

Medtronic

Living with a
transvenous
implantable
cardioverter
defibrillator (ICD)



Have you had a heart attack?
Do you have heart failure?
Have you been diagnosed with
a fast heartbeat (tachycardia)?

If so, this brochure can help you understand your heart condition and treatment options. It provides basic information about sudden cardiac arrest (SCA). It also explains implantable defibrillators, and what to expect before and after you have one placed.

Ask your doctor about your unique medical condition and treatment options.

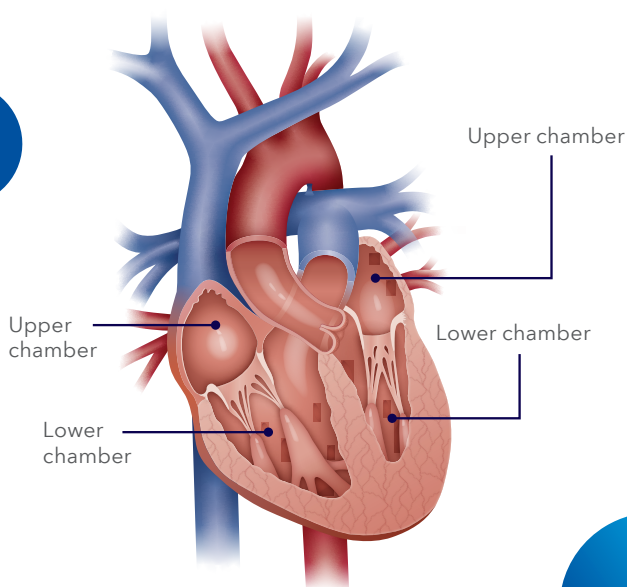


What is tachycardia?

Tachycardia is a condition where the heart beats too fast. A healthy heart beats 60 to 100 times per minute, pumping about 75 gallons of blood every hour. Exercise, stress, or fear can cause the heart to beat faster, but this is a normal response. With tachycardia, the heart beats more than 100 times per minute and can beat as fast as 400 beats per minute, for no specific reason. At this rate the heart is not able to pump blood effectively to the body and brain.

There are different types of fast heart rhythms that can occur in either the upper chambers (atria) or lower chambers (ventricles) of the heart.

- Atrial flutter and atrial fibrillation (AFib) start in the upper chambers of the heart.
- Ventricular tachycardia and ventricular fibrillation start in the lower chambers of the heart.



What is SCA?

SCA is an electrical problem with the heart that causes a dangerously fast heart rhythm (ventricular fibrillation). The rapid, irregular heart rhythm causes the heart to quiver rather than pump. When the heart stops pumping blood, oxygen cannot reach the body and brain. If not treated immediately, SCA is usually fatal.

One of the nation's top killers, SCA claims more lives than breast cancer or lung cancer.¹



436,000²

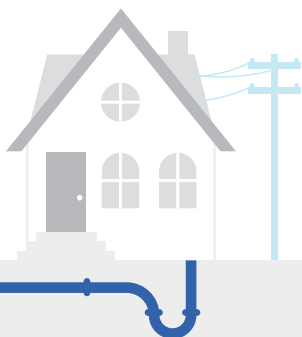
lives are claimed by SCA in the United States every year, or **> one life every 90 seconds²** – that's equal to five football stadiums full of people.



Scan to learn more about SCA.

Heart attack and SCA: what are the differences?

SCA is not the same as a heart attack, although the two are often confused. Think of your heart as a house.



SCA is an electrical issue.

SCA is a rhythm problem that prevents the heart from pumping blood to the brain and organs.

A heart attack is a plumbing issue.

A heart attack is typically caused by a blockage in a blood vessel to the heart muscle. This can permanently damage part of the heart and can lead to SCA.

What could put someone at risk of having SCA?

- Previous heart attack or SCA
- Family history of SCA or other heart disease
- Heart failure
- Low ejection fraction (this is explained on the next page)
- Rapid or abnormal heartbeats starting in the bottom chambers of the heart

What are symptoms of SCA?

- Loss of consciousness
- Dizziness
- Fast heartbeat



EF number: a number you should know

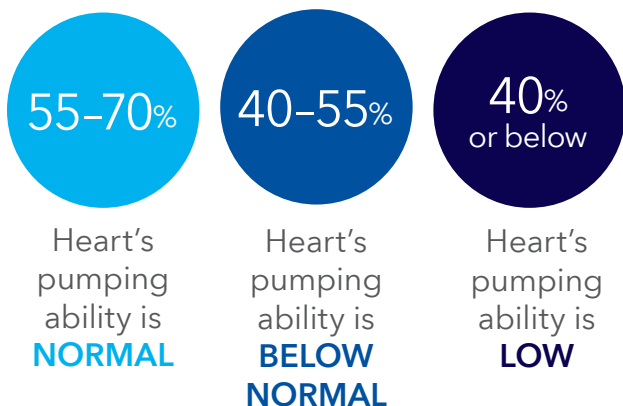
EF stands for “ejection fraction.” It is the percentage of blood that is pumped out of the heart with each heartbeat. Your doctor knows how well your heart is pumping based on your EF number. It is important for you and your doctor to check your EF regularly.

How is EF measured?

The most common way to measure EF is with an echocardiogram, which is a test usually performed in a doctor’s office or hospital’s diagnostic area.

A healthy heart has an EF between 55% and 70%.³ This indicates the heart is pumping well and can deliver enough blood to the body and brain. Even a healthy heart does not pump 100% of blood out of the heart during each beat – some blood always remains in the heart.

Typical EF ranges³:



People with a low EF are at an increased risk for SCA.⁴

Treating SCA through defibrillation

Defibrillation involves delivering an electrical shock to your heart to restore a normal heartbeat. If not treated immediately, SCA can be fatal.

There are two primary forms of defibrillation:

1. An automated external defibrillator, or AED, is a portable device that measures the heart's electrical activity. It is used by emergency response teams or the general public to shock the heart.

During an SCA, a bystander can find and use an AED, but it often takes several minutes to locate a nearby AED and use it. This is precious lost time that lowers the odds of survival.



Automated external defibrillator, or AED

2. An implantable defibrillator, or ICD, is a device that is implanted under the skin. During an SCA, an ICD delivers life-saving treatment on its own, often in fewer than 10 seconds.

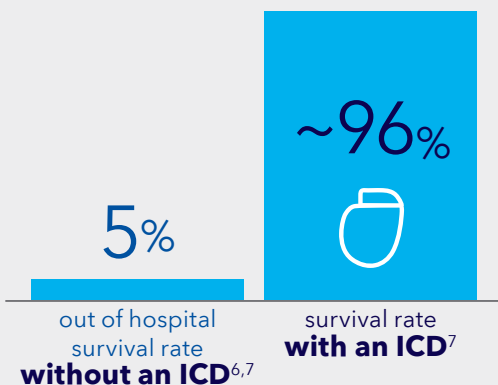
If not treated immediately, SCA can be fatal. In fact, SCA is fatal in 95% of people who experience it outside of a hospital.⁵

What is an implantable cardioverter defibrillator (ICD)?

An ICD system has two parts: the defibrillator and leads.

- A defibrillator continuously monitors the heart and automatically corrects heart rhythms.
- Leads are thin, soft, insulated wires about the size of a spaghetti noodle. They carry the electrical impulse from the ICD to your heart. They also send information about the heart's natural activity back to the ICD.

Implantable cardioverter defibrillator (ICD) and lead



Why do I need an ICD?

If your doctor told you that you need an ICD, you may have experienced or may be at risk of experiencing abnormal heart rhythms (arrhythmias) called ventricular tachycardia or ventricular fibrillation. These life-threatening rhythms can cause sudden cardiac arrest (SCA), and can result in death if not immediately treated.

If you're at risk for SCA, an ICD is the best treatment option available.

How does an ICD work?

An ICD is designed to monitor your heart rhythm 24 hours a day. If your heart is beating too fast or abnormally, the device can first send small painless electrical signals to correct your heart rate. If the fast heart rate continues, the defibrillator will deliver a shock to restore your heart to a normal rate. The ICD can also treat slow heart rhythms by sending electrical pulses to the heart to correct it.

Your doctor will program the ICD to deliver the most effective therapies for your specific heart condition.

Getting an ICD implanted

The procedure to implant an ICD does not require open heart surgery, and most people go home within 24 hours. Before the surgery, medication may be given to make you sleepy and comfortable.

General steps of an implant procedure:

- A small incision, approximately two to four inches long, will be made in your upper chest area, just below your collarbone.
- One or two leads will be guided through a vein into your heart, and the leads will be connected to the implantable defibrillator.
- The defibrillator settings will be programmed, and the device will be tested to ensure it is working properly to meet your medical needs.
- The defibrillator will be inserted beneath your skin, and the incision in your chest will be closed.

Life with an ICD

Discuss your activity and lifestyle goals with your doctor to develop a plan that works best for you. There may be certain situations your doctor will ask you to avoid, but most people with an implanted defibrillator resume their normal daily activities after recovering from the implant procedure.

Remote monitoring for implanted heart devices

If you have an implanted heart device, ongoing care doesn't end at the implant. It's important to maintain a connection with your doctor or clinic for the life of your device. One of the best ways to do this is through remote monitoring.

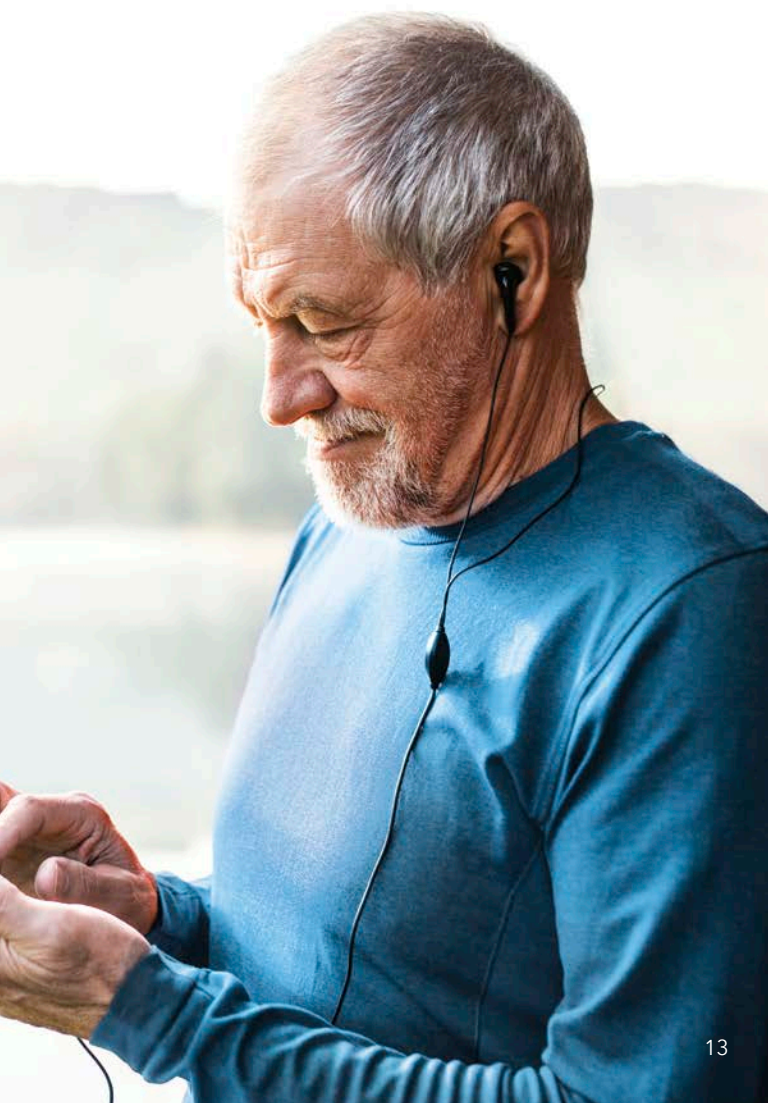
Remote monitoring is a way for your implanted heart device to communicate with your doctor or clinic, potentially lowering the number of times you have to travel to your clinic for a device check.

To find out if remote monitoring is right for you, please talk to your doctor.





Scan the QR code
to learn more about
remote monitoring
for an implanted
heart device.



Common questions

Can I use a cell phone?⁸

Yes, cell phones and other mobile devices are safe to use if you maintain proper distance between them and your ICD. When using a cell phone, tablet computer, or other mobile device, keep the device six inches from your ICD as it could create interference. We also recommend using your phone on the ear opposite your ICD and to avoid placing the cell phone in a pocket near your ICD.

Are household appliances safe to use?⁸

Yes. Most household appliances and items are safe to use as long as they are properly maintained and in good working order. This includes microwave ovens, major appliances, electric blankets, and heating pads.

Please read the patient manual for a list of these items and the specific distances that they should be kept away from your ICD.



Will magnets affect my device?⁸

Even though most electromagnetic fields in the home environment will rarely affect the function of an ICD, it is recommended you keep any item containing magnets six inches away from your ICD.

Is it safe for me to have an MRI scan?⁸

Most ICDs are not considered safe in the MRI environment because the MRI could change the settings, temporarily affect the operation of, or potentially damage the device. Medtronic ICD systems are FDA approved for use in the MRI environment.

Talk to your doctor about the ICD options available to you, including a device that may allow you access to an MRI in the future.

Can I travel?⁸

Yes. Make sure you carry your device ID card when traveling and tell airline security personnel that you have an implanted heart device.

Then, simply walk through security archways at a normal pace. Don't stop under or touch the archway as you pass through. Full-body scanners are safe to use as instructed. If a handheld wand is used, ask the security operator not to hold it over your device or wave it back and forth over your device.

You can show your device ID card to security personnel and ask for hand screening instead if you prefer.

Get heart device answers



If you or a loved one have questions about living with a heart device, please visit HeartDeviceAnswers.com or scan the QR code above. Once on the site, simply type in a word, phrase, or question or explore a list of topics to find the answers you're looking for.

Additional resources

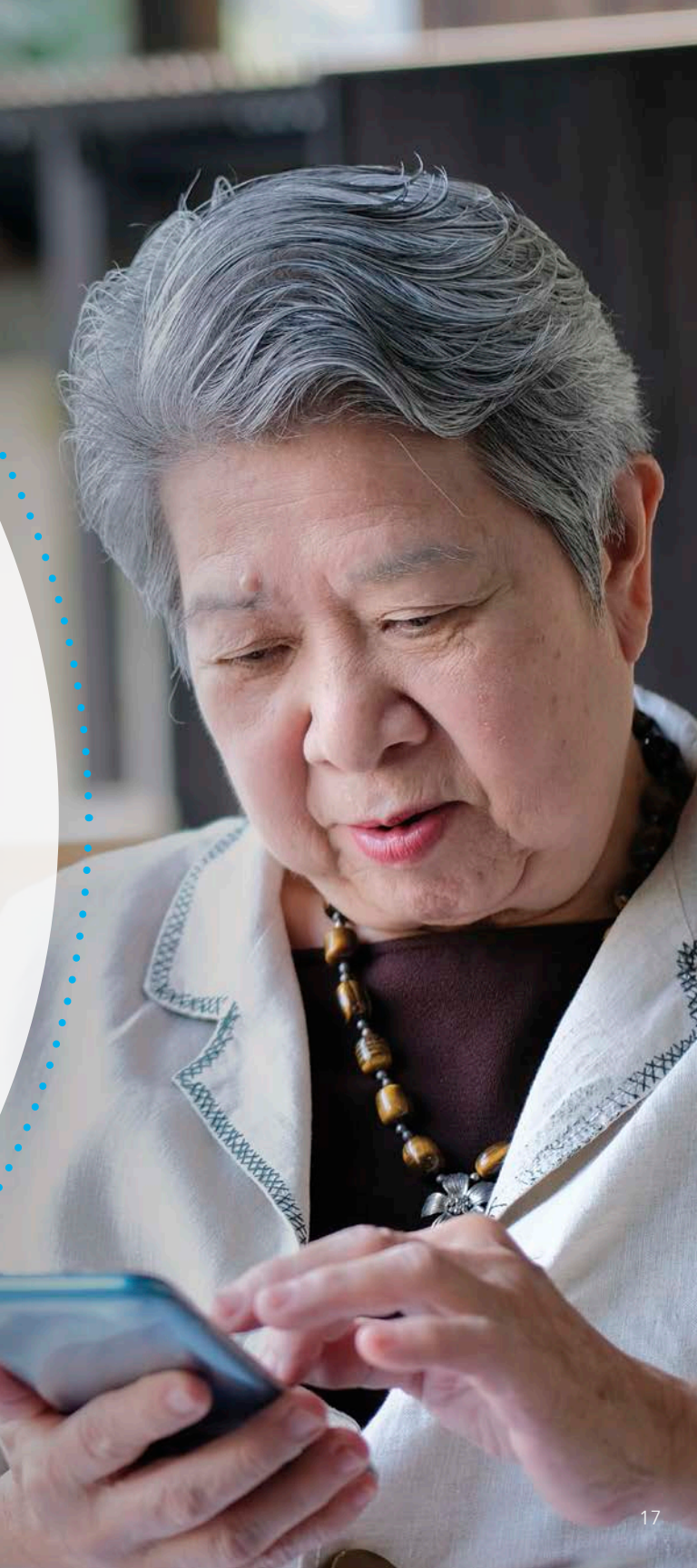
Medtronic Patient Services

If you have a Medtronic cardiac device and want to learn more or have questions about living with an ICD, please contact Medtronic Patient Services at 1-800-551-5544.

Our Patient Services Specialists are available to assist you, Monday-Friday from 7 a.m. to 6 p.m. CT.

Medtronic.com/ICD

For in-depth information about Medtronic ICDs, visit Medtronic.com/ICD.



References

- ¹ Rosamond W, Flegal K, Furie K, et al. Heart disease and stroke statistics – 2008 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*. January 29, 2008;117(4):e25-146.
- ² CPR Facts and Stats. American Heart Association. Available at: <https://cpr.heart.org/en/resources/cpr-facts-and-stats>. Accessed on October 26, 2023.
- ³ Ejection Fraction: What the Numbers Mean. Penn Medicine. <https://www.pennmedicine.org/updates/blogs/heart-and-vascular-blog/2022/april/ejection-fraction-what-the-numbers-mean#:~:text=In%20most%20cases%2C%20ejection%20fraction,pumped%20out%20during%20each%20beat>. Accessed October 9, 2023.
- ⁴ Epstein AE, DiMarco JP, Ellenbogen KA, et al. ACC/AHA/HRS 2008 Guidelines for device-based therapy of cardiac rhythm abnormalities [corrections appear at *J Am Coll Cardiol*. April 21, 2009; 53(16):1473. *J Am Coll Cardiol*. January 6, 2009;53(1):147]. *J Am Coll Cardiol*. May 27, 2008;51(21):e1-62.
- ⁵ Roger VL, Go AS, Lloyd-Jones DM, et al. Heart disease and stroke statistics – 2012 update: a report from the American Heart Association. [published correction appears in *Circulation*. 2012;125:e1002]. *Circulation*. January 3, 2012;125(1):e2-e220.
- ⁶ Zipes DP, Roberts D. Results of the international study of the implantable pacemaker cardioverter-defibrillator. A comparison of epicardial and endocardial lead systems. The Pacemaker-Cardioverter-Defibrillator Investigators. *Circulation*. July 1, 1995;92(1):59-65.
- ⁷ Himmrich E, Liebrich A, Michel U, et al. [Is ICD-programming for double intraoperative defibrillation threshold energy safe and effective during long-time follow-up? Results of a prospective randomized multicenter study (Low-Energy Endotak Trial--LEET)]. *Z Kardiol*. February 1999;88(2):103-112. (Article in German).
- ⁸ MRI SureScan™ Implantable Cardioverter Defibrillator Patient Manual M975771A001 REV. A.



Important safety information

Implantable Defibrillation System

An implantable cardioverter defibrillator (ICD) system delivers therapies to treat patients with heart rhythm disorders or who are at significant risk of developing heart rhythm disorders. An ICD is placed inside your body and works automatically. Risks associated with an ICD system implant include, but are not limited to, infection at the surgical site and/or sensitivity to the device material, failure to deliver therapy when it is needed, or receiving extra therapy when it is not needed. After receiving an ICD system, you will have limitations with magnetic and electromagnetic radiation, electric or gas-powered appliances, and tools with which you are allowed to be in contact. Treatment with an ICD system is prescribed by your physician. This treatment is not for everyone. Please talk to your doctor to see if it is right for you. Your physician should discuss all potential benefits and risks with you. Although many patients benefit from the use of this treatment, results may vary. For further information, please call the Medtronic toll-free number at 1 (800) 551-5544, (7:00 a.m. to 6:00 p.m., Monday-Friday, Central time) or see the Medtronic website at www.medtronic.com.

Patient Services

Medtronic

8200 Coral Sea St. NE MVC31

Mounds View, MN 55112

Patient toll-free line:

1.800.551.5544

Fax: 763.367.5809

7:00 a.m. to 6:00 p.m. CT

Monday–Friday

©2023 Medtronic. Medtronic, Medtronic logo, and Engineering the extraordinary are trademarks of Medtronic.™*Third-party brands are trademarks of their respective owners. All other brands are trademarks of a Medtronic company. Printed in USA.

UC201102810f EN 12/2023

Medtronic

710 Medtronic Parkway
Minneapolis, MN 55432-5604
USA

Toll-free in USA: 800.633.8766

Worldwide: +1.763.514.4000

[medtronic.com](https://www.medtronic.com)