they are *feeling good*. You may be ordered to check frequent blood pressures for your clients if:

- they are being treated for hypertension, *or*
- they are at risk for developing it.

Remember...taking someone's blood pressure is an important medical test!

This is how the American Heart Association classifies blood pressure:

Blood Pressure	Normal	High Normal	Hypertension
Systolic (Top Number)	Less than 130	130—139	140 or Higher
Diastolic (Bottom Number)	Less than 85	85—89	90 or Higher

Did You Know...?

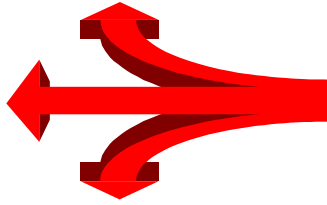
- Over 2000 years ago, people believed that air—not blood—flowed through arteries and veins.
- An English minister was the first person to measure blood pressure. (But, his "patient" wasn't a person... it was a horse!)
- Blood pressure cuffs have only been used for about 100 years. Before that, doctors decided how high a blood pressure was by holding a person's wrist and judging how forceful the blood flow felt against their fingers.
- Even after blood pressure cuffs were available, many doctors continued to use their fingers to measure blood pressure. They were suspicious of the "new-fangled" cuff—and felt that the "old" way was better.
- Most nurses were not allowed to use blood pressure cuffs until the 1960's! (Doctors thought *they* were the only ones qualified to take a person's blood pressure.)
- 50 years ago, many doctors believed that it was *dangerous* to reduce someone's blood pressure. Some even considered it malpractice for a doctor to try!



Taking A Blood Pressure



Taking a blood pressure is a simple procedure. But, remember that a number of things affect blood pressure—temporarily making it either too high or too low. For example:



- Mr. Smith's blood pressure is normal at night, but when Mary takes it every morning, it's always high. Mary wonders if she's doing something wrong.
TIP: Mr. Smith enjoys a cup of coffee every morning—right before Mary takes his blood pressure. Coffee (and cigarettes) can both raise a person's blood pressure. If possible, Mary should wait thirty minutes before taking her client's blood pressure.
- David is worried about Mr. Marshall. His blood pressure seems to jump around—up one day and down the next.
TIP: Different positions can change the blood pressure. For example, some people have a lower blood pressure when they stand up than when they sit or lie down. David should make sure he takes Mr. Marshall's blood pressure the same way every day—with Mr. Marshall sitting. Keeping Mr. Marshall's arm at the level of his heart will also help David get a true reading.

Notify Your Supervisor If:

- You get a pressure that is very different from the last one that was taken. (But, be sure to take the client's pressure again first...in case you got a false reading the first time.)
- Your orders include "parameters". For example, your orders might read: "Notify supervisor if client's BP is higher than 150/95".

Remember to Document:

- The client's position while you took the blood pressure (lying, sitting or standing).
- Which arm you used for the reading.
- Both the top and the bottom number of the blood pressure.

- Jim's client is twelve years old and very slim. Jim's supervisor told him that the child has hypertension, but Jim's readings are normal.
TIP: Jim is using a regular adult blood pressure cuff on his client. When a cuff is too large, the blood pressure reading is often falsely low. Jim should ask his supervisor for a child-sized cuff.
- It's no wonder that Mr. Stone's blood pressure stays high—Kathy can barely get her blood pressure cuff to fit around his arm.
TIP: If a blood pressure cuff is too small, the reading may be falsely high. Kathy should try using an extra large cuff with Mr. Stone. It will give her a more accurate reading.
- Susan is confused. Whenever she checks Mrs. Lane's blood pressure, it's normal. But, when Mrs. Lane goes for her doctor visit, she is diagnosed with high blood pressure.
TIP: One out of four people are so nervous about going to the doctor that their BP rises! This is called "white coat hypertension"—meaning that their blood pressure is only high in a doctor's office. (As soon as they get home, their blood pressure returns to normal.) Mrs. Lane may have white coat hypertension. Susan can help by making sure that Mrs. Lane tells the doctor what her blood pressure is at home. And, the doctor needs to know that Mrs. Lynch gets nervous about her office visits!



Treating Hypertension With Medications



Some people can control their blood pressure by making changes in their lifestyle. But, often, medication is needed to bring down a person's blood pressure.

There are dozens of different drugs used to control hypertension. Here are how some of the most common ones work:

- **Diuretics** (sometimes called "water pills") help flush out extra fluid from the body. *Examples: Lasix, Maxzide, and Dyazide.*
- **Beta blockers** slow down the heart and decrease the amount of blood it pumps out. *Examples: Lopressor and Inderal.*
- **Other drugs** lower blood pressure by "relaxing" the blood vessels. *Examples: Vasotec, Altace, Minipress, and Cardizem.*



In the 1950's, doctors told people with hypertension to stand completely still for two minutes. If they didn't faint, they were supposed to take their usual dose of blood pressure medication. If they did faint...it meant their last dose was too high and they needed to skip a dose!

Doctors prescribe high blood pressure medications frequently, but **only 25%** of their patients get their blood pressure under control. Why? Because so many people forget to take their medication! They don't feel bad—because hypertension has no symptoms—so it's harder for them to remember to take their pills.

How Can You Help?



- Medications are important—skipping or stopping blood pressure medication can be life-threatening! If you suspect your client may not be taking his/her medications properly, notify your supervisor right away!
- If your client tells you he has been "cured" of his high blood pressure and doesn't need his medication anymore, tell your supervisor. Most people have to take blood pressure pills for the rest of their lives. Very few people are able to stop without developing problems.
- Keep an eye out for some of the possible side effects of BP medications. They include headaches, dizziness, diarrhea and overall weakness. If you notice any of these side effects, report them immediately. It could mean that your client needs a different dose of medication.
- Encourage your clients to take their blood pressure medicine *at the same time* every day.
- If you work with clients in their homes, use your imagination to help your clients remember to take their blood pressure medication. For example:
 - Write some notes that say, "Take your BP medication!" Tape the notes in places where your client will see them—on the refrigerator, on the bathroom mirror or on the front door.
 - Ask a friend or family member to call every day to remind your client to take the medicine.
- Not every client who takes blood pressure medication will have a BP within the usual normal range. The doctor may be satisfied with a BP of 150/90—especially if the client used to have a reading of 200/110!



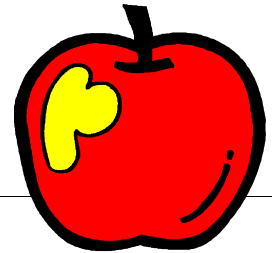
Treating Hypertension By Losing Weight



Most people who are overweight usually have higher blood pressure than people who are slim. So, losing weight is an important part of treating hypertension.

- The good news is that your clients don't have to become as thin as a model to reduce their blood pressure. Studies have shown that losing just *ten pounds* of excess weight often brings blood pressure back into the normal range.
- Losing weight can lower your clients' blood pressure, help them need less medicine for their hypertension and/or improve their overall health.

Did you know that people who are apple-shaped have a greater risk for high blood pressure than people who are pear-shaped? So, keep a close eye on clients who carry extra weight around their stomachs (*rather than their hips and thighs*).



- Of course, losing weight can be difficult! It involves making healthy eating choices *day after day after day*. You can be a terrific source of support for your overweight clients!

How Can You Help?



- Encourage your overweight clients to eat foods that are low in fat and low in calories. For example, you might suggest that they:
 - Drink skim or 1% instead of whole milk.
 - Eat lots of fresh fruits and vegetables.
 - Eat more fish and chicken—and less beef.
 - Eat fruit for dessert instead of cake.
 - Choose oatmeal or whole wheat toast for breakfast instead of sweet rolls.
- Help your clients make small changes in their eating habits. They are more likely to stick to the new eating habits if they aren't too drastic. It's much easier to cut back on a favorite food (like ice cream) than to give it up entirely.
- Praise your clients for any success with their weight loss—even if it's only one pound!
- Encourage your clients to drink lots of water. Six to eight glasses of water each day can really help with weight loss.
- Remember that foods that come from animals—such as meat, butter and cheese—tend to be high in fat, cholesterol and calories. Foods that come from plants—such as fruits, vegetables and grains—tend to be low in fat and high in fiber.
- Remind your clients that there is no "magic" about losing weight. To drop pounds, people have to eat fewer calories every day than their bodies need for energy. The best way to lose weight is to do it slowly—about 1/2 to 1 pound per week. (*To lose 1/2 pound a week, a person needs to eat 250 less calories every day—and move around a little bit more.*)



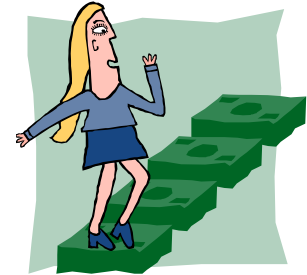
Treating Hypertension With Exercise



People who are physically active have a good chance of avoiding hypertension in the first place—or of reducing their blood pressure if it's already high.

- Your clients don't have to lift weights or run marathons to benefit from exercise. Even light activities do some good. The main thing is to get some kind of exercise regularly. Walking half a mile every day is better than taking a five mile walk once a month.
- Exercise makes it easier for overweight clients to lose weight—so they benefit from the exercise... and from weight loss.

Just taking the stairs instead of riding in the elevator can improve someone's fitness level!



- Regular exercise will help your clients in many ways—improving their strength, their muscle tone, their joints, their appetite, and their ability to fight off disease.

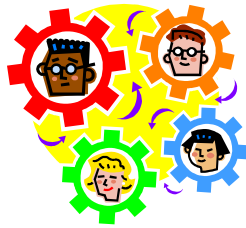
How Can You Help?

- Regular exercise (approved by a physician) not only helps with weight control but helps "lift the mood" of a person facing a chronic illness like hypertension.
- Help your clients set specific goals for exercise. For example, if Mr. Smith tells you, "I'm going to start exercising one of these days." try saying to him, "You and I will take a 15 minute walk today."
- Some clients may tell you that they're afraid to exercise because it will make their blood pressure go even higher. Tell them that exercise will bring their blood pressure down—and ask the nurse to talk to them about this issue.
- If your client is seen by a physical therapist, ask the therapist what kind of exercise is best for the client. Explain that you would like to help get the client on a regular exercise routine.
- If your workplace offers exercise "classes", encourage your clients to go.
- See if a friend or family member will agree to go for regular walks with your client. It's more fun to exercise with a "buddy".
- If you have any doubts about a client's ability to exercise, discuss it with your supervisor.



Treating Hypertension By Reducing Stress

We all experience stress. Good experiences—a wedding or a family reunion—as well as bad experiences—the death of a loved one or loss of a job—cause stress.



- Stress by itself is not bad. But, stress becomes a problem when people have a negative reaction to it.
- Some people have a physical reaction to stress. They tense up, clench their teeth or get a headache. Other people have an emotional reaction. They yell at others, cry or “stuff” all their feelings deep inside. *Either way, they have allowed the stress to take over their lives!*

Fifty years ago, doctors believed that high blood pressure caused stress. Now, most people believe the opposite—that stress can cause high blood pressure.



- Some doctors call hypertension “a problem of modern times” because people lead such busy lives these days. Managing stress is one way to treat hypertension. It may not replace blood pressure medication and/or diet therapy...but it can help.

How Can You Help?

- If you notice that certain things seems to “stress out” your clients, help them avoid those situations.
- Try this:
Sit in a quiet place. Close your eyes. Try to remember a time when you were calm and happy—a boat ride, a walk on the beach or a quiet moment in the woods. Inhale and hold your breath in for a few seconds. Slowly exhale...then hold your breath out for a few seconds. Now inhale slowly. Repeat this breathing pattern 5 or 10 times. Open your eyes. Do you feel better? Now try helping your clients do the same thing.
- Try to keep a positive attitude around your clients—so you aren’t adding to their stress!
- In addition, try to figure out what helps *relax* your clients. Here are just a few suggestions:
 - Listening to relaxing music.
 - Reading a book or being read to.
 - Taking a short nap.
 - Watching a comedy on TV.
 - Talking to a friend.
- Tell your supervisor if you notice any new signs that your clients are stressed such as:
 - Upset stomach, cold or sweaty hands, a pounding heart or tight neck and shoulders.
 - Being depressed, angry, irritable or impatient.
 - Overeating, problems sleeping or an increase in smoking or drinking.

Treating Hypertension With Special Diets

Low Sodium Diet



Sodium is a mineral found in table salt. The American Heart Association recommends no more than 2,400 milligrams (2.4 grams) of sodium per day for **all** healthy individuals.

Sometimes a physician may recommend a *reduced* sodium diet to help control hypertension. The doctor will give specific guidelines about how much sodium is allowed. Not all people with hypertension require a low sodium diet...*it's up to the doctor to decide.*

Foods to avoid on a low sodium diet:

- Processed foods (frozen dinners, "instant" sauces and soups)
- Processed meats (like bologna or bacon)
- Processed cheeses—like American cheese
- Canned foods
- Anything that's "pickled"
- Snack foods (chips, pretzels and crackers)
- Sports drinks

Some ways to help with a low sodium diet:

- Read labels—most foods are labeled, listing the amount of sodium *per serving*.
- Use fresh vegetables rather than canned.
- Low sodium broths and herb mixtures can add flavor to foods—instead of salt.
- If possible, keep the salt shaker off the table.
- Encourage your clients to taste their food before adding salt. They may just be in the habit of adding salt—but don't really need it.
- Help your client keep a sodium "diary"—writing down the amount of sodium in everything he or she eats.

Sodium is usually measured in milligrams. There are about 2,000 milligrams of sodium in one teaspoon of table salt! That means that a person following a heart-healthy diet can have a total of only about 1 and 1/4 teaspoons of salt per day!



High Potassium Diet

Some blood pressure medications may require a special diet. For example, a *diuretic* (such as Lasix) removes extra fluid from the body and lowers blood pressure. But, it can also remove *potassium*—a mineral required for healthy heart and muscle function. A person's potassium level can become dangerously low!

Occasionally a physician might prescribe a potassium pill to be taken along with a diuretic. Or the doctor might recommend that your clients increase the amount of potassium in their diets.



Some ways to increase *potassium* in the diet:

- Read labels—as with sodium, the amount of potassium is listed on food labels.
- Help your client keep a "potassium" diary.
- Encourage your clients to eat high potassium foods such as: bananas, tomatoes, tomato juice, dried fruit and raisins.

NOTE: It's up to the doctor to order a high potassium diet because some diseases (such as kidney disease) may require a *low* potassium diet. If you aren't sure what your client should be eating, ask your supervisor.

More Tips For Client Care



- Remember that every time your clients smoke a cigarette, their blood pressure goes up. Encourage them to stop smoking...and praise them if they quit or cut down.



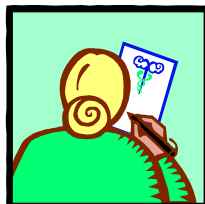
- People with high blood pressure tend to have edema—swelling from extra fluid. Edema is especially common in the feet and ankles. People with edema may find that it gets worse when they eat salty foods. They can gain two or three pounds of fluid overnight! If your clients have edema, you may be asked to weigh them every day. If so, be sure you weigh them:
 - At the same time every day.
 - While they're wearing the same amount of clothing.
 - On the same scale.
- Encourage your clients to keep every appointment with their doctor. Hypertension needs to be watched carefully to make sure it is being controlled.

- If your clients have been ordered to eat a low sodium diet but are having trouble sticking to it, let your supervisor know. It may feel like you are “tattling” on the client, but it is your responsibility to report the facts.
- Keep in mind that people with hypertension are at risk for heart attacks and strokes. Tell your supervisor immediately if you notice any of the following:
 - Severe or constant headaches.
 - Extreme tiredness.
 - Dizziness—like the room is spinning.
 - Nosebleeds.
 - Numbness or weakness on one side of the body.
 - Chest pain.
 - Nausea, vomiting or heartburn.
 - Cold, moist skin.
 - Blue lips.
 - Shortness of breath or difficulty breathing.
 - Ankles that are suddenly swollen.

To Learn More About Hypertension:

If you have access to a computer (and the internet), try looking at these websites:

- <http://www.nhlbi.nih.gov/site/index/index.htm>
- www.lifeclinic.com
- www.americanheart.org
- www.heartinfo.org
- www.heartpoint.com



Time To Laugh!

Mary was meeting her new client, Mrs. Johnson for the first time. Mrs. Johnson was elderly and seemed like a sweet lady. Mary approached Mrs. Johnson and said, “I’m going to take your blood pressure now.” Mrs. Johnson raised up and said, “Oh no you’re not!!! I need help with my bath...I don’t need my stuff stolen. You go get your own!”

Are You "In the Know" About Hypertension?



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

1. Which of the following clients has the least risk for hypertension?

- A. A man who is a heavy drinker.
- B. A woman who is 40 and exercises regularly.
- C. A man who just turned sixty-five.
- D. An overweight woman with diabetes.

2. TRUE or FALSE

People with hypertension should only take their blood pressure medicine when their pressure is high.

3. TRUE or FALSE

Hypertension can cause a stroke.

4. Your client is on a low sodium diet. He should:

- A. Eat canned vegetables regularly.
- B. Have bacon for breakfast every day.
- C. Add salt to his food at the table.
- D. Eat more fresh fruits and vegetables.

5. Your client has hypertension. To help get her blood pressure under control, she should:

- A. Stop exercising for a few months.
- B. Weigh herself once a week.
- C. Lose those extra ten pounds.
- D. Eat a lot of foods with potassium.

6. TRUE or FALSE

Hypertension can be cured with surgery.

7. TRUE or FALSE

African-Americans are less likely to have hypertension.

8. TRUE or FALSE

It's common for people with hypertension to have swollen ankles and feet.

9. TRUE or FALSE

Because it is relaxing, smoking a cigarette lowers the blood pressure.

10. TRUE or FALSE

A blood pressure of 150/95 is within the normal range.

EMPLOYEE NAME _____

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 _____

Inservice Credit: 1 hour

Supervisor Signature _____

File completed test in employee's personnel file.

_____ Self Study

_____ Group Study