

**Sinclair Community College, Division of Allied Health Technologies**

**Health Promotion for Community Health Workers – Cardiovascular disease, stroke, and cancer**

**Class #10 Atrial Fibrillation**

(date)

**Course Objectives:**

Know risk factors and causes of heart disease, stroke, and cancer

Know the warning signs of heart attack, stroke, and cancer

Know the most common treatments for diseases of the heart and blood vessels, heart attack and stroke, and contributing conditions like high blood pressure, high blood cholesterol, and diabetes.

Show people how to take greater control over their health

**Class/Learning Objectives: By the end of this session, students will be able to:**

1. Describe atrial fibrillation
2. Name the risk factors for atrial fibrillation
3. Describe the signs of atrial fibrillation
4. Discuss stroke as a consequence of atrial fibrillation
5. Discuss treatments for atrial fibrillation, including medicines that might be prescribed.

**Participants:**

Instructor(s)

Students

**Materials/Resources Needed:**

Flipchart, markers, tape, blackboard, chalk and eraser

**Handouts:**

- 10-1 How the Heart Works
- 10-2 What is Atrial Fibrillation?
- 10-3 Medicine for Atrial Fibrillation?
- 10-4 What Can CHWs Do to Help People Who Have Atrial Fibrillation?

**Class Outline**

I. Overview

II. Lesson

- A. What is Atrial Fibrillation?
- B. What Causes Atrial Fibrillation?
- C. What are the Risk Factors for AF?
- D. What are the signs of AF?
- E. Atrial Fibrillation and Stroke
- F. What is the Treatment for AF?
- G. How Do You Prevent Blood Clots?

- H. How Do You Slow a Rapid Heart Rate?
- I. How Do You Restore Normal Heart Rhythm?

## II. Summary

### III. Preview of next class

## Plan for the Class:

### I. Overview

In this chapter, we will talk about a serious heart condition that you may not have heard about before.

It's called atrial fibrillation. Atrial fibrillation is sometimes shortened to AF (write AF on the flipchart).

Before we begin our discussion of AF, let's do a quick review of how the heart works.

### III. Lesson

#### A. What is Atrial Fibrillation?

Atrial fibrillation is a problem with the heart's rhythm.

#### ***Handout 10-1: How the Heart Works***

*Use the explanation below to do a review of "How the Heart Works" and how atrial fibrillation affects the heart.*

Normally, the heart contracts and relaxes in regular, evenly-timed beats – it keeps a steady rhythm – about 60 seconds to one hundred beats per minute. The regular beating ensures the heart is pumping the right amount of blood with enough force to send it to all parts of the body.

However, sometimes for various reasons, the heart will begin beating irregularly and it may be too fast or too slow. The heart is not beating in its regular, rhythmic way – this type of problem is called arrhythmia. Atrial fibrillation is one type of arrhythmia and the most common. An estimated 2 million Americans are living with AF.

In atrial fibrillation the heart's upper chambers, the atria don't beat in coordination with the lower chambers, the ventricles. This results in an irregular and usually rapid heart rate. Blood is not being pumped efficiently. It can occur on and off, or you can have this rhythm all of the time.

AF itself usually isn't life threatening, but it can lead to other problems such as tiredness, or worse – heart failure, or perhaps worst of all – stroke.

About 15 percent of all strokes occur in people with AF, and AF is the most common cause of stroke in the elderly. That adds up to over 100,000 AF-related causes a year in the United States.

***Handout 10-2: What is Atrial Fibrillation?***

*Review the American Heart Association handout 10-2 with CHWs. Discuss how they can use this handout to explain AF to their peers.*

*Note to trainer: Taking your pulse helps you monitor your heart rhythm. Students should be trained on how to take a pulse. Patients should ask their doctor: What should my pulse be? How do I take my pulse? What should I do if my pulse is too high or too low?*

**B. What Causes Atrial Fibrillation?**

For many people, doctors don't know why they develop atrial fibrillation. Problems with the structure of the heart, such as valves not working properly, are the most common, known cause of AF.

However, controlling the risk factors for AF will significantly reduce your chances of developing AF.

**C. What are the Risk Factors of AF?**

Your risk of developing atrial fibrillation increases if you've had or have other heart problems such as:

- Heart failure,
- Heart attack,
- Coronary artery disease (blockage of blood vessels in the heart),  
or
- Inflammation of the heart lining or heart problems at birth.

Older people are more likely to have AF than younger people – the risk increases sharply at older ages.

AF also often appears in people with acute or chronic lung disease.

High blood pressure and diabetes are major risk factors.

Use of illegal drugs such as cocaine and methamphetamines, and too much alcohol, caffeine (such as coffee, tea, chocolate) or decongestant (found in cold and sinus medicine) can trigger atrial fibrillation.

Atrial fibrillation may also be caused by periods of heavy drinking. If the person is young and has no other underlying heart disease, then the heart rhythm will ordinarily return to normal in a few hours. Treatment is usually unnecessary. If you do have underlying coronary heart disease, then you may be at increased risk for a heart attack once the rapid and irregular alcohol-induced rhythm develops. Many people experiencing this kind of atrial fibrillation don't know if they

have heart disease, therefore, people experiencing an abnormal heart rhythm (arrhythmia) should get immediate medical help.

Smoking affects how your body uses medicine and increases blood clotting. If you smoke, quit.

#### **D. Why is Immediate Medical Attention Important**

Some people have no warning signs but other feel:

- A racing or irregular heartbeat
- Discomfort, pain or “flopping” in the chest
- Dizzy or lightheaded, short of breath

Some people who have AF don't feel a thing. Others notice an irregular heart beat immediately. Dizziness, sweating and chest pain or pressure also can occur, particularly when the heart beat is very fast.

When AF is left untreated and the heart keeps beating at a rapid rate, it enlarges or dilates and becomes less effective at pumping blood, in other words, heart failure. Heart failure can cause shortness of breath, a feeling of overall weakness, inability to exercise, and swelling of the legs and feet.

#### **E. Atrial Fibrillation and Stroke**

During AF, your heart beats too rapidly and ineffectively, and the blood in these chambers tends to form clots. If a clot breaks loose, enters the bloodstream and travels to your brain, it can plug an artery and cause a stroke. This doesn't happen to everyone with AF, but your chances of having a stroke are much higher if AF is present especially at older ages, beyond 65 years.

About 15 percent of all strokes occur in people with AF, and AF is the most common cause of stroke in the elderly. That adds up to over 100,000 cases a year in the United States.

#### **F. What is the Treatment for AF?**

AF is treated with medicine, surgery, a medical device, or some combination of the three.

Treatment depends on the underlying cause, your own symptoms, and your level of disability. But all AF treatment plans should include three goals:

- Preventing blood clots from forming,
- Slowing the heart rate, or
- Restoring the heart's normal rhythm.

#### **G. How Do You Prevent Blood Clots?**

To prevent blood clots from forming the doctor will probably prescribe a blood thinning medicine.

Blood thinning medicine is used because during AF, the blood is not being pumped through the heart as well as it should be, which makes it more likely that blood clots will form.

Warfarin is the most common blood thinner prescribed. It is an anticoagulant. That means it reduces your blood's ability to clot (coagulate). Blood thinners can prevent stroke in most patients with AF.

Most people older than age 65 who have atrial fibrillation will be treated with warfarin but this drug must be carefully monitored. Too much of it can cause abnormal bleeding. Too little fails to protect against clot formation.

When taking a blood thinner, tell your doctor right away if you have any unusual bleeding or bruising.

To be sure you're getting the right amount of blood thinning medicine, you will have your blood tested regularly. It is very important that you have these tests as often as your doctor recommends.

If you ever forget to take your blood thinner medicine, don't take an extra one to "catch up." Instead, call your doctor, say that you missed your regular dose, and then follow your doctor's directions.

Another important thing to remember if you are taking blood thinners is to always tell your dentist. While some bleeding during a dental procedure is expected, blood thinners can increase the amount of bleeding. Also, your dentist may have to give you medicine for pain or to prevent infection. Some pain killers and antibiotics (infection fighters) can cause a bad reaction when combined with blood thinners. Your dentist may need to contact your doctor before performing dental work.

Tell all doctors you are seeing that you are taking blood thinners. You should always keep all doctors informed of medicines you are taking. This is especially important before you start taking a new medicine or have any procedure that can cause bleeding.

Vitamin K can interfere with warfarin's effects. That's why it's important to follow your doctor's advice carefully when you take this (or any) medicine. Eat a balanced diet and do not suddenly increase the amount of green vegetables (such as broccoli, cabbage, lettuce, and spinach) which are high in vitamin K. Eating too much of these kinds of foods at one meal or in one day can interfere with their medicines.

Tell your pharmacist if you are taking a multi-vitamin or herbs. The pharmacist can help you find a multi-vitamin without vitamin K.

Another drug your doctor may prescribe to prevent blood clots is aspirin. Aspirin is less likely to cause abnormal bleeding, but it is not as effective as warfarin at preventing strokes caused by blood clots.

***Handout 10-3: Medicine for Atrial Fibrillation***

*Review handout 10-3. Allow CHWs to ask questions. Discuss each drug. Ask the CHWs for suggestions on how they might help peers understand the importance of taking medicines as prescribed.*

**H. How Do You Slow a Rapid Heart Rate?**

To slow your heart rate, your doctor may prescribe a medicine that slows the rate at which it contracts. Controlling this will:

- Normalize your heart rate
- Decrease your heart's workload
- Reduce your discomfort
- Prevent congestive heart failure. (Congestive heart failure can occur because the extra work causes the ventricles to enlarge [dilate] and their muscle to become weaker.)

**I. How Do You Restore Normal Heart Rhythm?**

To restore normal rhythm, the AF must be stopped. Your doctor may recommend medicine to do this.

Another method is to apply an electrical shock to your chest after you're given a short-acting anesthetic to put you to sleep for a few minutes. Sometimes a combination of medicine and electric shock is used.

For those whose AF is hard to control, more involved methods may be required. These methods can include implanting a pacemaker or surgery.

A pacemaker is a small device that helps regulate the heartbeat. The pacemaker is placed under the skin near the collarbone.

Surgery is often performed by inserting a small tube with a surgical instrument on the end of it in a vein that allows access to the heart. However, sometimes open heart surgery is necessary.

**IV. Summary**

What are some of the ways you could support people in the community who have atrial fibrillation?

***Handout 10-4: What can CHWs Do to Help People Who Have Atrial Fibrillation?***

*Review Handout 10-4 with the CHWs. Ask for suggestions of ways to help people remember to regularly check their blood pressure and pulse and keep medical appointments. CHWs should also encourage people with atrial fibrillation to know emergency numbers and to have a plan in case of emergency.*

Remind CHWs that if they are working with people who are taking blood thinners, these people must:

- Always take the amount prescribed. If they forget a dose, they shouldn't take an extra to "catch up". Instead, they should call the doctor and follow his/her directions.
- Tell the doctor if they have unusual bleeding or bruising,
- Tell the dentist they are taking a blood thinner before having dental work. Also they should tell other doctors and anyone prescribing medicine for them.
- Always let the doctor know of any other medicine (even over-the-counter) that they are taking or might take. They should talk to their doctor before taking vitamins or any other kind of pill.

What is atrial fibrillation?

What are the risk factors for atrial fibrillation?

What are the warning signs of atrial fibrillation?

What are the treatments for atrial fibrillation?

What medicines might be prescribed to treat atrial fibrillation?

**Resources:**

Living with Atrial Fibrillation: Our Guide to Managing a Key Stroke Risk Factor. American Heart Association/American Stroke Association.

<http://www.americanheart.org>.

Atrial Fibrillation: Resources for Patients <http://www.a-fib.com>