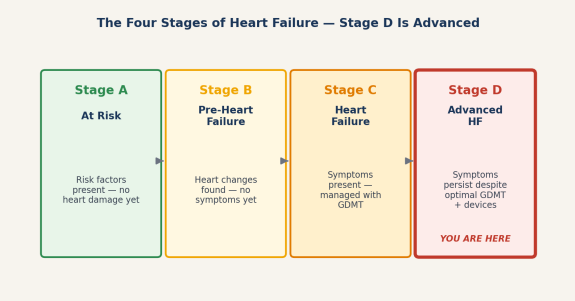
Understanding Advanced Heart Failure

Stage D Heart Failure — Your Options and What to Expect

When heart failure keeps progressing, more options exist than you may think.



Online: https://go.riasalimd.com/advanced-hf-guide

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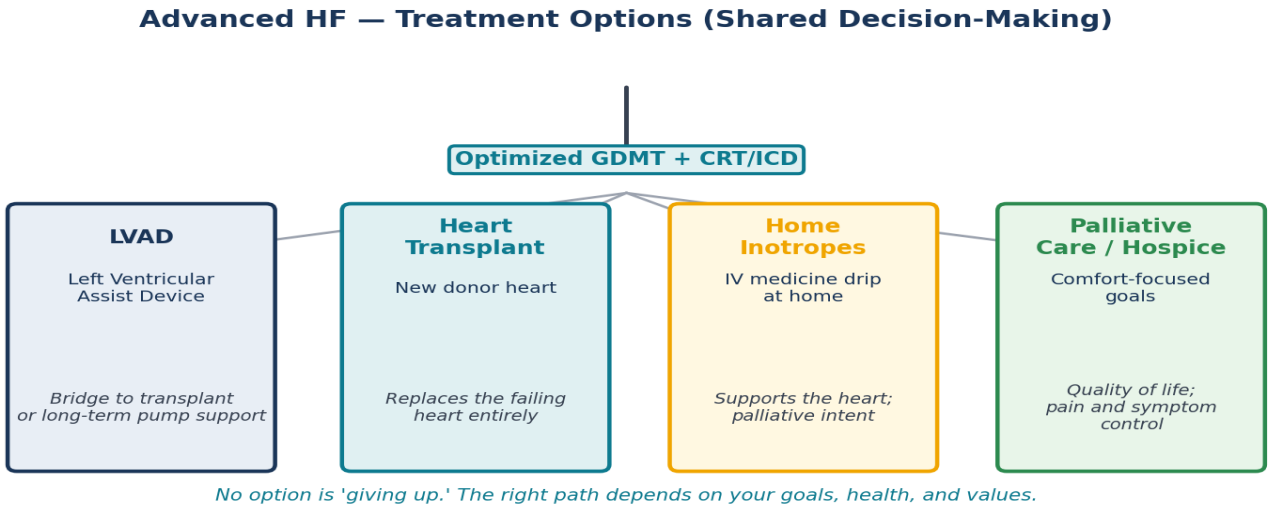
Names & Terms You Will Hear

Term	Meaning
Advanced heart failure	Stage D HF. Symptoms keep happening even on the best medicines and devices.
Stage D heart failure	The most severe HF stage in the ACC/AHA system.
End-stage heart failure	An older term. 'Advanced' is now preferred. Many options still exist.
Refractory heart failure	HF that does not get better with standard treatment. Same as advanced HF.
NYHA Class IIIB–IV	A symptom rating. Marked limits with light effort, or symptoms at rest.
INTERMACS profiles 1–4	A 7-point scale of severity. Profile 1 is critical. Profile 4 is stable but often in hospital.
LVAD	Left ventricular assist device — a pump that helps the heart push blood.
Bridge-to-transplant (BTT)	Using an LVAD to stay stable while waiting for a donor heart.
Destination therapy (DT)	Using an LVAD as a long-term pump when transplant is not an option.
Goals-of-care talk	A talk with your family and care team about what matters most to you.

Call 911 now if you have sudden severe shortness of breath, chest pain, fainting, or confusion. Call 911 for an ICD shock with new symptoms. **LVAD patients:** follow your emergency card if your controller alarms. Do not drive.

What Is Advanced Heart Failure?

- Advanced heart failure (Stage D) means the heart is very weak. Symptoms — breathlessness, fatigue, swelling — stay even on the best medicines and devices.
- It is diagnosed when a patient is on maximum GDMT (all four pillars) and still has severe symptoms (NYHA Class IIIB or IV).
- It is NOT the same as new heart failure. Most people with HF never reach Stage D.
- Stage D starts a new talk — not an ending. Several options can extend life and improve how you feel.
- About 5–10% of the 6 million Americans with heart failure have advanced HF at any time.
- The heart's pumping strength (EF) is often very low (20–25%). But advanced HF can happen with a normal EF too, when symptoms are severe.
- Referral to an advanced HF center before a crisis opens more options. Early referral leads to better results.



Advanced HF treatment options — a shared-decision fan, not a linear ladder. Each branch represents a valid path depending on patient goals, fitness, and values. No option is 'failure.'

Refer early — before a crisis. LVAD and transplant outcomes are best at INTERMACS Profile 3–4 (stable, symptomatic). They are worse in the ICU on inotropes (Profile 1–2). Tell your cardiologist if you have any I NEED HELP warning signs.

Why It Matters

- Without advanced therapy, Stage D HF has a 1-year death rate of 50% or higher. That is similar to many advanced cancers.
- The heart pump called HeartMate 3 (LVAD) gave 79% survival at 2 years in the MOMENTUM 3 trial.
- Heart transplant is the gold standard. One-year survival is over 85%. Median survival is over 12 years (ISHLT data).
- Referral before a crisis improves results for both LVAD and transplant. Do not wait for the ICU.
- Palliative care added to cardiology care improves quality of life and lowers anxiety (PAL-HF trial). It works with — not instead of — heart care.
- The I NEED HELP checklist has 9 warning signs for referral to an advanced HF center. Catching them early changes the path.
- Family and caregiver support matters as much as the treatment. All advanced options involve big life changes.

When to Seek an Advanced HF Center — I NEED HELP

I **Inotropes needed** IV heart meds needed in hospital	**N** **Natriuretic peptides rising** BNP/NT-proBNP still climbing	**E** **End-organ dysfunction** Kidney/liver signs of low output
E **EF very low** EF ≤ 20–25% on full GDMT therapy	**D** **Defibrillator shocks** ICD firing — VT/VF occurring	**H** **Hospitalizations > 1/year** Repeat admits for fluid overload
E **Edema despite diuretics** Swelling stays even on high-dose meds	**L** **Low BP limits GDMT** SBP < 90 — cannot tolerate GDMT	**P** **Prognostic medicines stopped** BB or ARNI stopped for side effects

The I NEED HELP red-flag checklist (Yancy/ACC). Any one of these 9 signals should prompt a referral to an advanced HF center. Early referral — before crisis — preserves the most options and leads to better outcomes.

INTERMACS Profiles — A Quick Reference

Profile 1–2: Critical

- In shock or rapidly declining
- On IV inotropes / vasopressors
- Emergent LVAD or transplant evaluation
- Outcomes worse — refer BEFORE this

Profile 3–4: Unstable

- Stable on IV inotropes or frequent hospital stays
- The ideal window for LVAD evaluation
- Better surgical outcomes than Profiles 1–2
- Transplant listing possible

Profile 5–6: Limited

- Housebound or very limited activity
- Comfort at rest; declines with effort
- Optimization of GDMT; consider referral
- Palliative care integration appropriate

Profile 7: Advanced NYHA III

- Stable with marked functional limits
- Not yet at crisis level
- Monitor closely; optimize therapy
- Discuss goals and advance directives

Risk Factors

Some patients are more likely to develop this condition. Knowing your risk helps your care team take extra precautions.

Risk Factor	Why It Increases Risk
Not yet on full GDMT + devices	If you have not tried all four pillars and CRT/ICD where needed, more optimization may help first.
Ischemic cardiomyopathy (prior heart attack)	The most common cause of advanced HF. Scar tissue cuts pumping power and does not heal.
Non-ischemic dilated cardiomyopathy (weak heart muscle)	Muscle weakness from a virus, alcohol, chemo, or a gene defect. Some types partly recover.
Repeated hospital stays for fluid overload	Each stay is a sign of decline — and also makes further decline more likely.
Kidney dysfunction (cardiorenal syndrome)	The heart and kidneys fail together. Poor kidney function limits diuretics and GDMT dosing.
Cardiac cachexia (muscle wasting)	Advanced HF burns muscle. Low body weight limits LVAD and transplant options.
Uncontrolled arrhythmias (VT/VF)	Dangerous fast heart rhythms on top of advanced HF raise the risk of sudden death.
Frailty and other illnesses	Advanced HF rarely comes alone. Frailty, lung disease, liver problems, and diabetes all affect which options fit.

Treatment Options

- **Step 1 — Maximize GDMT and devices first.** Before calling HF 'advanced,' make sure you are on maximum doses of ARNI/ACEi, beta-blocker, MRA, and SGLT2i. An ICD or CRT-D should also be placed if needed. See our HFrEF guide for details.
- **Step 2 — LVAD (heart pump).** A small pump placed in the chest by surgery. It takes over the work of the weak heart. It can bridge you to transplant or be a long-term solution. HeartMate 3 gave 79% 2-year survival in the MOMENTUM 3 trial.
- **Step 3 — Heart transplant.** A donor heart replaces the failing one. It is the best long-term option when possible. One-year survival is over 85%. Median survival is over 12 years. It requires strict criteria and lifelong anti-rejection medicine.
- **Step 4 — Home inotropes (IV heart medicines).** Medicines such as dobutamine or milrinone drip through a home pump. They support the heart but do not cure it. Used as a bridge or for comfort when LVAD and transplant are not options.
- **Step 5 — Palliative care and hospice.** A valid, dignified path. It focuses on quality of life and comfort. This is not giving up. It means choosing to focus on what matters most to you.
- **Shared decisions are essential.** No single option fits everyone. Your advanced HF team works with you and your family to match the treatment to your goals and your health.
- **Advance care planning.** Write down your wishes. Discuss CPR and ventilator use with your team. This is part of advanced HF care. It gives you more control, not less.

A real left ventricular assist device (LVAD) — the pump housing (left) and the outflow graft that carries blood to the aorta (upper right) and the inflow conduit that draws blood from the weak left ventricle (lower right). Newer devices such as HeartMate 3 are smaller and fully magnetically levitated, but the same basic parts — pump, inflow, and outflow — are shared. Image: Science Museum, London / Wellcome Collection, 'Heartmate' left ventricular-assist device, United States, 1993 (CC BY 4.0).

INTERMACS Profiles — Severity Spectrum of Advanced HF

Profile	Name	What It Means	Timing
1	Crash and burn	Critical shock. On IV support. Risk of death within hours.	Hours
2	Fast decline	Getting worse on IV inotropes. Poor organ function.	Days
3	Stable on IV	Stable on IV inotropes but cannot stop them.	Within weeks

Profile	Name	What It Means	Timing
4	Frequent flyer	Repeated hospital stays. Can briefly stop inotropes.	Weeks to months
5	Housebound	Comfortable at rest. Very little activity at home.	Variable
6	Walking wounded	Light activity causes fatigue. Not crashing right now.	Variable
7	Advanced NYHA III	Stable but with real symptoms and limits.	Monitor

LVAD vs Heart Transplant vs Palliative Care — Side-by-Side

	LVAD	Heart Transplant	Palliative / Hospice
What it is	A pump placed in the chest to help the heart push blood.	Surgery to replace the failing heart with a donor heart.	Care focused on comfort, symptoms, and quality of life.
Who qualifies	Stage D HF. INTERMACS 2–4 is ideal. No severe right-heart failure or active infection.	Stage D HF. Usually under 70. No major other organ disease. No active cancer.	Any Stage D patient who declines advanced therapy or is not a candidate.
Survival data	79% at 2 years (MOMENTUM 3, HeartMate 3).	Over 85% at 1 year. Median over 12 years (ISHLT).	Median 6–12 months without LVAD/transplant. PAL-HF: better quality of life and symptom control.
Life with it	Driveline exits the skin. Daily care needed. Blood thinner required. Carry batteries. No swimming.	Lifelong anti-rejection medicine. Annual biopsies. Watch for infection. Near-normal activity in many.	Comfort at home or in a facility. Family present. 24/7 hospice support is available.
Key risks	Stroke 10–15%. Driveline infection. GI bleeding. Pump clot.	Rejection. Infection. Cancer risk from anti-rejection medicine. Average 1-year wait.	Symptoms if not managed well. Family caregiver strain.

LVAD: A Pump to Help Your Heart

- **What it is:** an LVAD (left ventricular assist device) is a small pump placed in the chest by surgery. It attaches to the weak heart and the aorta. It does the work the heart cannot do.
- **How it works:** the pump runs all the time. You may have no detectable pulse. It moves blood from the heart into the aorta, keeping blood flow going to all organs.
- **The driveline:** a thin cable exits the skin on your belly. It connects to a controller on a belt or vest. Daily care of the exit site is key to prevent infection.
- **Power:** two rechargeable batteries or a wall outlet run the pump. Carry spare batteries at all times. Each set lasts about 8–12 hours.
- **Bridge-to-transplant (BTT):** the LVAD keeps you stable while you wait for a donor heart. It can also help you become a better transplant candidate.
- **Destination therapy (DT):** for patients who cannot get a transplant, the LVAD is a long-term solution. HeartMate 3 gave 79% survival at 2 years (MOMENTUM 3 trial).
- **Life with an LVAD:** most patients go home and do better. No swimming — the driveline must stay dry. Travel is possible with planning. Always keep your equipment close.
- **Blood thinner (anticoagulation):** warfarin is needed for most LVAD models. Regular INR checks are required. Bleeding and stroke are the main long-term risks.
- See our Pacemakers and ICDs guide for more on ICD therapy, which often goes with LVAD.

Heart Transplant: A New Heart

- **What it is:** the failing heart is removed by surgery. A donor heart replaces it. The donor and recipient must be matched for blood type, body size, and other factors.
- **The waitlist:** after review, candidates are listed with UNOS (the national transplant network). Wait times range from weeks to several years. It depends on blood type, urgency, and where you live.
- **Who qualifies:** strict review is needed. You must not have active infection, active cancer, severe lung pressure, major other organ failure, or be unable to follow the post-transplant plan. Age limit is usually under 70 but flexible.
- **Survival:** over 85% at 1 year. Median survival over 12 years (ISHLT). This is far better than any other advanced HF therapy.
- **Lifelong anti-rejection medicine:** you will take 2–3 medicines for life. They prevent rejection but raise the risk of infections, some cancers, and high blood pressure.
- **Rejection check-ups:** in the first year, you will have heart biopsies (small tissue samples taken through a catheter). These check for rejection. Check-ups get less frequent over time.
- **Life after transplant:** most people return to near-normal activity. Many return to work. The new heart beats a bit faster at rest. It takes longer to speed up with exercise. Lifelong follow-up at the transplant center is required.
- **LVAD as a bridge:** many patients get an LVAD first to stay stable during the wait. The LVAD is removed at transplant surgery.

Comfort-Focused Care Is a Valid Choice

- **Palliative care** focuses on relief from symptoms, pain, and stress. It works alongside your heart care — not instead of it.
- **Hospice** is a type of palliative care when comfort is the main goal and curative treatment is not sought. It can be given at home, in a nursing facility, or in a hospice center.
- **What the PAL-HF trial found:** advanced HF patients with palliative care reported better quality of life, less anxiety and depression, and greater satisfaction — with no change in survival.
- **Comfort care is not giving up.** It is an active choice. Many patients feel more in control, not less. Focus can shift to being home with family, managing pain, or reaching life goals.
- **What palliative care teams do:** manage breathlessness, pain, and nausea. Provide emotional and spiritual support. Educate and support caregivers. Give 24/7 access to help.
- **Advance care planning:** palliative teams help you fill out directives and name a proxy. They make sure your wishes are clear — even if you cannot speak for yourself.
- **Hybrid care is possible:** some patients choose palliative care alongside an LVAD. Goals can change over time.
- **Start early:** palliative care consult is recommended *early* in advanced HF — not only at end of life. Early care leads to better outcomes.
- See our HFrEF guide and Cardiac Rehab guide for other care strategies.

Advance care planning is not giving up. A proxy, a living will, and a POLST form protect your choices — even if you also choose LVAD or transplant. These can always be updated as your goals change.

Comfort Measures at Home (No Medication Needed)

These simple steps support healing and ease symptoms. Use them alongside any medication your doctor prescribes.

- Weigh yourself every morning — same time, same scale. Call us if you gain 3 lb in 2 days or 5 lb in a week.
- Limit sodium to 1,500–2,000 mg per day. Read every label. Restaurant and packaged foods hide the most salt.
- Limit fluids to 1.5–2 liters per day. Count soup, juice, ice cream, and popsicles.
- Advance care planning: fill out a healthcare directive. Talk about your wishes with your family and your care team.
- Keep an up-to-date medicine list. Share it with the ER, your dentist, and any surgeon before a procedure.
- If you have an LVAD: carry your bag, backup batteries, and controller at all times. Keep up with daily driveline care.
- Caregiver support matters. LVAD and advanced HF are hard on family. Ask about caregiver education and support groups.
- Get your flu and pneumonia shots. Infections can cause a sudden crash and are very dangerous in advanced HF.
- Move gently as you can. Cardiac rehab may be right for some stable Stage D patients. Ask your team.
- Depression and anxiety are very common in advanced HF. Palliative care teams and social workers can help. Tell us how you feel.

Risks, Benefits, and Alternatives

Every choice has trade-offs. Use this table to start the shared decision conversation.

Option	Risks	Benefits	Alternatives
LVAD (Heart Pump)	Major open-heart surgery. Stroke risk 10–15%. Driveline infection. Blood thinner (warfarin) needed lifelong. Pump failure is rare but possible. Big lifestyle changes required.	79% survival at 2 years (MOMENTUM 3). Greatly improves symptoms and activity. Can bridge to transplant or be a long-term pump. A good option when transplant is not possible.	Heart transplant if eligible. Home inotropes for less-fit patients. Palliative care for comfort goals.
Heart Transplant	Donor heart wait can be 1–3+ years. Lifelong anti-rejection medicine (raises infection and cancer risk). Rejection is possible even years later. Strict selection criteria.	Over 85% 1-year survival. Median over 12 years (ISHLT). Restores near-normal heart function. Best long-term option when eligible.	LVAD as a bridge to transplant. LVAD as a long-term pump if transplant is not possible. Inotropes or palliative care.
Home Inotropes (IV Heart Medicines)	Does not treat the disease. IV line infection risk. Cannot stop suddenly. May raise arrhythmia risk. Needs home health support.	Good symptom relief. Improves quality of life. Allows discharge from hospital. Can stabilize you while deciding on LVAD or transplant.	LVAD or transplant if you become a candidate. Hospice for comfort goals only. High-dose water pills for less severe fluid buildup.

Option	Risks	Benefits	Alternatives
Palliative Care / Hospice	Does not extend life through advanced treatments. Some medicines may be changed. Requires coming to terms with the outlook.	Proven to improve quality of life and reduce anxiety (PAL-HF). Fewer unwanted procedures. Focuses on your goals. Hospice gives 24/7 support at home or in a facility.	LVAD or transplant if your goals shift and you are a candidate. Home inotropes for symptoms within comfort care. Palliative care and LVAD together is possible.

Common Misconceptions

Myth	Reality
Advanced heart failure means nothing more can be done.	FALSE. Stage D patients have real options: LVAD, transplant, home inotropes, and palliative care. The talk is about which option fits your goals.
Heart transplant cures heart failure.	Not exactly. Transplant replaces the failing heart. But it needs lifelong anti-rejection medicine and regular check-ups. It trades one condition for one that is more manageable.
Choosing comfort care (hospice) means giving up.	Palliative care and hospice are active choices. Many patients and families find more peace with comfort-focused care. It is not surrender.
An LVAD is only for the very sickest patients.	LVAD outcomes are best before you reach a crisis. Referral at INTERMACS Profile 3–4 leads to better surgery results and faster recovery than waiting for Profile 1–2.
Only young, healthy people qualify for transplant.	Age matters, but choice is individual. Patients in their 60s or even early 70s receive transplants. What matters is the absence of clear disqualifying conditions.
Home inotropes will reverse my heart failure.	Inotropes support the heart and ease symptoms. They do not treat the disease. They are a bridge or a comfort tool, not a cure.
My regular cardiologist handles everything — no referral needed.	Advanced HF centers have special skills in LVAD surgery, transplant review, and palliative care. A referral adds a team. It does not replace your cardiologist.
Waiting until I am very sick is the right time to be referred.	The opposite is true. Referral before a crisis opens more options. INTERMACS Profiles 3–4 have much better outcomes than 1–2 for LVAD and transplant.

Cross-links to companion guides: HFrEF (GDMT + devices) — HFpEF — Pacemakers & ICDs — Cardiac Rehabilitation

Possible Complications

Knowing what can go wrong helps you spot problems early. Most complications are uncommon, especially with treatment.

Where / What	What Can Happen
Acute decompensation (sudden worsening)	Fluid builds up fast. IV water pills in hospital are often needed. It is a sign that current treatment is not enough.
Cardiorenal syndrome (heart-kidney failure)	The failing heart cuts blood flow to the kidneys. The kidneys then make the heart worse. This limits water pill and medicine dosing.
Ventricular arrhythmias (VT/VF)	Dangerous fast rhythms from the weak heart. An ICD provides a safety net. Severe VT may need catheter ablation or ICU sedation.
Low output syndrome	Extreme weakness, confusion, cold hands and feet. May need IV heart medicines, LVAD review, or ICU care.
LVAD-related problems	Stroke (10–15%), driveline infection, gut bleeding, pump clot, and right heart failure after implant. These need specialist care.
Transplant rejection	Acute rejection can happen in the first year. Chronic rejection can happen years later. Both are managed with anti-rejection medicine and regular heart biopsies.
Infections after transplant	Anti-rejection medicines lower the immune system. This raises the risk of bacterial, fungal, and viral infections. Regular monitoring and prevention medicines help.
Cardiac cachexia (muscle wasting)	Advanced HF burns muscle mass. Weight loss and weakness worsen the outlook. They can also limit LVAD and transplant options.
Depression, anxiety, caregiver burnout	Very common. Palliative care social workers and mental health support are key parts of advanced HF care.

Points to Know

If you remember nothing else, remember these key points.

- Advanced HF = Stage D. Symptoms stay even on maximum GDMT and devices. This is the trigger for the advanced HF talk.
- The I NEED HELP checklist has 9 warning signs. Learn them. Tell your doctor if any apply to you.
- Early referral — before a crisis — gives you more options. Best LVAD and transplant results happen at INTERMACS 3–4, not 1–2.
- LVAD, transplant, home inotropes, and palliative care are all valid paths. The right one depends on your goals and health.
- Palliative care is not giving up. It is active, dignified care focused on what matters most to you.
- Advance directives (proxy, living will) are vital in advanced HF. Fill them out and discuss with your family and care team.
- Caregivers need support too. Ask about education and support groups.
- Weigh yourself daily. Call us for a gain of 3 lb in 2 days or 5 lb in a week.

When to Call Us - and When to Call 911

If you are not sure, call. We would rather hear from you twice than miss a real problem.

- Weight up 3 lb in 2 days or 5 lb in a week.
- Shortness of breath that is new, worse, or happens at rest.
- Need 3 or more pillows to sleep, or wake up gasping.
- Leg, ankle, or belly swelling getting worse despite your water pill.
- Dizziness, near-fainting, or feeling faint — especially when standing.
- Chest pain, pressure, or squeezing — call 911.
- ICD shock: one shock — call us same day. Two or more shocks or feeling ill after — call 911.
- LVAD alarm: follow your emergency plan right away. Always carry your emergency card.
- Fever over 100.4 F, redness, or drainage at the LVAD driveline site.
- Sudden confusion, weakness, speech trouble, or vision change (stroke signs) — call 911.
- You are rethinking your treatment goals — call us anytime. No decision is locked in.

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Trusted Resources

The links below are the trusted resources Dr. Ali used to write this guide and that he recommends you visit for more information. Each is a clickable link in the digital version and a Short.io tracked URL on the printed version.

- AHA — Advanced Heart Failure - American Heart Association overview of advanced HF treatment options.
- Cleveland Clinic — Advanced Heart Failure - Detailed patient guide to Stage D HF, LVAD, transplant, and palliative care.
- Mayo Clinic — Heart Failure Treatment - Comprehensive patient guide including LVAD and transplant descriptions.
- HFSA — Heart Failure Society of America Patient Hub - Disease management resources and patient support from the HFSA.
- NIH/MedlinePlus — Heart Failure - Official NIH patient page with links to advanced HF resources.
- ACC CardioSmart — Heart Failure - ACC patient-education platform covering all HF stages including Stage D.
- UNOS — Organ Procurement and Transplantation Network - Official site for heart transplant waitlist, match, and statistics.
- VAD Life — LVAD Patient Community - Peer support network for LVAD patients and caregivers.

Sources Used to Build This Guide

Every recommendation in this guide is grounded in one or more of the studies, guidelines, or trusted resources below. Short links are tracked so Dr. Ali can see which references patients are reading; nothing personally identifying is captured.

- 2022 AHA/ACC/HFSA Guideline for Management of Heart Failure (Stage D) *[Guideline]*
  Primary framework for Stage D / advanced HF: referral criteria, LVAD indications, transplant criteria, palliative care.
- ESC 2021 Guidelines for Diagnosis and Treatment of Acute and Chronic Heart Failure *[Guideline]*
  European HF guideline including advanced HF management, LVAD, transplant, and inotrope use.
- MOMENTUM 3 (HeartMate 3 LVAD — 2-year outcomes) *[Clinical Trial]*
  HeartMate 3 LVAD showed 79% survival at 2 years; lower stroke and pump thrombosis vs predecessor.
- REMATCH Trial (LVAD as destination therapy) *[Clinical Trial]*
  Landmark trial establishing LVAD as destination therapy for end-stage HF ineligible for transplant.
- PAL-HF Trial (palliative care in advanced HF) *[Clinical Trial]*
  Integrated palliative care improved quality of life, anxiety, and depression in advanced HF.
- INTERMACS Registry — Patient Profiles and Outcomes *[Registry Data]*
  INTERMACS profiles 1–7 define severity spectrum in advanced HF; guides MCS timing and outcomes.
- ISHLT Guidelines for the Care of Heart Transplant Recipients *[Guideline]*
  ISHLT criteria for transplant listing, contraindications, post-transplant immunosuppression, rejection surveillance.
- Yancy et al. — 'I NEED HELP' Referral Tool for Advanced Heart Failure *[Expert Consensus]*
  ACC consensus defines the 9 red-flag signals (I NEED HELP) that trigger referral to an advanced HF center.
- Cleveland Clinic — Advanced Heart Failure *[Patient Education]*
  Plain-language overview of advanced HF options including LVAD, transplant, and palliative care.
- Mayo Clinic — Heart Failure Treatment Overview *[Patient Education]*
  Patient-friendly description of LVAD, heart transplant, and goals-of-care conversations.
- AHA — Heart Failure Patient Resources *[Patient Education]*
  AHA patient page on HF stages including Stage D and when advanced therapies are considered.
- NIH/MedlinePlus — Heart Failure *[Patient Education]*
  NIH patient-education hub for heart failure including advanced care, LVAD, and transplant links.

About This Guide

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Reviewer note: Reviewed against Cleveland Clinic, Mayo Clinic, and AHA advanced HF pages. This guide adds the I NEED HELP diagram, an INTERMACS overview, a treatment-options chart, LVAD/transplant/palliative table, and compassionate goals-of-care framing not found elsewhere.

Disclaimer

This guide is for educational purposes only and does not replace medical advice from your physician. Recommendations may not apply to every patient. Always follow the specific instructions of Dr. Ali and your care team. In an emergency call 911 or go to the nearest emergency department.

Take This Guide With You

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