

**Boston
Scientific**

Advancing science for life™



Understanding arrhythmias

Important information for patients and families



Understanding arrhythmia

➤ What is an arrhythmia?

An arrhythmia is a **disruption in the heart's normal electrical system** which causes an abnormal or irregular heart rhythm for no apparent reason. Anyone can develop an arrhythmia, even a young person without a previous heart condition. However, arrhythmias are most common in people over 65 with different medical conditions.

➤ What are the symptoms?

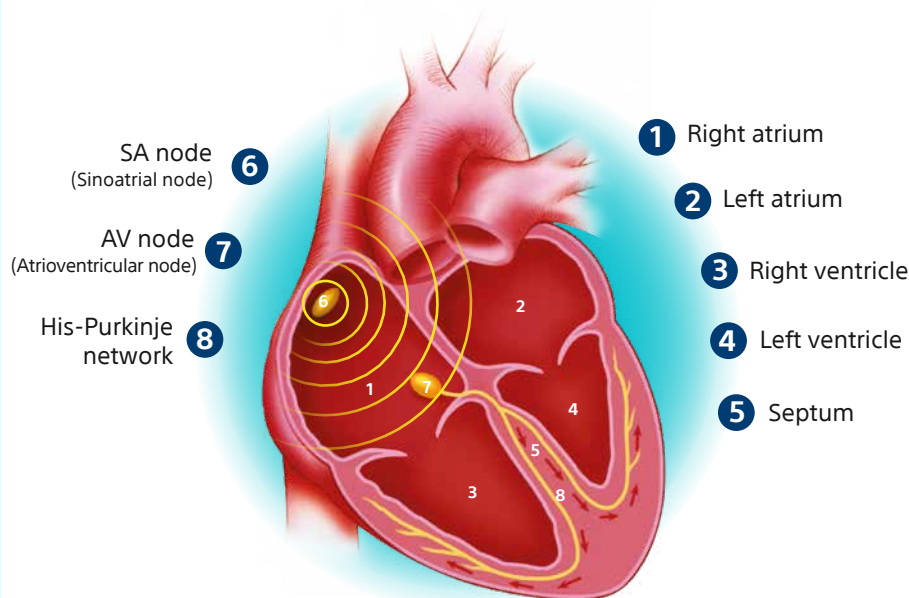
Symptoms of arrhythmias can vary widely from person to person. An arrhythmia may last for a few minutes, a few hours, a few days, even a few weeks at a time. Some people may also feel no symptoms at all. Most commonly, patients report feeling the following:

-  Fatigue and weakness
-  Shortness of breath
-  Chest pain
-  Rapid heartbeat
-  Sensation of your heart fluttering (palpitations)
-  Sensation of a missed or extra heartbeat
-  Dizziness, fainting and sensation of lightheadedness

➤ There are many different types of arrhythmias

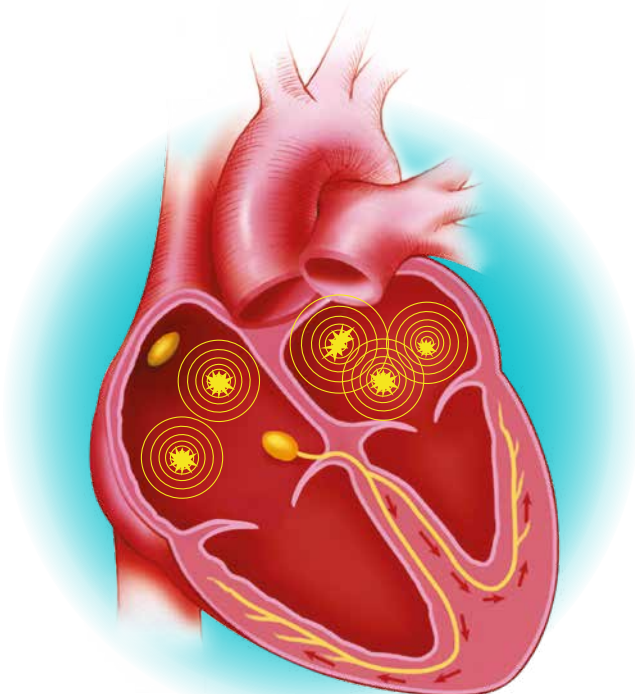
- Heartbeats that are too slow (bradycardia)
- Heartbeats that are too fast (tachycardia)
- The heart beats rapidly and irregularly (atrial fibrillation)
- Extra beats
- Skipped beats

The normal heart's physical structure



The heart has a special electrical system that controls the rate and rhythm of the heartbeat. With each heartbeat, an electrical signal travels from the top of the heart to the bottom.

Abnormal electrical signal



Atrial fibrillation (AF) is a type of tachycardia and is the most common type of arrhythmia. AF occurs when the electrical signals being sent from the sinoatrial (SA) node (the heart's natural pacemaker) to the right atrium and the left atrium get disrupted by random signals. This overload of signals causes these top two chambers to beat too quickly and lose their rhythm. They start to "quiver" rather than contract efficiently to pump blood to the ventricles at the bottom of your heart.

Diagnosis



Electrocardiogram (ECG/EKG)

Electrical signals travelling through heart

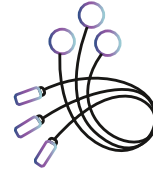
Produced by recording machine attached to patient via adhesive electrodes



Echocardiogram

Moving picture of the heart

Created by imaging machine which uses ultrasound



Holter monitor

Small, portable device attached to the patient via 5 adhesive electrodes

Collects ECG information over a period of 24 to 48 hours, capturing arrhythmia that comes and goes



Remote cardiac monitoring

Small, waterproof wearable device that tracks your heart's activity for several weeks as you go about your daily life

Records every single heartbeat and provides detailed data to your healthcare team

In case of any symptoms, one press on a button on the monitor marks the event



Implantable cardiac monitor

An implantable device that captures information automatically when your heart's rhythm falls outside a preset range, or when activated by you

Placed just under the skin of the chest during a simple procedure

Can stay in place for up to several years

Understanding atrial fibrillation

➤ What is atrial fibrillation (AF)?

AF is the most common type of supraventricular tachycardia. During AF, the heartbeat becomes irregular and rapid – sometimes up to 4 times faster than normal.

This makes it hard for the heart to efficiently pump blood and increases the risk of blood clots forming, which may clog or block blood vessels.

➤ What happens during AF?

Normally, the electrical signal that tells your heart to beat comes from the sinoatrial node in the right atrium. During AF, signals start irregularly from several areas in the atria. These disorganised signals occur so quickly that only some of them are transferred to the lower chambers. This causes the heart's upper chambers to contract randomly and sometimes so fast that the heart's muscle can't relax properly between contractions.

➤ How patients describe their experience

"My heart flip-flops, skips beats, and feels like it's banging against my chest wall, especially if I'm carrying stuff up my stairs or bending down."

"I had no symptoms at all. I discovered my AF at a regular check-up. I'm glad we found it early."

"I was nauseated, light-headed, and weak. I had a really fast heartbeat and felt like I was gasping for air."



Treatment options



► Cardiac ablation

Minimally-invasive procedure to identify and eliminate the source of disruption to the heart's normal electrical system

- A small flexible tube (catheter) is inserted through a blood vessel (usually in the upper leg) into the heart to take measurements of electrical activity.
- Procedure performed under fluoroscopy (X-ray) and/or using specialised cardiac mapping software to understand where the abnormal electrical impulse is originating from.
- Depending on the outcome of the electrical circuit, your physician will then choose between different types of ablation technology to disarm or disrupt the abnormal arrhythmia.

Catheter ablation can alternatively be done using:

Thermal ablation technology



Cryoablation
Intense cold



Radiofrequency ablation
High-frequency energy



Pulsed field ablation
Non-thermal microsecond electrical pulses

Please consult with your cardiologist to learn which treatment is best suited for you.



Medication

Anti-arrhythmia drugs, such as sodium channel blockers and beta blockers, intended to control the rhythm and speed at which your heart beats

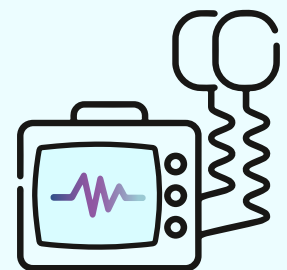
Blood-thinning drugs intended to reduce the risk of stroke by limiting the blood's ability to clot

Please consult with your cardiologist



Lifestyle changes

- Eat heart-healthy diet
- Limit/eliminate caffeine
- Exercise regularly
- Stop smoking



Cardioversion

Cardioversion can be a scheduled procedure or used in emergencies

It involves delivering low-energy shocks to the heart in order to quickly restore a normal heart rhythm

Cardioversion can also be conducted with medication

While the risks are low, cardioversion is not generally a long-term solution



Visit our website

<https://www.treatingatrialfibrillation.com/home.html>

CAUTION: This material is for informational purposes only and not meant for medical diagnosis. This information does not constitute medical or legal advice, and Boston Scientific makes no representation regarding the medical benefits included in this information. Boston Scientific strongly recommends that you consult with your physician on all matters pertaining to your health.

Not all types of atrial fibrillation are suitable for treatment with cardiac ablation or with the FARAPULSE™ Pulsed Field Ablation System. Your doctor will be able to advise you if it could be a suitable treatment for you according to diagnostic and treatment guidelines. As with any medical procedure, there are risks involved with pulsed field ablation with the FARAPULSE™ PFA System. FARAPULSE™ Pulsed Field Ablation System.

The FARAPULSE Pulsed Field Ablation (PFA) System is intended for the isolation of the pulmonary veins in the treatment of paroxysmal atrial fibrillation by rendering targeted cardiac tissue electrically non-conductive to prevent cardiac arrhythmia initiation or maintenance. With all medical procedures there are risks associated with the use of the device. The risks include but are not limited to pain or discomfort, electric shock, hypotension, infection/inflammation, allergic reaction, anesthesia risk, radiation injury/tissue burn, heart failure, renal failure, respiratory distress, arrhythmia, nerve injury (such as phrenic nerve or vagal nerve), gastrointestinal disorders, vessel trauma, cardiac trauma (such as perforation), injury related to adjacent structures (esophageal injury, atrio-esophageal fistula, pulmonary injury), pulmonary vein stenosis, surgical and access complications, muscle spasm, injury due to blood clot or air bubbles in the lungs or other organs, heart attack, TIA, stroke, and/or damage to red blood cells. In rare cases, cardiac arrest or death may occur. Be sure to talk with your doctor so that you thoroughly understand all of the risks and benefits associated with the implantation and use of the device.

**Boston
Scientific**
Advancing science for life™

www.bostonscientific.eu

© 2024 Boston Scientific Corporation or its affiliates. All rights reserved.

EP-1616701-AB

CE 0459