Your Guide to Atrial Fibrillation and Atrial Flutter

The Ohio State University
Wexner Medical Center

Table of Contents

For a digital copy of this book, please visit go.osu.edu/pted4241.

This resource is for informational purposes only. Talk to your healthcare provider if you have any questions about your care.

For more education, contact the Library for Health Information at 614-293-3707 or health-info@osu.edu.

Learning About Atrial Fibrillation and Atrial Flutter

Atrial Fibrillation and atrial flutter are problems with the rhythm of your heartbeat that start in the upper chambers of your heart called the **right atrium and left atrium** or atria.

- **Atrial fibrillation,** also called **atrial fib or A-fib,** causes your heart to beat faster or slower than normal and in a rhythm that is not normal.
- **Atrial flutter** can cause your heart to beat faster but in a regular rhythm. Sometimes this problem can lead to atrial fibrillation.

Atrial fib or flutter may happen for a short time and then stop, or it may happen more often and need treatment. Having atrial fib or flutter can put you at risk for forming blood clots in your heart. A clot could break loose and travel to the brain, causing a stroke, or block blood flow to other organs to cause serious problems.

Normal heartbeat pattern

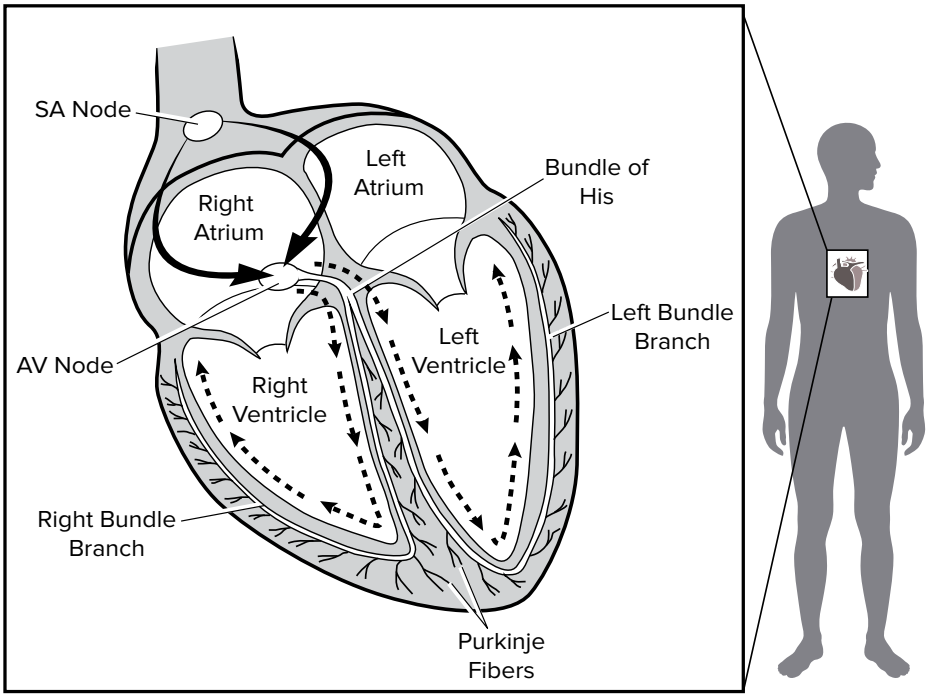
Normal heartbeats begin at the **sinoatrial (SA) node**, also called the sinus node, which acts as the heart's natural pacemaker. The SA node generates an electrical impulse that starts each heartbeat.

It sends electrical signals to the rest of your heart to contract and pump blood. The impulse then reaches the **atrioventricular (AV) node**, where it briefly slows down. This short delay allows the ventricles time to fill with blood before they contract.

From the AV node, the impulse travels into the **Bundle of His**, which carries the signal from the atria to the ventricles. The Bundle of His divides into a right bundle branch and a left bundle branch.

These bundle branches conduct the impulse through the **Purkinje fibers**, which spread throughout the ventricles. This causes the ventricles (the lower chambers of the heart) to contract in a coordinated way, pumping blood to the lungs and the rest of the body.

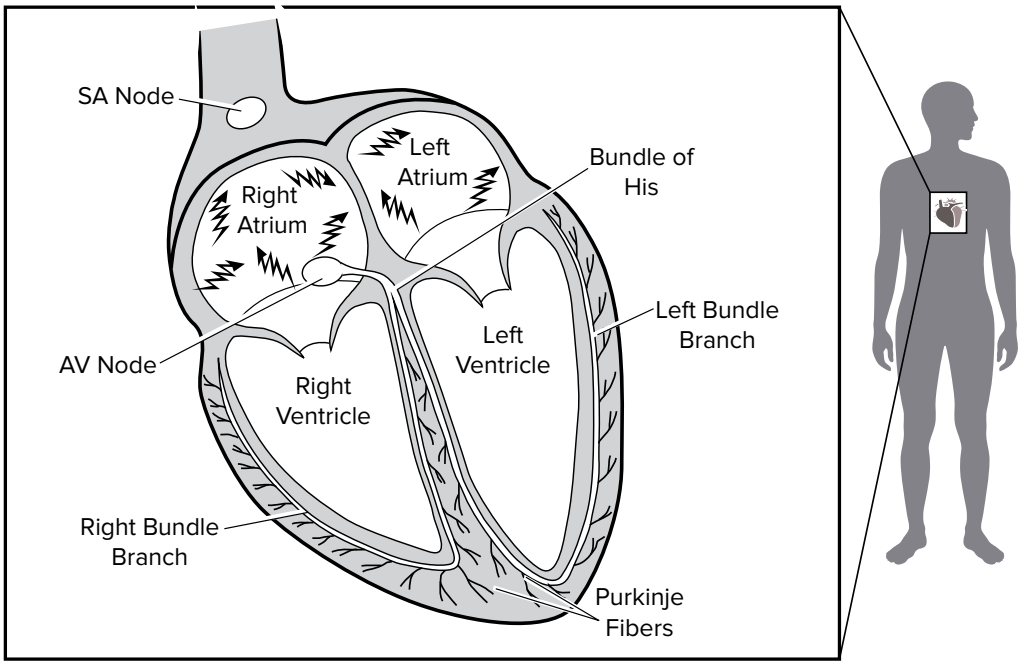
When the heart beats too fast, too slow, or with a skipping (irregular) rhythm, that is called an **arrhythmia**.



Atrial fib or atrial flutter

With atrial fib or atrial flutter, the SA node may not start the electrical pulse. Instead, there are several signals coming from other parts of the atria. The heart beats in an irregular rhythm causing poor blood flow out of the heart. The heart rate of atrial fib can be fast or slow.

The poor blood flow can cause blood clots to form in your heart. If a clot breaks loose, it could cause a stroke or damage other organs in your body.



Signs of atrial fib or flutter

You may have one or more of these signs if you have these heart problems:

- Fast or slow irregular heartbeat
- Throbbing, pounding, fluttering, or thumping in the chest, also called palpitations
- Shortness of breath
- Chest pain
- Feeling light-headed, dizzy or faint
- Feeling weak or getting tired easily, especially after exercise

Risk factors

You may be more at risk for atrial fib or flutter if you have:

- High blood pressure
- Heart valve problems
- Heart defects
- Sick sinus syndrome, when the natural pacemaker of the heart is not working
- Previous history of open heart surgery
- Other heart disease such as coronary heart disease, heart failure or cardiomyopathy

Other things that can increase your risk include:

- Being overweight
- Having other health problems such as sleep apnea, diabetes, thyroid problems, emphysema or other lung diseases
- Using alcohol, caffeine, or tobacco
- Family history of atrial fib or flutter
- Risk increases with age, especially age 65 and older

Testing

You may have one or more of these tests to check your heart:

- **Electrocardiogram (ECG)**: Checks the electrical signals of the heart. Stickers are placed on your chest, and arms or legs, then wires are attached. The readings allow the doctor to check how fast your heart beats and what rhythm it is in.
- **Heart monitor:** Devices worn for a few days (Holter monitor) or as long as a month (event monitor) to check your heart rate and rhythm. It allows you to record signs and symptoms by pressing a button, so your doctor can compare the time these happen with the rhythm recorded on the monitor.
- **Computed Tomography (CT) Scan:** A CT of the heart uses X-rays to make detailed pictures of the structures and blood vessels of the heart. A CT may be used to look for clots in the heart.
- **Echocardiogram:** Also called an echo or cardiac ultrasound, this test creates pictures of the heart using sound waves. This allows your doctor to see the size and shape of your heart and how well the chambers and valves are working.
- **Nuclear stress test:** Medicine is used to speed up your heart to measure how your heart, lungs, and muscles function when more blood and oxygen are needed.
- **Trans-esophageal echocardiogram (TEE):** A probe on the end of a flexible tube is put into your mouth and down into your esophagus. The probe takes ultrasound pictures of the heart from inside the esophagus. This allows your doctor to look at the back side of the heart to see if there are problems with the valves or any blood clots in the heart.

If you would like more information about any of these tests, please ask your healthcare team.

Treatment for Atrial Fibrillation and Atrial Flutter

The goals of treatment for atrial fib and flutter are to control your heart rate, prevent blood clots, and help your heart beat at a more normal rhythm. You may also need to treat other conditions that cause atrial fib or make it worse.

Your doctor or healthcare team may talk to you about one or more of these treatment options, based on your condition.

Treatment to control your heart rate

Different medicines may be used to control your heart rate. Talk with your doctor, nurse, or pharmacist if you have any questions about your medicines.

Beta blockers

Beta blockers improve the heart's ability to relax and block the effect of other hormones in the body (adrenaline or norepinephrine).

They slow the heart rate and help control blood pressure. These medicines are used to treat high blood pressure, heart failure, angina (chest pain), and may be used after a heart attack to slow the heart rate.

Side effects may include: dizziness, slow heart rate, fatigue, shortness of breath when first starting the medicine, and sexual dysfunction.

Common medicine names include:

- carvedilol (Coreg)
- metoprolol (Toprol-XL, Lopressor)

Calcium channel blockers

This type of medicine lowers blood pressure by slowing the heart rate and widening the blood vessels. This lessens the amount of work the heart needs to do. These medicines are used to treat high blood pressure, angina (chest pain), and slow the heart rate.

Side effects may include: dizziness, light-headedness, shortness of breath, slow heart rate, and constipation.

Common medicine names include:

- diltiazem (Cardizem, Dilacor, Tiazac)
- verapamil (Calan, Isoptin, Covera)

Treatment to prevent blood clots

Blood thinning medicines (anticoagulants and antiplatelets)

Blood thinners are medicines used to keep harmful blood clots from forming in your body. Blood thinners can also prevent existing blood clots from getting bigger.

Anticoagulant medicines increase the time it takes for your blood to clot and make it harder for blood clots to form.

Common medicine names include:

- warfarin* (Coumadin or Jantoven)
- heparin
- dabigatran (Pradaxa): do not remove from packaging until you are ready to take the dose because this medicine is sensitive to moisture and air
- rivaroxaban (Xarelto)
- fondaparinux (Arixtra)
- enoxaparin (Lovenox)
- dalteparin (Fragmin)
- apixaban (Eliquis)
- edoxaban (Savaysa)

*Special notes about warfarin:

- **If you take warfarin, you will need to watch the amount of vitamin K rich foods you eat.** Keep the amount of vitamin K in your diet the same from week to week. A high increase or a high decrease in vitamin K foods you eat may cause problems in the way your blood clots. Foods high in vitamin K include green leafy vegetables, spinach, broccoli, cabbage, greens (collard, turnip, beet, mustard and dandelion greens) kale, and Brussels sprouts.
- Check with your doctor or dietitian before you take any dietary supplements like Ensure or Boost. Some supplements contain high amounts of vitamin K.

* Follow up and lab tests with warfarin:

- Be sure to see your doctor as directed to manage your condition and to check how your medicine is working.
- Warfarin works best when taken as directed by your doctor. It is important to **have blood tests done as ordered by your doctor, especially if you take warfarin (Coumadin).** The test is called **international normalized ratio (INR).** INR is a calculation of how long it takes for your blood to clot. A normal INR for someone who does not take warfarin is 1.0. The higher the INR measurement, the longer it takes for your blood to clot. It is normal for your INR measurement to change slightly from time to time. Warfarin will cause the INR to increase, which prevents blood clots from forming easily.

Procedure to prevent clots from forming in your heart

There is a pouch, called an appendage, in the left atrium of your heart where most clots form. A procedure called a **left atrial appendage occlusion device insertion** can be done to close off the opening of the appendage from the heart.

If you cannot take blood thinner medicines, your doctor may talk to you about this procedure to prevent blood clots from forming in your heart.

Treatment to have a more normal heart rhythm

Anti-arrhythmic Medicines

Anti-arrhythmic medicines suppress abnormal heart rhythms and allow the heart's electrical system to beat normally. These medicines are used to treat irregular heart rhythms, such as atrial fibrillation or ventricular tachycardia. They will not cure the abnormal rhythms, but they will help to control them.

These medicines are often started in the hospital to check how your body will respond. You would likely be in the hospital for 2 or 3 days and your heart rate, heart rhythm, and blood work would be monitored.

Common medicine names include:

- amiodarone (Cordarone, Pacerone)
- dofetilide (Tikosyn)
- flecainide (Tambocor)
- propafenone (Rythmol)
- sotalol (Betapace, Sorine, Sotylize)

Procedures

- **Cardioversion:** A low energy electrical shock is given to change your heart rhythm back to a normal rhythm.
- **Ablation:** A procedure that uses energy to treat areas of the heart that are sending abnormal electrical signals and causing an abnormal heartbeat.
- **Pacemaker:** A device that sends out mild electrical signals or keeps a normal heartbeat.

Treating for other conditions for heart health

- **If you are overweight,** talk to your healthcare team about healthy weight loss. Ask about an exercise program that would be safe for you to follow to help you control your weight.
- **If you snore, wake up coughing during the night, or have trouble staying awake or concentrating because you are tired,** you may need a sleep study to check if you have sleep apnea.
- **If you smoke or use tobacco products**, talk to your team about support to quit. There may be programs or classes in your area to help you quit.
- **If you drink alcohol, limit how much you drink** to only 1 alcohol drink a day for women or 2 drinks a day for men.
  - **Check if alcohol interacts with any medicines you take.** Check the prescription information, or ask your doctor or pharmacist. Do not drink alcohol if you take blood thinners.
- **Manage chronic health problems** with your healthcare team. For example:
  - Control your blood sugar if you have diabetes.
  - Take your blood pressure medicines and manage your stress if you have high blood pressure.
  - Use your CPAP if you have sleep apnea.

Safety When Taking Blood Thinners

Important things to remember

When you take blood thinners, you have a higher risk for bleeding. It is important to always follow these safety precautions.

- Blood thinners work best when they are taken as directed by your doctor. It is important to have blood tests done as ordered by your doctor.
- Tell your doctors, pharmacist, dentist, and any of your healthcare team members if you take blood thinners. Keep an up-to-date list of all your medicines with you. Make sure to include the dose, amount, and how often you take the medicine.
- Talk to your doctor or pharmacist before you take any new medicine to make sure it is safe for you to take with your blood thinner. This includes any vitamins or herbal supplements, prescription medicines, and over-the-counter medicines and remedies. **Do not** take any new medicines that may contain aspirin, such as pain relievers or cold or stomach medicines.
- **If you are going to have a test, procedure, or surgery**, you may be told to stop taking your blood thinner and then restart it later. Talk with the doctor who ordered your blood thinner and the doctor who ordered your procedure about how to take your blood thinner.
- **If you have a stent, do not stop taking your medicines to prevent clots without first talking to the doctor who put in your stent.**
- Do not skip, take more, or adjust the dose of your blood thinner unless your pharmacist or healthcare provider tells you to do so. If you miss a dose or take an extra dose by accident, call your pharmacist or doctor for directions on what to do.

Food and blood thinners

The foods you eat can change how some blood thinners work in your body. It is important to follow food guidelines when you take blood thinners. Talk to your doctor or dietitian if you have any questions.

- If you take **warfarin (Coumadin or Jantoven)**, you will need to watch the amount of **vitamin K** rich foods you eat. Keep the amount of vitamin K in your diet the same from week to week. A high increase or a high decrease in the vitamin K foods you eat may cause problems in the way your blood clots. Foods high in vitamin K include: green leafy vegetables, spinach, broccoli, cabbage, greens (collard, turnip, beet, mustard, and dandelion greens) kale, and Brussels sprouts.
- Check with your doctor or dietitian before you take any dietary supplements, like Ensure or BOOST. Some supplements contain high amounts of vitamin K.
- Check with your doctor before taking any vitamin supplements. Some vitamins can change how your blood thinner works.
- **Do not drink alcohol if you take blood thinners.**

General tips to prevent bleeding

Prevent Falls and Other Injuries

- Make your home a safe environment. Learn more at Safety Tips to Prevent Falls at Home.
- Ask for help with walking.
- When you bend, make sure to bend your knees and keep your head up. Bending over with your head lower than your shoulders may cause you to get dizzy and fall.
- **Do not** play contact sports or do other activities where you could get hurt, such as football, hockey, or skiing.
- Wear protective gear during non-contact sports, such as helmets and elbow and knee pads.

Protect Your Skin

- Use an electric razor for shaving.
- Wear gloves when using sharp tools such as knives or scissors and when working with plants or yard tools.
- **Do not** walk barefoot or wear open-toed shoes or flip-flops. Wear supportive shoes or non-skid slippers to protect your feet.
- Keep your nails trimmed and clean.
- Check your skin for any sores or open cuts that could bleed.
- **Do not** cut corns or calluses on your feet or hands. Talk to your doctor if you have these problems.
- **Do not** wear tight fitting clothing or elastic, including tight socks, undergarments, or pantyhose.

Prevent Constipation

- Drink 8 to 10 cups of non-caffeinated fluid each day and eat a healthy diet.
- Do not strain when having a bowel movement. Ask your doctor about a stool softener or a laxative that is safe to use.
- **Do not** use enemas, suppositories, and any harsh laxatives that could cause rectal bleeding.
- Exercise can help with constipation.

Keep Your Mouth Healthy

- Use a soft toothbrush or water flosser. **Do not** use a harsh or abrasive toothpaste. Use waxed dental floss. **Do not** use toothpicks.
- Check your mouth each day for bleeding or sores.
- If you wear dentures or a retainer, remove these for at least 8 hours each day to give your mouth a rest. **Do not** wear dentures or retainers that do not fit well.
- Talk to your doctor and your dentist about your medicines before you have any dental work done.

Stroke Risk with Atrial Fibrillation

How does atrial fibrillation affect your stroke risk?

Normally, the heart beats in a regular, steady rhythm. In atrial fibrillation, the two upper chambers of the heart (the atria) quiver, or fibrillate, and the heart does not beat in a regular rhythm. Your heart rate also may be faster than normal.

An episode is not usually dangerous. But because the heartbeat isn't regular and steady, blood can collect, or pool, in the heart. Pooled blood is more likely to form clots. Clots can travel to the brain, block blood flow, and cause a stroke.

A stroke can cause sudden numbness or weakness of the face, arm, or leg, especially on one side of the body. Strokes can also cause sudden confusion, trouble speaking or understanding, or even trouble seeing in one or both eyes. Strokes can even cause death.

Atrial fibrillation increases your stroke risk. But not everyone with atrial fibrillation has the same stroke risk.

How do you know what your stroke risk is?

Your doctor can help you know your risk based on your age, sex, and health. Things that raise your risk are called risk factors. The more risk factors you have, the higher your risk. Risk factors for stroke include:

- Age. Being older than 65 raises your risk.
- Being female. Women are at higher risk.
- Other health problems that raise your risk. These include:
  - Heart failure.
  - High blood pressure.
  - A previous stroke or transient ischemic attack (TIA).
  - Heart attack, peripheral arterial disease, or other blood vessel disease.
  - Diabetes.

Medicine to lower your stroke risk

When you know what your stroke risk is, you and your doctor can talk about your options. You can decide whether or not to take medicine, called an anticoagulant, to help prevent blood clots.

These medicines, also called blood thinners, are explained in this book. Blood thinners lower the risk of stroke in people who have atrial fibrillation. How much your risk will be lowered depends on how high your risk was to start with.

You and your doctor can compare your risk of stroke with your risk of bleeding from the medicine.

Stroke Is an Emergency: BE FAST

BE FAST is a simple way to remember the main symptoms of stroke. Because they happen suddenly, know when to call for medical help.

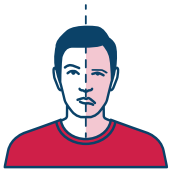
BE FAST stands for:

B 

Balance. Loss of balance or trouble walking.

E 

Eyes. Trouble seeing out of 1 or both eyes.

F 

Face. Weakness or drooping on 1 side of the face.

A 

Arm. Weakness or numbness in an arm or leg.

S 

Speech. Trouble speaking.

T 

Time to call 911.

Also call 911 if you have other stroke symptoms:

- Sudden confusion.
- Sudden trouble understanding simple statements.
- Fainting.
- A seizure.
- A sudden, severe headache.

BE FAST Video

go.osu.edu/hw_abs0968
or scan the QR code.