



ATRIAL FIBRILLATION

ARRHYTHMIA



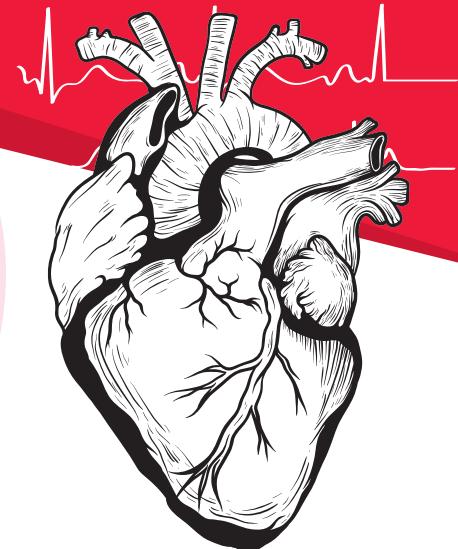


Arrhythmia

- ❑ Atrial Fibrillation = upper heart chambers contract irregularly
- ❑ Bradycardia | Slow Heart Rate
- ❑ Conduction Disorders
- ❑ Premature Contractions - PACs and PVCs
- ❑ Tachycardia | Fast Heart Rate
- ❑ Ventricular Fibrillation
- ❑ Other Heart Rhythm Disorders
- ❑ Arrhythmia in Children

Tests and Procedures

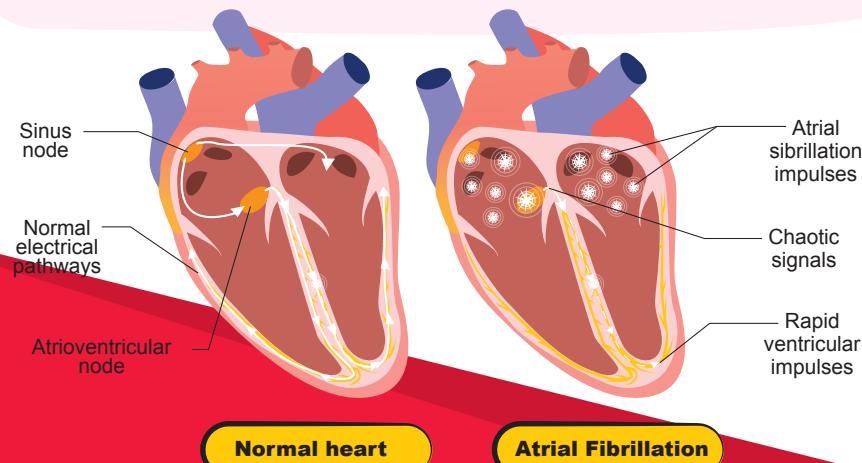
- ❑ Blood testing
- ❑ cardiac catheterization



Ablation for Arrhythmias

Arrhythmia

"arrhythmia" refers to any change from the normal sequence of electrical impulses. The electrical impulses may happen too fast, too slow, or erratically – causing the heart to beat too fast, too slow, or erratically. When the heart doesn't beat properly, it can't pump blood effectively. When the heart doesn't pump blood effectively, the lungs, brain and all other organs can't work properly and may shut down or be damaged.



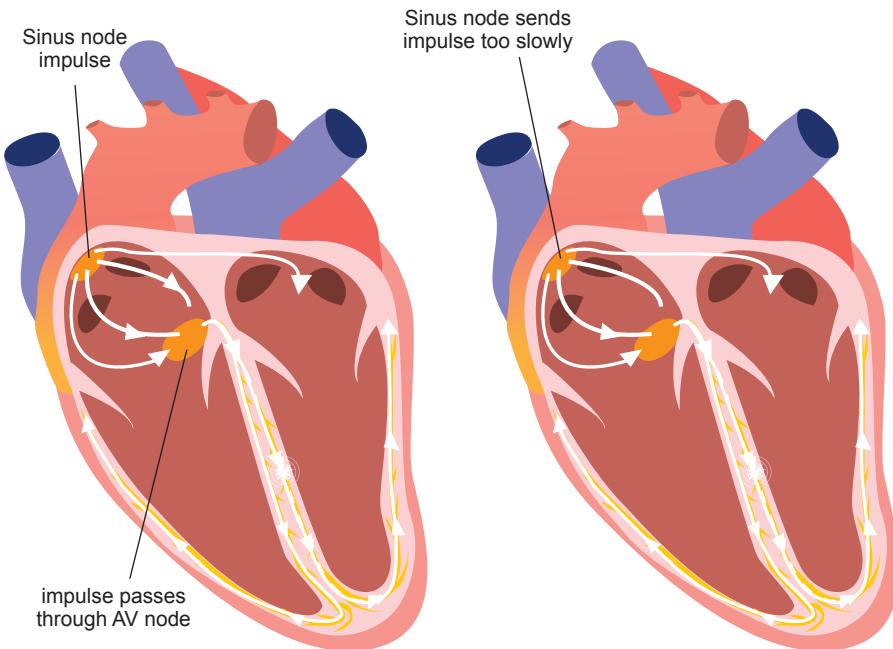
Types of Arrhythmias

1

Atrial Fibrillation = upper heart chambers contract irregularly

2

Bradycardia = slow heart rate

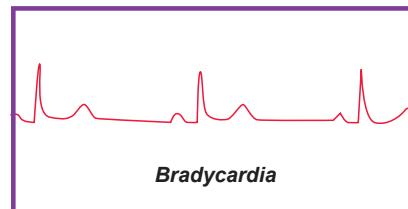


Normal heartbeat

Bradycardia



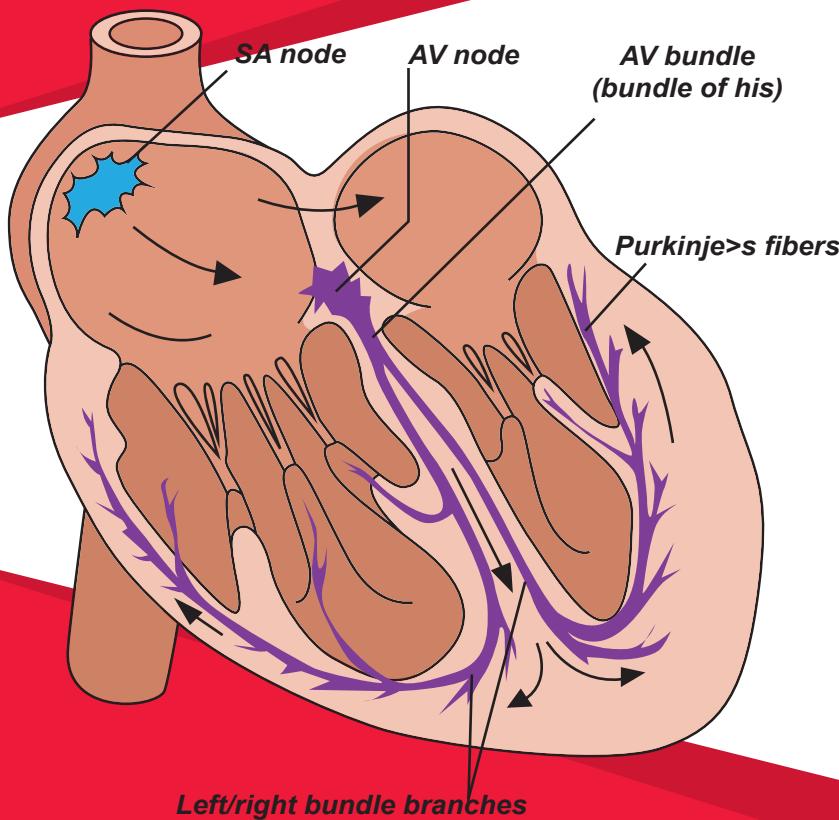
Normal heartbeat



Bradycardia

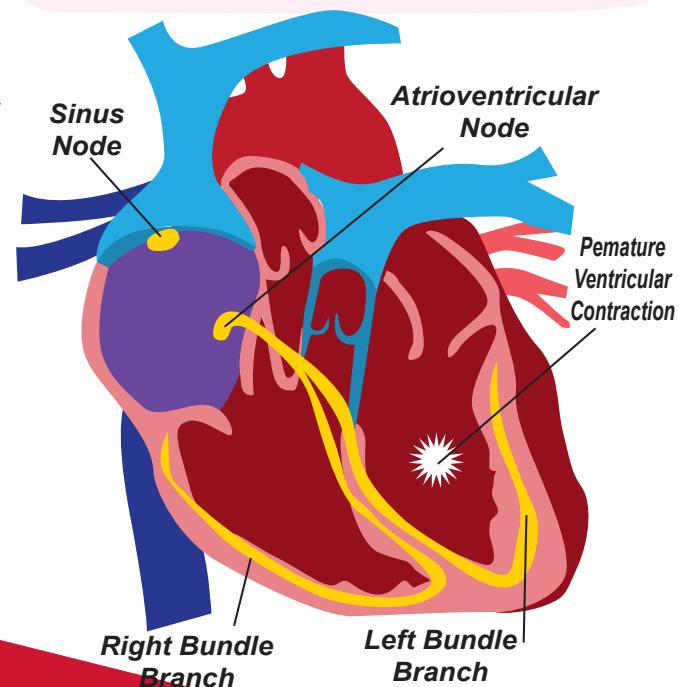
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Conduction Disorders = heart does not beat normally



4

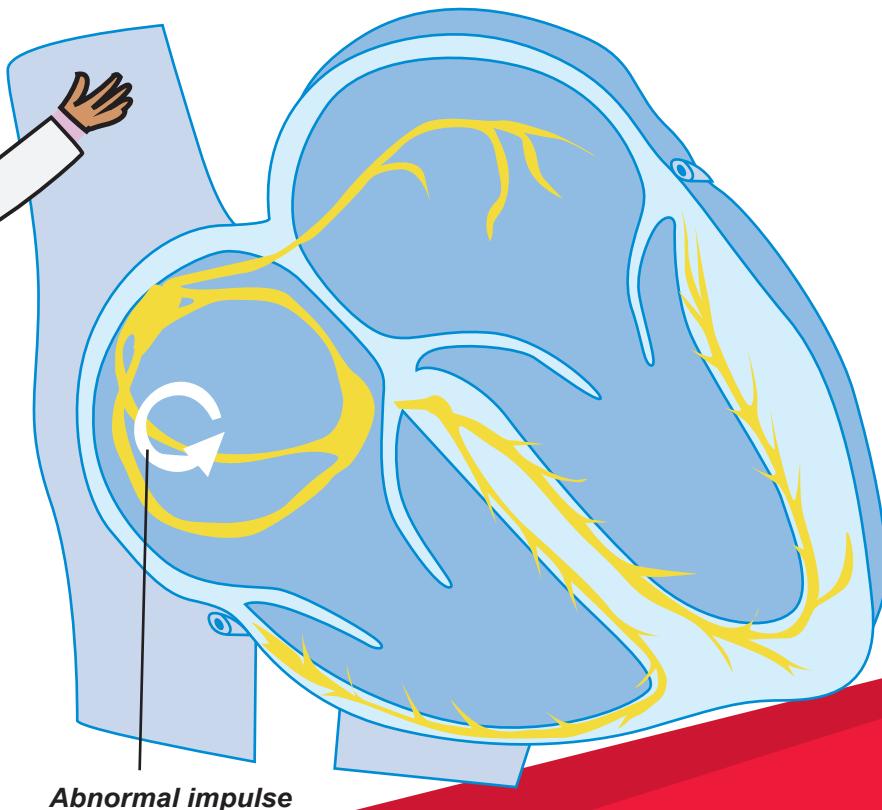
Premature contraction = early heart beat



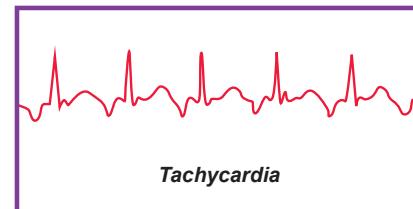
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5

Tachycardia = very fast heart rate



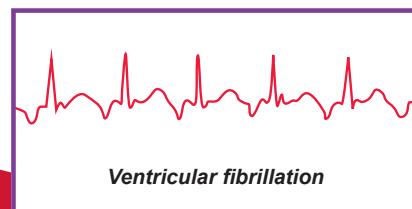
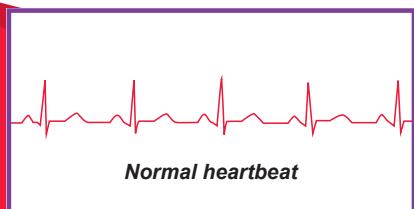
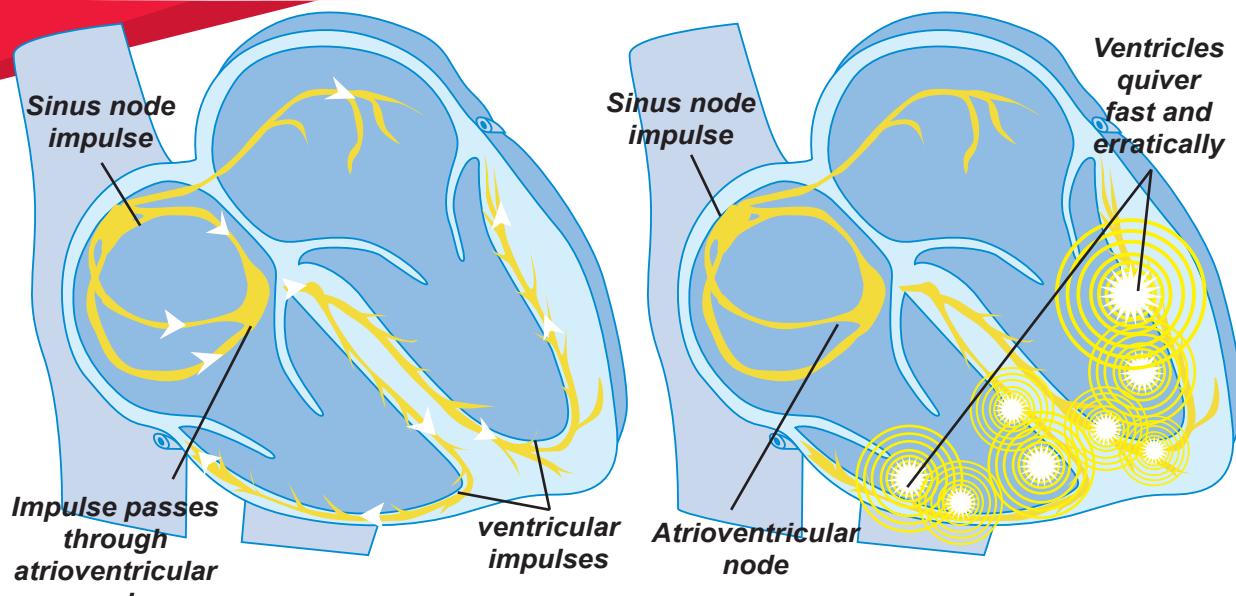
Normal heartbeat



Tachycardia

6

Ventricular Fibrillation = disorganized contraction of the lower chambers of the heart



7

Other Rhythm Disorders



- Sinus Rhythm
- Nodal Rhythm
- Heart Block
- Atrial Flutter
- Atrial Fibrillation
- Ventricular Fibrillation



Normal and Pathological Electrocardiograms

8

Arrhythmia in Children



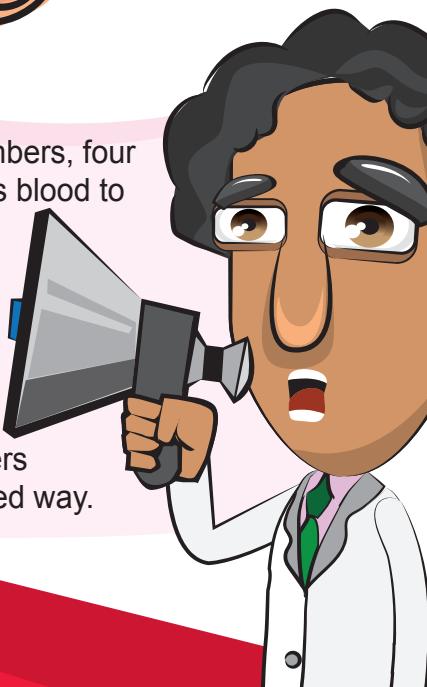
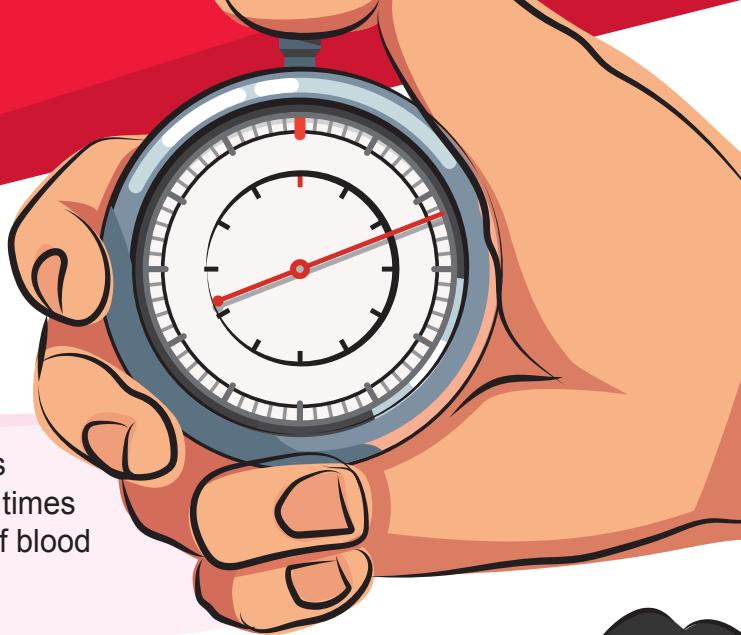
The normal heart is a strong, muscular pump a little larger than a fist. It pumps blood continuously through the circulatory system.



■ Each day the average heart beats (expands and contracts) 100,000 times and pumps about 2,000 gallons of blood through the body.

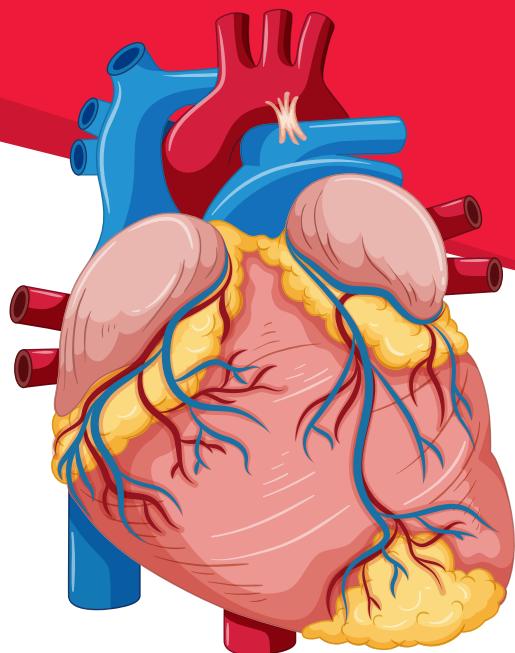
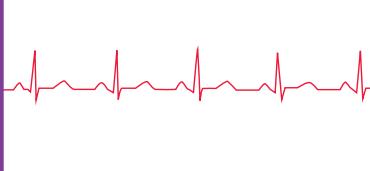
■ In a 70-year lifetime, an average human heart beats more than 2.5 billion times.

The heart has four chambers, four valves. The heart pumps blood to the lungs and to all the body's tissues by a sequence of highly organized contractions of the four chambers. For the heart to function properly, the four chambers must beat in an organized way.



Abnormal heart rhythms (arrhythmias)

Arrhythmias are abnormal beats. The term "arrhythmia" refers to any change from the normal sequence of electrical impulses, causing abnormal heart rhythms. Arrhythmias may be completely harmless or life-threatening.

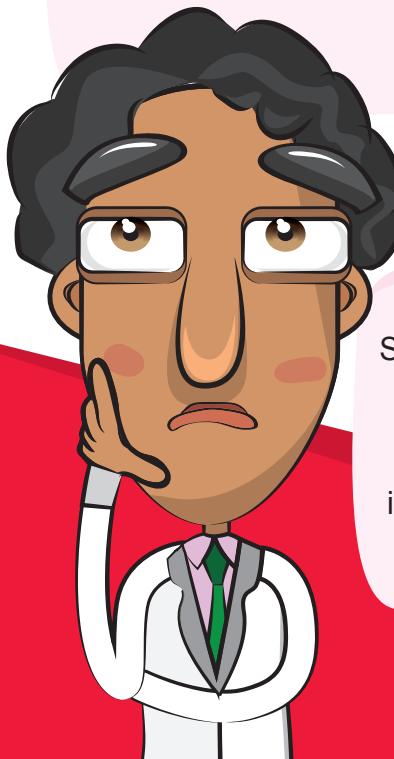


A fast heart rate (*in adults, more than 100 beats per minute*) is called tachycardia.

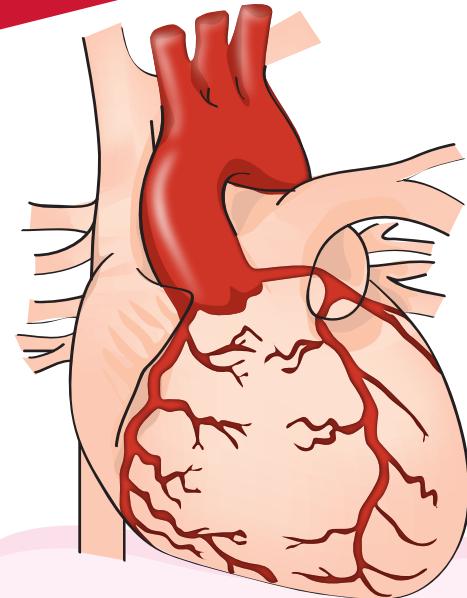
A slow heart rate (*less than 60 beats per minute*) is referred to as bradycardia.

Causes

Normally, the heart's most rapidly firing cells are in the sinus (or sinoatrial or SA) node, making that area a natural pacemaker.



Secondary pacemakers elsewhere in the heart provide a "back-up" rhythm when the sinus node doesn't work properly or when impulses are blocked somewhere in the conduction system.



Under some conditions almost all heart tissue can start an impulse of the type that can generate a heartbeat. Cells in the heart's conduction system can fire automatically and start electrical activity. This activity can interrupt the normal order of the heart's pumping activity.

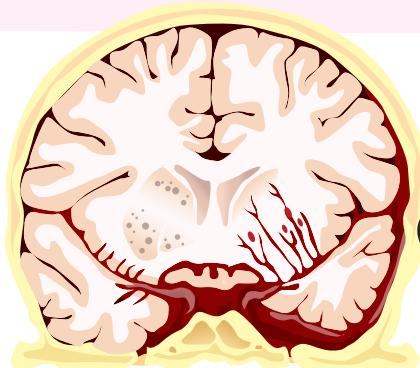


Arrhythmia occurs when:

The heart's natural pacemaker develops an abnormal rate or rhythm.
The normal conduction pathway is interrupted.
Another part of the heart takes over as pacemaker.

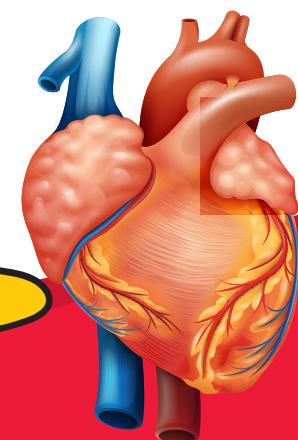
Atrial Fibrillation

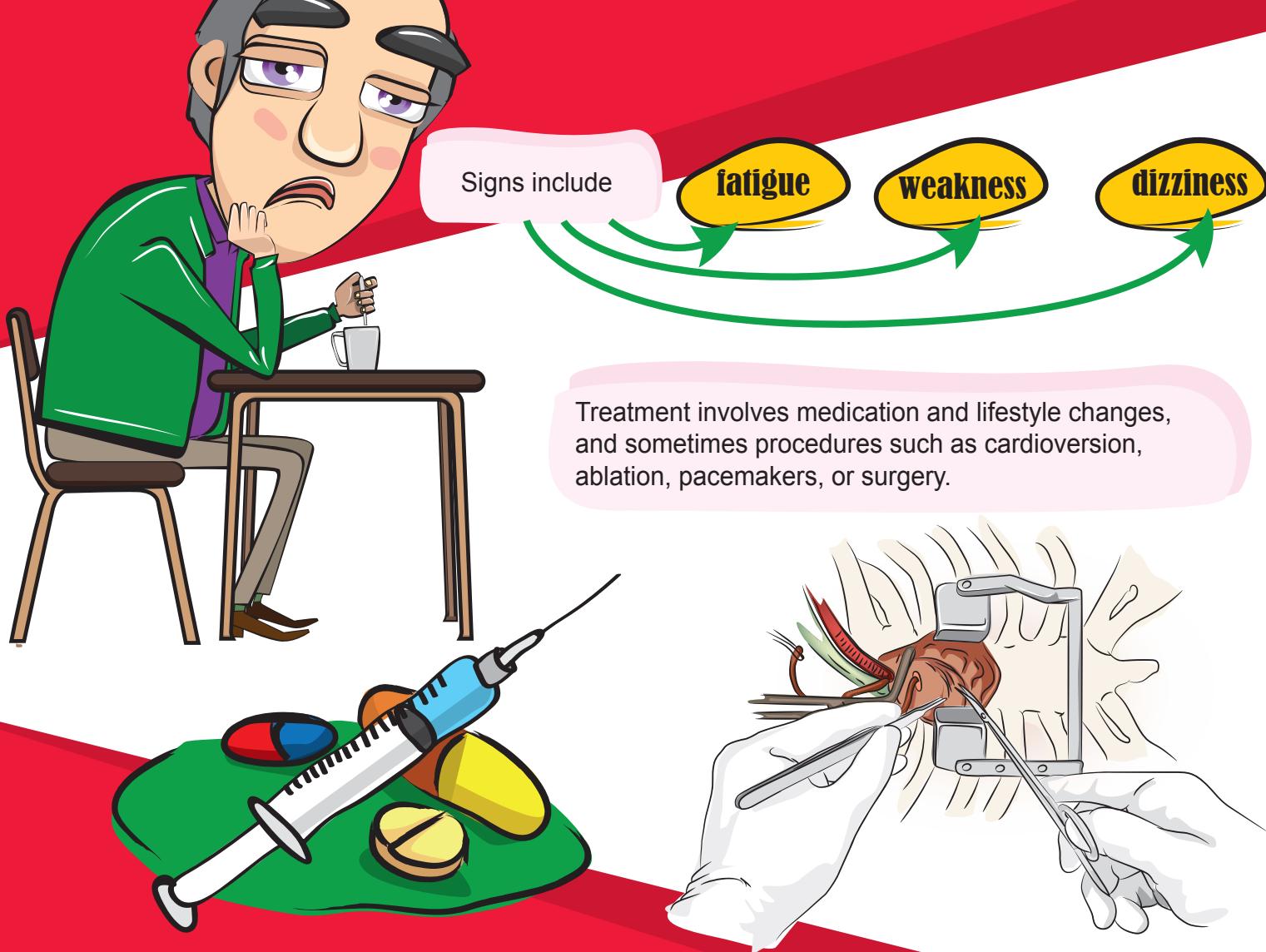
Atrial fibrillation is an irregular heartbeat that increases the risk of



stroke

heart disease

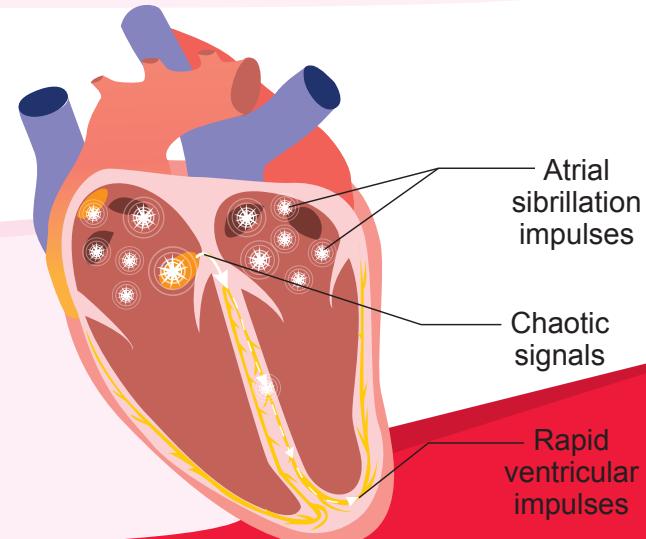






Press your hand against your chest. Those little thumps you feel are your heart pumping, moving blood into and out of its chambers and through the rest of your body.

Normally, the top part of your heart (the atria) squeezes first, then the bottom part (the ventricles). The timing of these contractions is what moves the blood. But for more than 2 million Americans, the electrical signals that control this system are off-kilter. Instead of working together, the atria do their own thing. This fast, fluttering heartbeat, what doctors call arrhythmia, is atrial fibrillation, or AFib.



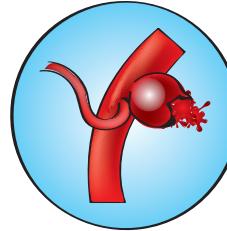
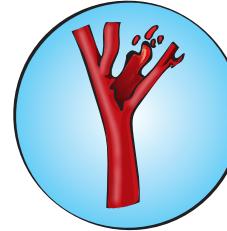
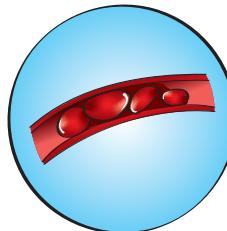
Atrial Fibrillation



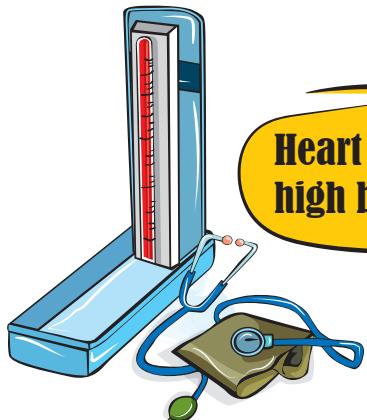
More than annoying, it can be serious. Because your blood isn't moving well, you're at greater risk for heart failure. That's when your heart can't keep up with the needs of your body. Blood can also pool inside your heart and form clots. If one gets stuck in your brain, you can have a stroke.

Who Gets It

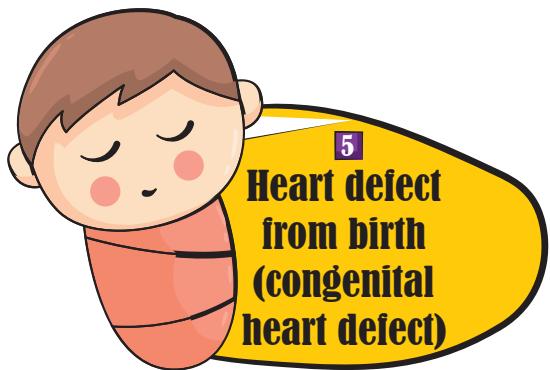
Anyone can have AFib, but it's more common in people who are 60 or older.



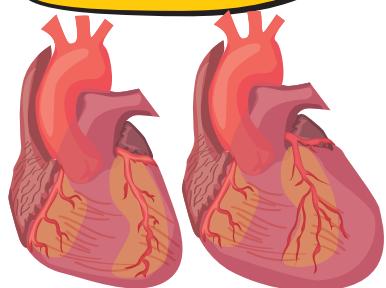
Other heart problems can make it more likely:



**4
Heart disease due to
high blood pressure**



**5
Heart defect
from birth
(congenital
heart defect)**



**6
Heart failure**

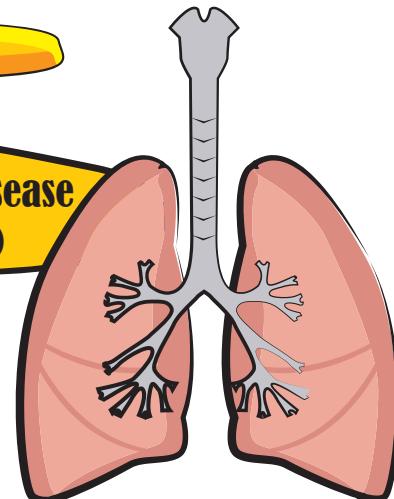
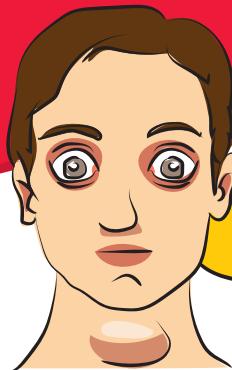
**1
Heart valve disease**

**2
Heart muscle disease
(cardiomyopathy)**

**3
Past heart surgery**



People with certain medical conditions have a greater chance, too



**Long-term lung disease
(such as COPD)**

Certain medicines (including adenosine, digitalis, and theophylline) can raise the risk of AFib.



Sometimes, it's linked to:



2 Infections



1 Heavy alcohol,
caffeine, or drug use



Symptoms

When your heart is in AFib, you might feel:

3 The genes you got
from your parents



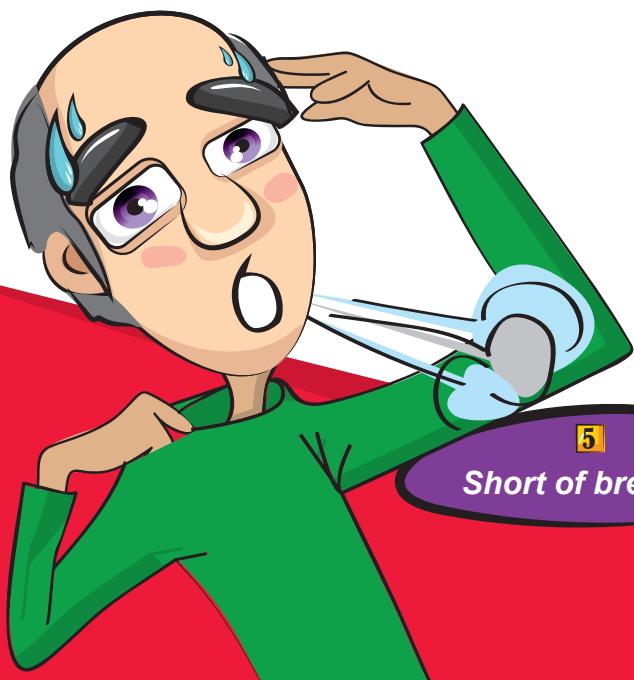
1 Like your heart is racing
or fluttering in your chest
(palpitations)



2
Dizzy or lightheaded



3
Fatigued or weak



4
Chest pain or pressure



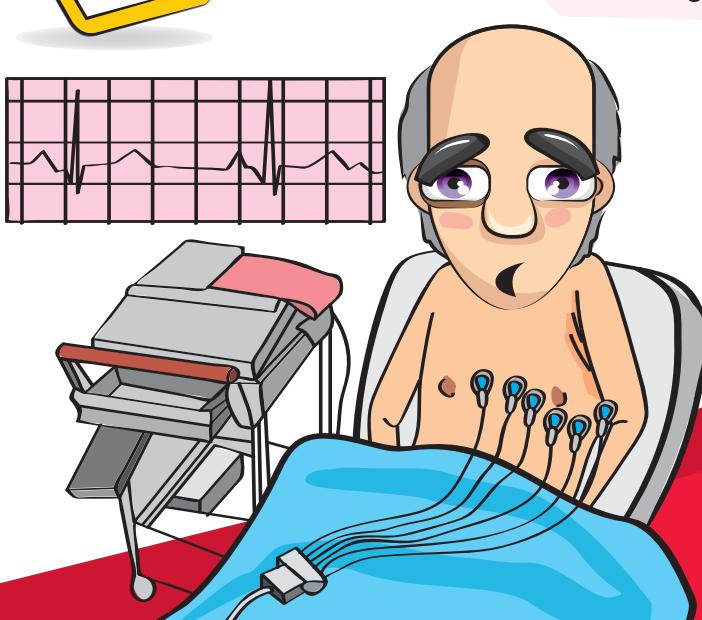
5
Short of breath



If you have these symptoms, call your doctor and make an appointment as soon as possible. If they last more than 24 hours, go to the hospital.



Sometimes it doesn't cause any symptoms, though. If you're at risk, talk to your doctor about your chances for having AFib, and get regular checkups.



The main thing your doctor wants to see is the electrical activity in your heart. An electrocardiogram (EKG) uses small, sticky sensors placed on your chest to record what's happening.