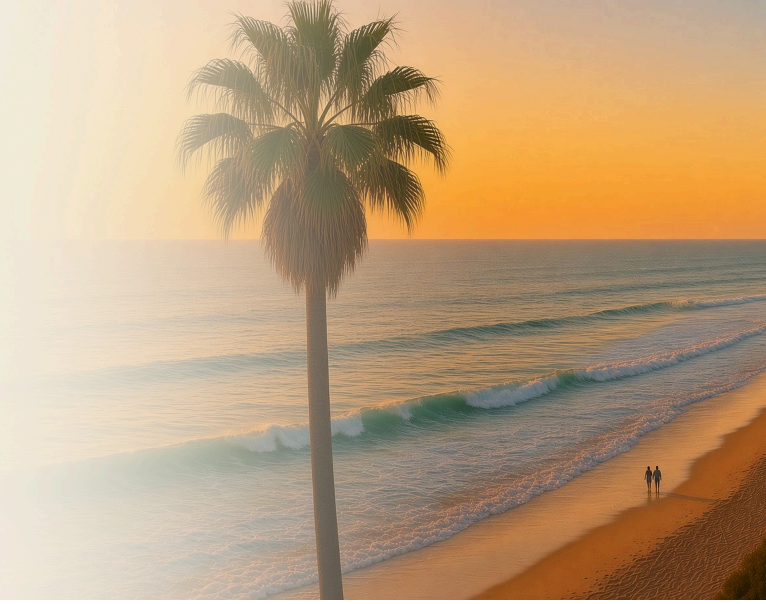
DAMIANRASCH.COM

DAMIAN RASCH, D.O.

ENCINITAS · LA JOLLA, CALIFORNIA



A Weakened Heart Pump

Heart failure with reduced ejection fraction (HFrEF), the four medicines that treat it, and how often the heart gets stronger.

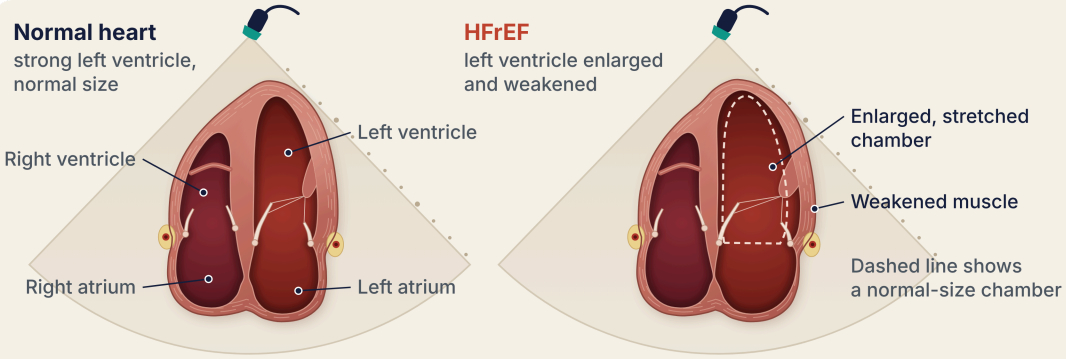
40% or less
ejection fraction defines HFrEF, compared with a normal 53 to 73%

20–30%
is roughly the share of patients whose pumping recovers toward normal

4 pillars
medicine classes that most patients should take at the same time

WHAT IT MEANS

A bigger, weaker pumping chamber



Ejection fraction

The share of blood the left ventricle pumps out with each beat. In HFrEF it is 40% or less. Normal is about 53 to 73%.

Shown as on the echo screen, with the tip of the heart at the top

The left ventricle, your heart's main pumping chamber, stretches like a rubber band that has lost its snap. Fluid backs up into the lungs and tissues, which brings shortness of breath on stairs, tiredness, swelling in the legs or belly, and trouble lying flat at night.

THE FOUR PILLARS

Four medicines that work together

Entresto, or an ACE inhibitor or ARB
Dr. Rasch prefers Entresto (sacubitril/valsartan) when possible. Versus an ACE inhibitor, it cut heart deaths by 20%. Stop an ACE inhibitor 36 hours before starting it.

Beta-blocker
Metoprolol succinate, carvedilol and bisoprolol are the usual choices. You may feel more tired at first. Doses start low and rise over weeks to months.

Aldosterone blocker (MRA)
Spironolactone or eplerenone blocks aldosterone, a hormone that holds on to salt. It can raise potassium, so blood work is checked closely.

SGLT2 inhibitor
Dapagliflozin or empagliflozin cuts heart failure hospital stays and heart deaths, even without diabetes.

Keep taking them

If your ejection fraction improves, the medicines are usually what's keeping your heart strong. Stopping them often leads to the heart weakening again.

BEYOND THE PILLS

Getting the heart stronger

HOW SYMPTOMS ARE GRADED (NYHA CLASS)

Class I	Class II	Class III	Class IV
No symptoms during ordinary activities	**Slight limitation** such as getting winded climbing two flights of stairs	**Marked limitation** comfortable at rest, symptoms with minimal activity	**Symptoms at rest** even while sitting still

Your class and your ejection fraction together guide which medicines and devices are recommended.

HELPING THE HEART RECOVER

Cardiac rehab	In the HF-ACTION trial of over 2,300 patients, exercise did not significantly cut deaths and hospital stays overall, with a modest benefit after adjusting for risk. Fitness rose only about 4%, and only 4 in 10 kept up the exercise.
Opening blocked arteries	When blocked arteries caused the weakness, bypass surgery or stents can restore blood flow to muscle that is still alive but hibernating, so it can start squeezing again.
A recovered heart	When an ejection fraction of 40% or less rises above 40%, often by at least 10 points, it's called HFimpEF. Recovery is more common in women and when blocked arteries weren't the cause.

DEVICES FOR SOME PATIENTS

ICD	A defibrillator, recommended if your ejection fraction stays at 35% or less with symptoms after at least three months of full medical treatment. It shocks a dangerous rhythm back to normal.
CRT	A pacemaker-like device with three wires that gets the ventricles beating in sync. Roughly a quarter to a third of patients qualify. It works best with a left bundle branch block on the EKG.
LVAD or transplant	Considered for end-stage heart failure. An LVAD is an implanted pump that helps the left ventricle.

DAY-TO-DAY SELF-CARE

Salt	Avoid excessive sodium. The guideline sets no single daily number, so follow the target your care team gives you.
Fluids	Most people don't need to limit fluids. A limit is sometimes used in advanced heart failure with low blood sodium. Limit fluids only if your care team says to.
Pain relievers	Avoid NSAIDs such as ibuprofen (Advil, Motrin) and naproxen (Aleve), which make the body hold salt and water.
Blood work	Some medicines affect the kidneys and potassium, so regular checks guide the doses.

WHEN TO CALL

Call the same day for a gain of about 2 to 3 lb in a day or 5 lb in a week, new or worse swelling, or needing more pillows at night. Call 911 for breathlessness at rest, waking up gasping, pink frothy sputum, chest pain or fainting. Keep a sick-day plan.

READ THE FULL ARTICLE

damianrasch.com/hfref

For education only, and not a substitute for advice from your own physician. Sources include the HF-ACTION trial, the 2022 AHA/ACC/HFSA heart failure guideline, the 2024 ACC HFrEF decision pathway and the American Society of Echocardiography.

DR. DAMIAN RASCH, D.O. · BOARD-CERTIFIED INVASIVE CARDIOLOGIST · ENCINITAS AND LA JOLLA, CA

MADE IN CALIFORNIA