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Pacemaker or Defibrillator?

A pacemaker fixes a heart that's too slow, and a defibrillator rescues one that's dangerously fast.

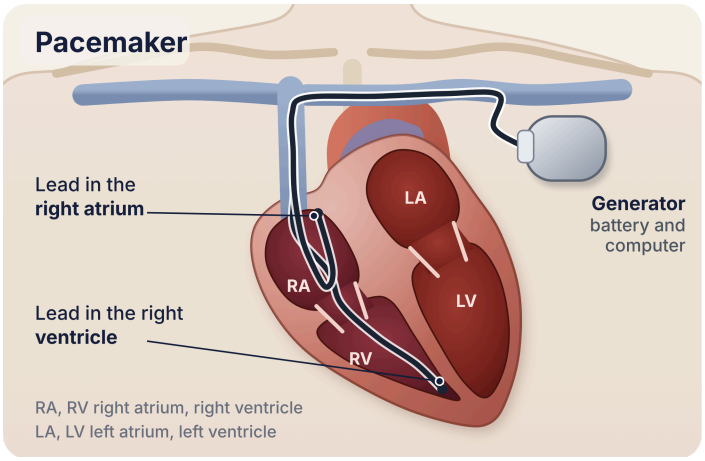
60 to 100
times a minute, about how often your heart's natural pacemaker fires

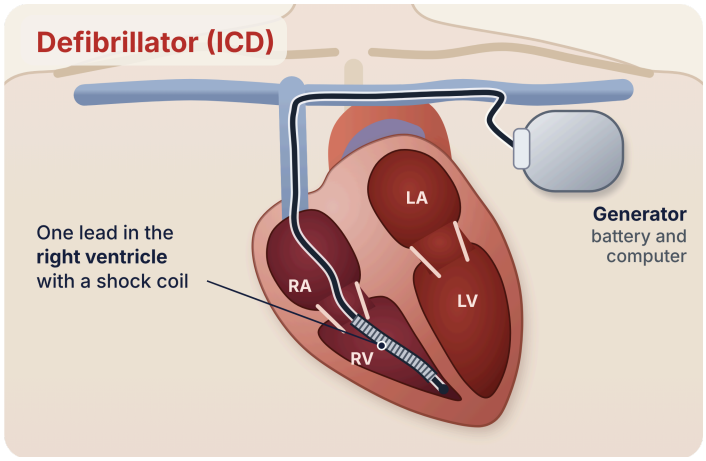
35%
or below, the typical ejection fraction in the largest group who get an ICD

8 to 12 yrs
of battery for most pacemakers, and five to ten years for most ICDs

TWO DEVICES, TWO JOBS

What each one does





Both have a generator under the skin near the collarbone, with leads that run through a vein into the heart. A pacemaker sends a tiny pulse only when your rate falls below a set level, and you don't feel it. An ICD (implantable cardioverter-defibrillator) watches for dangerous fast rhythms from the bottom chambers. Its first try is usually a burst of fast pacing, then a shock if that doesn't work, and it can pace a slow heart too.

WHO NEEDS WHICH

It depends on the rhythm problem

A pacemaker, for a heart that's too slow
Heart block, where the signal doesn't make it to the bottom chambers, or sick sinus syndrome. AFib with a slow rate, or fainting with a slow rate caught on a monitor.

An ICD, for a high risk of a fast rhythm
Badly weakened pumping, typically an ejection fraction of 35% or below. Surviving a sudden cardiac arrest or a dangerous fast rhythm. Sometimes an inherited condition like long QT.

Know your device

If you're not sure what you have or why, ask. Bring your device card, the printout from your last check or your device team's contact information to your appointments.

WHEN TO CALL, DAILY LIFE AND OTHER DEVICE TYPES ARE ON THE BACK

LIVING WITH YOUR DEVICE

When to call, and what daily life is like

CALL 911 RIGHT AWAY

Shocks or symptoms	You don't feel well after a shock, you have several shocks in quick succession, or a shock comes with chest pain, severe shortness of breath or fainting.

CALL YOUR CARDIOLOGIST'S OFFICE

One shock, and you recover	A single shock that you feel and recover from still means calling your cardiologist promptly, so the device can be checked and the rhythm reviewed.
The same day	Fevers, chills, or new redness or pain around the device, especially in the weeks after the implant or a later procedure, since these can be signs of infection.
Within a few days	New fluttering, palpitations or skipped beats that feel different from usual. Your team can check the device remotely and tell whether something needs attention.

DAY TO DAY

What you feel	Pacing isn't felt. A shock feels like a hard kick to the chest and lasts less than a second. Many people with an ICD go years without one.
After the implant	Avoid lifting the arm on that side above shoulder height for a few weeks. After four to six weeks of healing, most people return to their usual activities.
Phones and travel	Keep a cell phone at least six inches from the device, usually in the opposite pocket. Walk through store and airport gates without lingering, and carry your device card.
MRI and driving	Most modern devices can go in an MRI with precautions, and an older one has to be checked first. After an ICD shock, most state laws require a period without driving.

OTHER KINDS OF DEVICES

Leadless pacemaker	Small enough to sit entirely inside the heart. It goes in through a leg vein, with no wires and no bump under the skin, though it isn't right for every patient.
Subcutaneous ICD	The generator sits under the arm and the lead runs under the skin along the breastbone, with nothing in a vein or the heart, and it can shock but can't pace.
CRT and CRT-D	A third lead paces both bottom chambers together, for weakened pumping with a specific electrical delay, and with shock capability it's called a CRT-D.

CHECKUPS AND BATTERIES

A bedside monitor sends data from your device to your team automatically, and most people also have a clinic check every six to twelve months. When the battery runs low, your team is alerted well in advance. Only the generator is replaced, and the leads are usually left in place.

READ THE FULL ARTICLE

damianrasch.com/
icd-vs-pacemaker-comparison

For education only, and not a substitute for advice from your own physician. Sources include the MADIT-II, SCD-HeFT, DANISH, COMPANION, CARE-HF, MADIT-CRT and PRAETORIAN trials, the Micra leadless pacemaker study, and the 2018 ACC/AHA/HRS bradycardia and 2017 AHA/ACC/HRS ventricular arrhythmia guidelines.

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