

Device implant preparation

Section 1 of 6: Understanding your device

Preparing for a pacemaker, ICD, CRT device, or leadless pacemaker implant.

SECTION 1

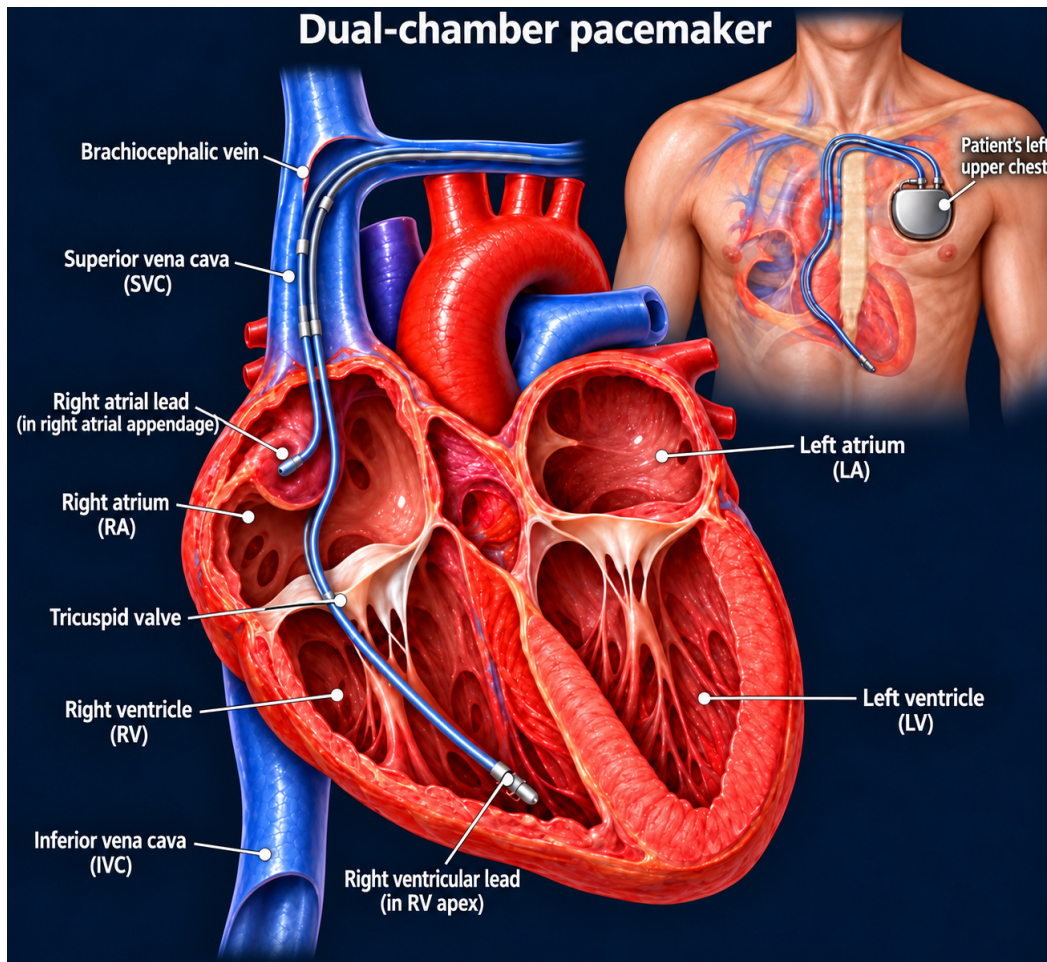
Understanding your device

An implanted heart device monitors your heartbeat and provides treatment when needed. Different devices serve different purposes. Your doctor will explain which device is best for you based on your heart rhythm, pumping strength, and other health factors.

Pacemaker: supporting a slow heartbeat

A pacemaker sends small electrical signals when your heartbeat is too slow or signals do not travel properly through the heart. These signals help the heart maintain an appropriate rate.

Most traditional pacemakers have a small battery unit placed under the skin of the upper chest, usually on the left side. Thin insulated wires, called leads, connect the device to the heart.

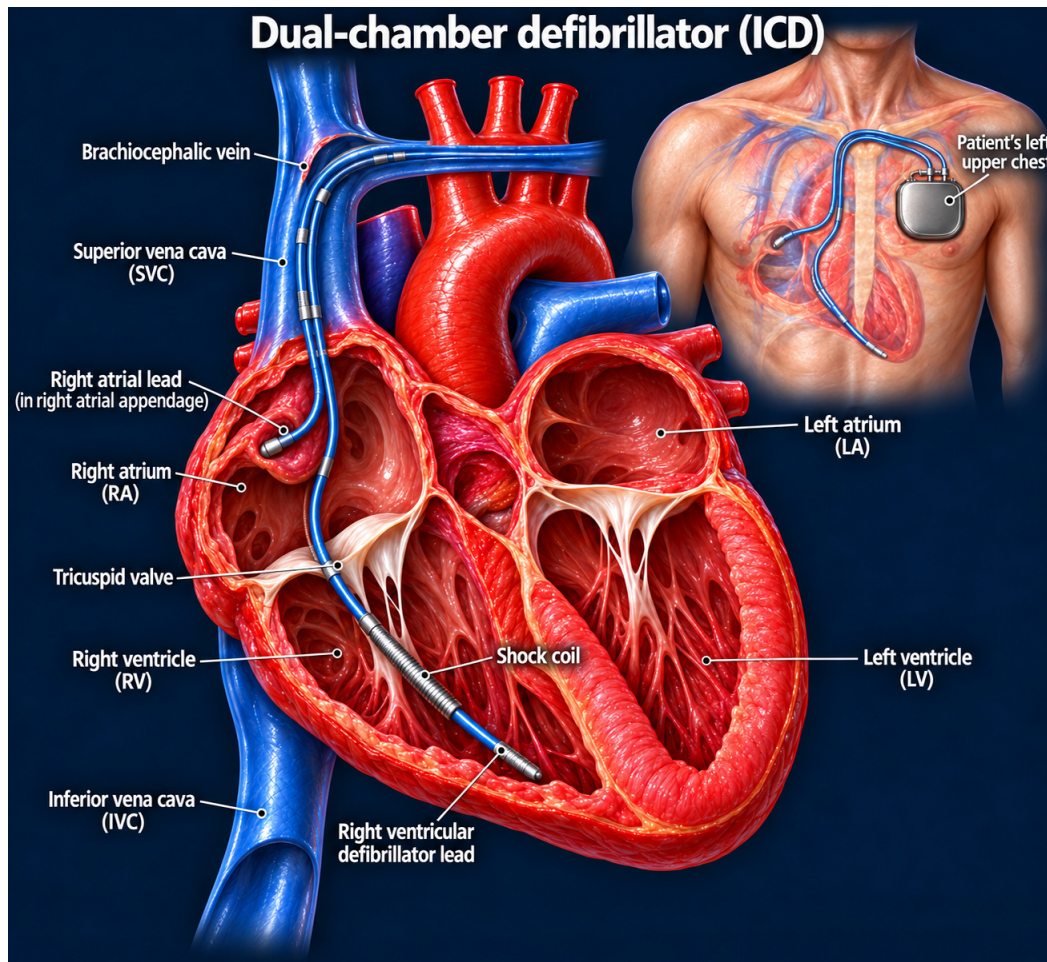


Example: a dual-chamber pacemaker with one lead in the right atrium and one in the right ventricle. The generator sits below the patient's left collarbone.

Defibrillator, or ICD: treating dangerous fast rhythms

An implantable cardioverter-defibrillator monitors for dangerous rhythms such as ventricular tachycardia and ventricular fibrillation.

Depending on the rhythm and device, an ICD can deliver rapid pacing or an electrical shock to stop the abnormal rhythm. Many ICDs also provide pacing for a slow heartbeat.

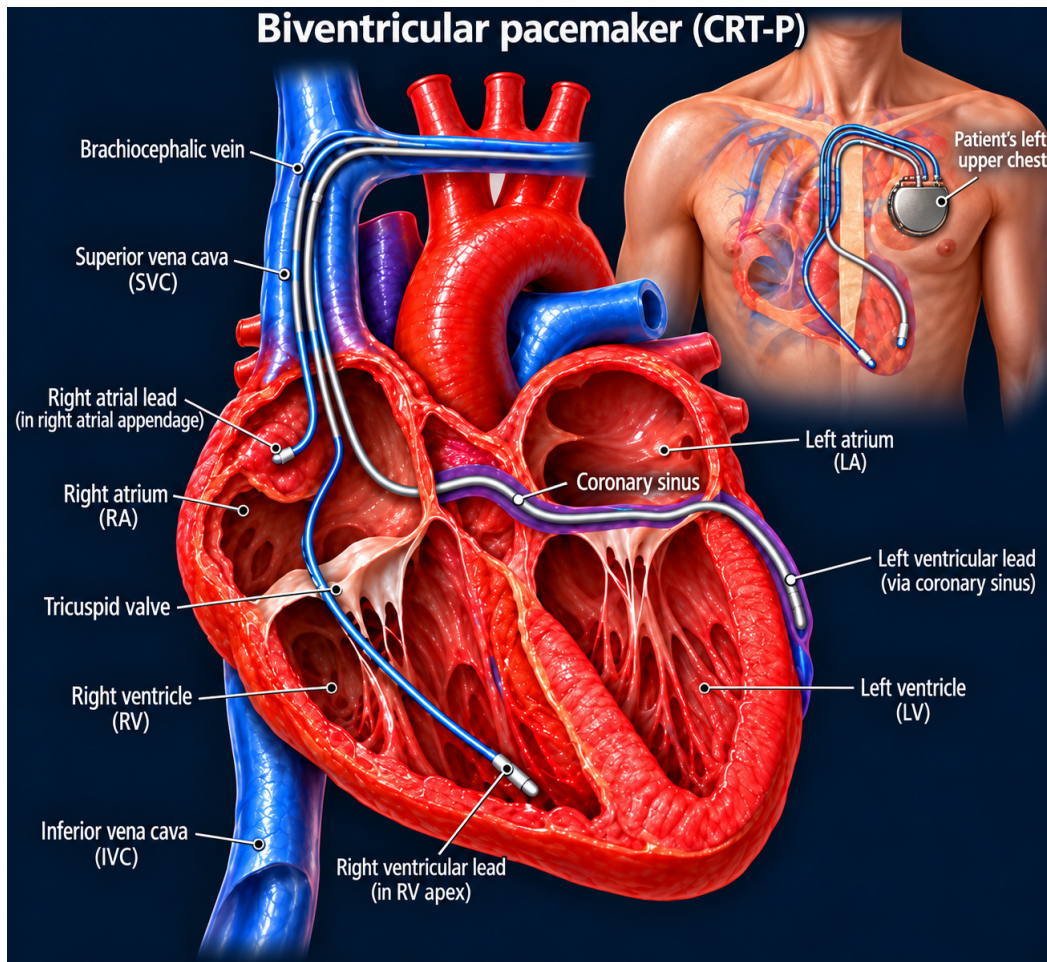


Example: a dual-chamber ICD. The ventricular lead has a shock coil for treating dangerous ventricular rhythms.

CRT: helping the ventricles work together

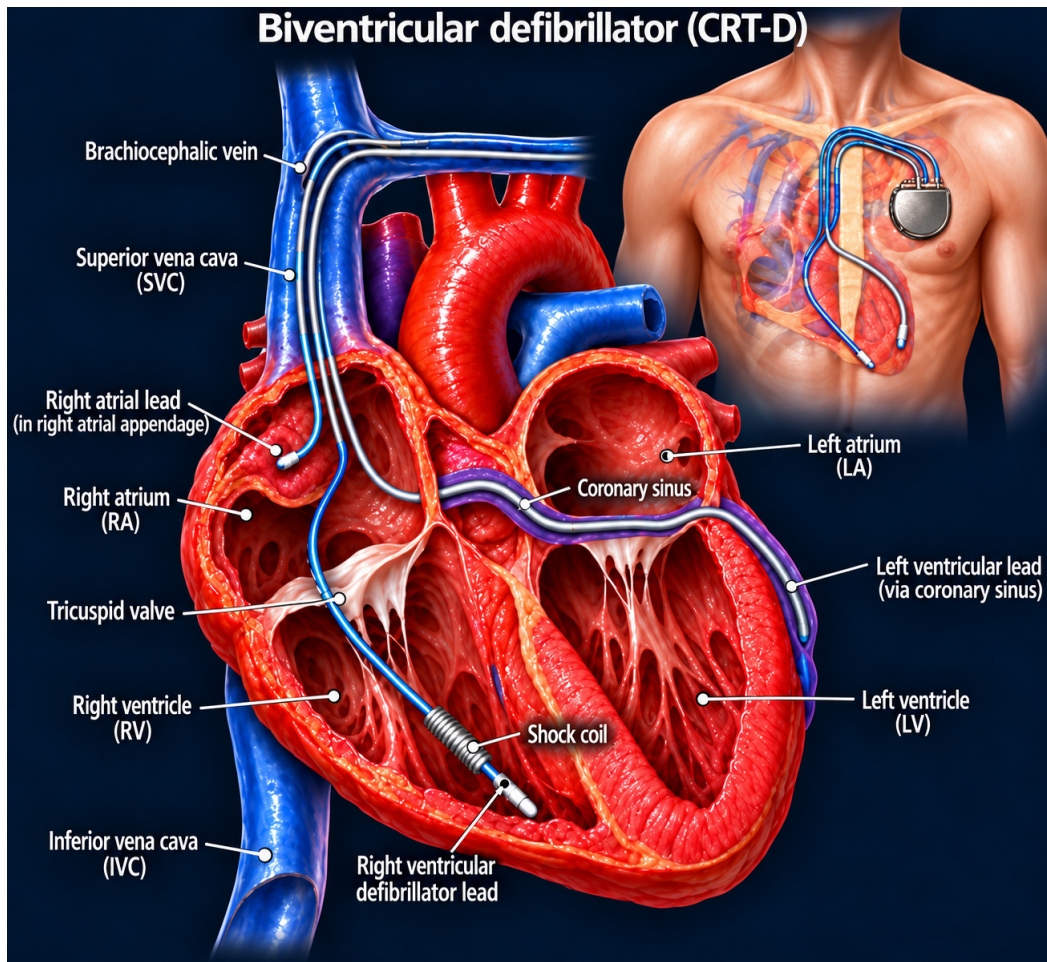
Some patients with heart failure have electrical delays that cause the lower chambers to squeeze out of sync. Cardiac resynchronization therapy, or CRT, helps coordinate their contractions and can improve symptoms and heart function in selected patients.

CRT-P: Provides pacing and resynchronization.



CRT-P: This example uses a third lead that reaches a vein on the outside of the left ventricle through the coronary sinus.

CRT-D: Provides resynchronization plus defibrillator protection.

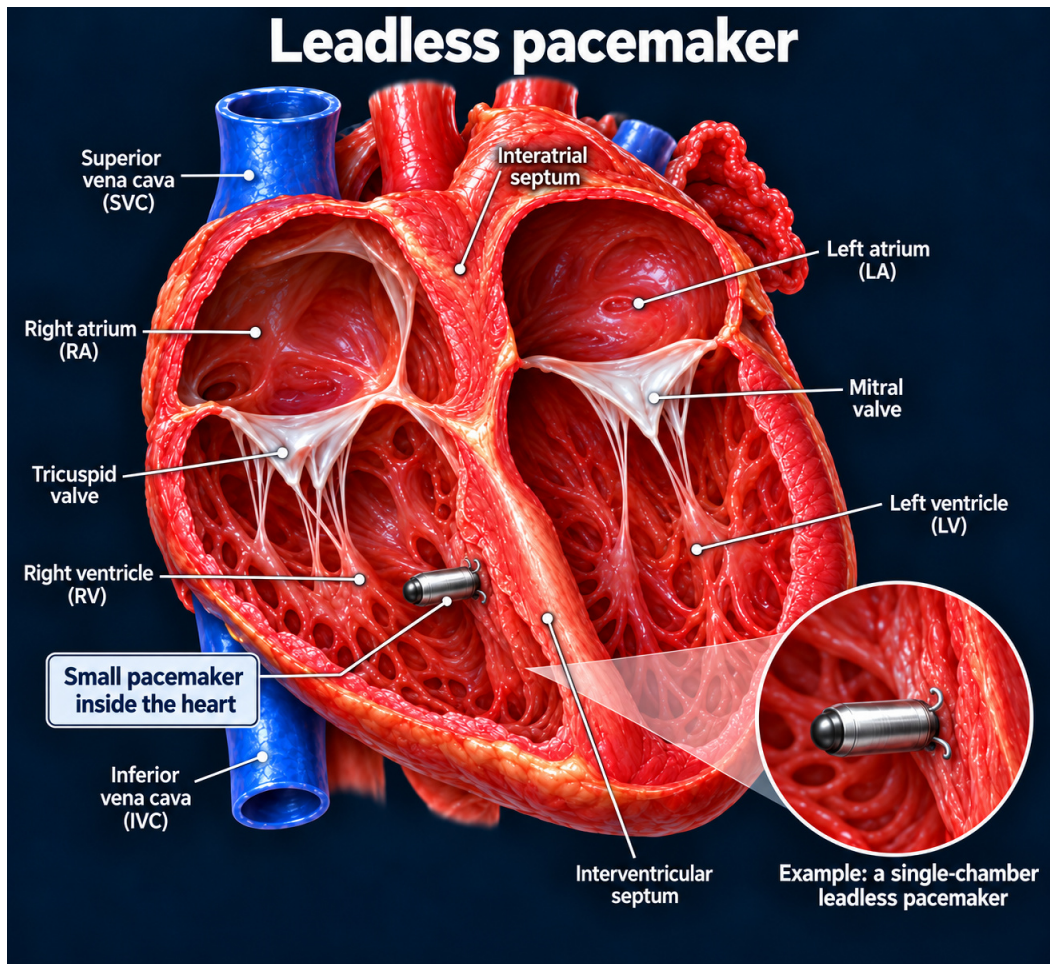


CRT-D: Coordinated ventricular pacing plus protection against dangerous fast rhythms.

Leadless pacemaker: a device inside the heart

A leadless pacemaker is placed directly inside the heart through a catheter inserted into a vein in the groin. It does not require a chest pocket or traditional leads running from the chest to the heart.

Leadless pacing is suitable for selected patients. Your doctor will explain whether it meets your needs.



Example: a single-chamber leadless pacemaker inside the right ventricle. Leadless device designs and capabilities vary.

Your device is part of your treatment plan

A device can support your heart rhythm or protect against dangerous rhythms, but you may still need medicines and ongoing cardiology care. Its settings are tailored to you and checked regularly after implantation.

Learn about implantable loop recorders for long-term heart rhythm monitoring.

Device implant preparation

Section 2 of 6: Preparing for your implant

Preparing for a pacemaker, ICD, CRT device, or leadless pacemaker implant.

SECTION 2

Preparing for your device implant

Your procedure team will explain which device you are receiving, where it will be placed, and how to prepare. Review your instructions before procedure day.

Confirm your plans

- Confirm your arrival time and procedure location.
- Complete any requested blood tests or other testing.
- Arrange for someone to drive you home and stay with you after discharge. Do not drive for 48 hours after the procedure.
- Ask whether you should expect to go home the same day or stay overnight.

Eating and drinking

Follow your team's instructions about when to stop eating and drinking. Fasting helps keep you safe during sedation or anesthesia.

Review your medicines

Bring an updated list of prescriptions, supplements, and allergies. Confirm which medicines to take, hold, and restart - especially blood thinners, antiplatelet medicines, and diabetes treatments.

Do not stop these medicines on your own. Your plan depends on your device procedure and medical history.

Preparing your skin

Follow any instructions about showering or using a special cleansing soap. Do not shave the implant area yourself.

Tell your team if you develop a fever, new illness, skin infection, or wound near the planned implant site.

Plan for recovery

For a device placed in the chest, arrange help with lifting, strenuous chores, and activities involving the arm on the implant side.

For a leadless pacemaker, your recovery instructions will focus on the groin access site. Your team will explain the restrictions that apply to your implant.

What to bring

Bring identification, insurance information, your medication list, and comfortable clothing. A loose shirt that opens in the front may be easier to wear after a chest implant.

Device implant preparation

Section 3 of 6: Procedure day

Preparing for a pacemaker, ICD, CRT device, or leadless pacemaker implant.

SECTION 3

What happens on procedure day?

Checking in

Your team reviews your health history, medicines, and allergies. A nurse places an IV, and monitors track your heart rhythm, blood pressure, and oxygen level.

Your doctor confirms the device you are receiving and explains the implant plan.

Keeping you comfortable

The implant area is numbed with local anesthetic. Your doctor will tell you whether you will also receive moderate sedation or general anesthesia. Your team monitors you throughout the procedure.

For a traditional pacemaker, ICD, or CRT device

Your doctor makes a small incision in the upper chest, usually below the left collarbone.

The leads are guided through a vein to the appropriate locations in or around the heart. X-ray imaging helps guide placement. Your doctor tests the leads, connects them to the generator, and places the generator in a pocket beneath the skin.

The incision is closed and covered with surgical glue. The number and placement of leads depend on your device and pacing needs.

For a leadless pacemaker

Your doctor guides a delivery catheter through a vein in the groin into the heart. The pacemaker is positioned and secured inside the heart, then tested before the catheter is removed.

There is no chest incision or generator pocket. The groin access site is closed afterward.

Testing your device

Your team checks that the device senses your heartbeat and delivers the intended treatment. Its settings are programmed for your needs.

Recovery before going home

Nurses monitor your heart rhythm, vital signs, and incision or groin site. You may have an EKG and, after a traditional implant, a chest X-ray.

Some patients go home the same day; others stay overnight. Before discharge, your team reviews medicines, wound care, activity restrictions, and follow-up appointments.

Device implant preparation

Section 4 of 6: Incision care and recovery

Preparing for a pacemaker, ICD, CRT device, or leadless pacemaker implant.

SECTION 4

Incision care and recovery

Your recovery instructions depend on whether your device was implanted in the chest or through a vein in the groin.

After a chest implant

Some soreness, mild swelling, and bruising around the incision are common. These should gradually improve.

Your incision is covered with surgical glue, which forms a protective barrier to help keep it clean and reduce the risk of infection.

Do not pick, peel, or remove the glue. It will fall off naturally over the next few weeks. Do not apply creams, ointments, or powders over it.

You may shower 24 hours after surgery. Gently wash the area without scrubbing the incision, then pat it dry.

Avoid bathtubs, swimming pools, hot tubs, and spas for four weeks.

Protect the implant area for four weeks

Do not lift more than 10 pounds with the arm on the implant side. Avoid golf, pickleball, strenuous exercise, and forceful pushing or pulling with that arm for four weeks.

Gentle walking and light daily activities are encouraged. Move your arm gently within your care team's instructions; you do not need to keep it

completely still.

After a leadless pacemaker

Recovery focuses on the groin access site. Some bruising and mild tenderness may occur.

For the first seven days, avoid exercise, sports, heavy lifting, and straining. You may stand, sit, and take gentle walks.

You may shower 24 hours after the procedure. Gently wash the area and pat it dry.

You may swim or use a bathtub, hot tub, or spa seven days after the procedure, provided the groin site is closed and healing well, with no drainage.

Pain control

Most patients have mild soreness and should not need strong prescription painkillers. Ask your doctor whether you can take Tylenol (acetaminophen) or ibuprofen for discomfort. Your doctor will recommend the safest option based on your medicines and health conditions.

Medicines and driving

Take your medicines as prescribed.

For both chest implants and leadless pacemakers, do not drive for 48 hours after the procedure. You may resume driving after 48 hours if you feel well and are not taking medicines that impair alertness.

If you have had fainting, a dangerous heart rhythm, or an ICD shock, your doctor may give you a longer driving restriction.

Watch for changes

Contact your care team promptly for increasing redness, warmth, drainage, fever, worsening pain, an opening incision, or increasing swelling around the device.

Rapidly enlarging swelling or bleeding that does not stop needs urgent assessment. Call 911 for heavy bleeding, fainting, severe chest pain, or sudden shortness of breath.

Device implant preparation

Section 5 of 6: Device checks and daily life

Preparing for a pacemaker, ICD, CRT device, or leadless pacemaker implant.

SECTION 5

Device checks, remote monitoring, and daily life

Your device needs regular checks throughout its life - even when you feel well.

Follow-up visits

Your first visit checks how the incision or groin site is healing and confirms that the device is working appropriately.

During device checks, your team reviews the battery, recorded heart rhythms, pacing function, and leads when present. Settings may be adjusted to better meet your needs.

Remote monitoring

Your team will enroll you in remote monitoring when supported by your device. A home monitor or phone app sends device information to the clinic.

Keep it connected and follow the setup instructions. Contact your device clinic if you have trouble sending a transmission.

Remote monitoring is not an emergency service. Do not wait for a transmission to be reviewed if you have urgent symptoms.

Carry your device identification card

Keep your device card with you and tell doctors, dentists, imaging staff, and other healthcare professionals about your implant.

Phones, magnets, and household electronics

Most everyday household appliances can be used normally.

Keep phones and electronic devices containing magnets at least six inches from your implant. For a chest device, avoid carrying your phone in a pocket directly over it, and use the opposite ear for calls.

Ask your device team about strong magnets, industrial equipment, or tools you use at work.

MRI and other procedures

Many devices allow MRI under specific conditions. Before scheduling a scan, have the imaging team coordinate with your device clinic to confirm compatibility and arrange any required programming and monitoring.

Returning to activities

After healing and clearance from your doctor, most patients return to their usual daily activities. Follow your activity and driving instructions, and ask before participating in contact sports that could injure the implant area.

Planning for the future

Device checks track battery life so replacement can be planned before the battery runs out. The replacement approach depends on your device type.

Device implant preparation

Section 6 of 6: When to call for help

Preparing for a pacemaker, ICD, CRT device, or leadless pacemaker implant.

SECTION 6

When to seek emergency care

Call 911 for severe chest pain, severe shortness of breath, fainting, uncontrolled bleeding, or repeated ICD shocks. Also call 911 after an ICD shock if you feel unwell.

Sources & further reading

NIH: Preparing for your implant

NIH: Recovery and device checks

AHA: Implantable defibrillators

FDA: Phones and magnets

Updated October 2026. Educational information; your own care plan may differ. Medical illustrations are simplified examples for teaching.