
ADAPTED FROM:
2022 AHA/ACC/HFSA Guideline for Heart Failure
The New Guidelines: Unique Characteristics & Heart Failure Stages A & B

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Her research interests include factors contributing to exercise intolerance and debilitation in heart failure patients, particularly with advancing age. She is also interested in disparities in heart failure therapy access, utilization, and outcomes in diverse and aging populations.

The recommendations and opinions presented by our guest speakers may not represent the official position of the American Heart Association. The materials are for educational purposes only, and do not constitute an endorsement or instruction by AHA/ASA. The AHA/ASA does not endorse any product or device.
Disclosures

• Dr. Sabra Lewsey – No disclosures
Epidemiology of Heart Failure in the United States

Increase in HF related deaths from 2009 to 2014.

Increase in HF hospitalizations from 2013 to 2017.

Decline in overall HF incidence from 2011 to 2014 with declining incidence of HFrEF but increasing

Racial and ethnic disparities in HF burden, hospitalization, and death persist.

Age-adjusted mortality rates per 100,000 for HF:
- 145.5 for non-Hispanic (NH) Black men
- 124.1 for NH White men
- 119 for NH American Indian/Alaskan Native men
- 82 for Hispanic men
- 54.8 for NH Asian or PI men
- 102.9 for non-Hispanic (NH) Black women
- 87.5 for NH White women
- 80.7 for NH American Indian/Alaskan Native women
- 57.2 for Hispanic women
- 37.8 for NH Asian or PI women

Research, evidenced-based interventions, and health and social policy reforms are warranted to address racial and ethnic disparities in HF outcomes.

Abbreviations: HF indicates heart failure; HFrEF, heart failure with reduced ejection fraction; and HFpEF, heart failure with preserved ejection fraction.
2022 HF Guidelines Overview:

- **A Common Framework to Improve Care**
  - Staging and Severity: New emphasis on primary prevention of HF
  - Universal Classification by LVEF and Common Diagnostics/ Diagnostic Aids (HFpEF*)

- **The “-rEF to –pEF” spectrum of HF medical therapies**
  - Quadruple-Based Guideline Directed Medical Therapy for HFrEF
  - New GDMT Arsenal for HFpEF and HFmrEF

- **Minimize Interruptions in GDMT**

- **Address Social Determinants of Health & HF Disparities**

- **Value-Based Assertions regarding HF Therapeutics**

- **Addressing Goals of Care & Timely Referral for Advanced Therapies**

- **Considerations in Special Populations* & the Need of Multi-Disciplinary Care:**
  - HF in Pregnancy
  - Recognition and Rx of Cardiac Amyloidosis

- **Treat the whole patient: co-morbidity management**

Figure 1. ACC/AHA Stages of HF.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>At-Risk for Heart Failure</td>
</tr>
<tr>
<td>B</td>
<td>Pre-Heart Failure</td>
</tr>
<tr>
<td>C</td>
<td>Symptomatic Heart Failure</td>
</tr>
<tr>
<td>D</td>
<td>Advanced Heart Failure</td>
</tr>
</tbody>
</table>

**Patients at risk for HF but without current or previous symptoms/signs of HF and without structural/functional heart disease or abnormal biomarkers**

**Patients with hypertension, CVD, diabetes, obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or family history of cardiomyopathy**

**Patients without current or previous symptoms/signs of HF but evidence of 1 of the following:**
- Structural heart disease
- Evidence of increased filling pressures
- Risk factors and:
  - Increased natriuretic peptide levels or
  - Persistently elevated cardiac troponin in the absence of competing diagnoses

**Marked HF symptoms that interfere with daily life and with recurrent hospitalizations despite attempts to optimize GDMT**

**Table 4. Classification of HF by LVEF**

<table>
<thead>
<tr>
<th>Type of HF According to LVEF</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFrEF (HF with reduced EF)</td>
<td>LVEF ≤40%</td>
</tr>
<tr>
<td>HFimpEF (HF with improved EF)</td>
<td>Previous LVEF ≤40% and a follow-up measurement of LVEF &gt;40%</td>
</tr>
</tbody>
</table>
| HFmrEF (HF with mildly reduced EF) | LVEF 41%–49%
  - Evidence of spontaneous or provokable increased LV filling pressures (eg, elevated natriuretic peptide, noninvasive and invasive hemodynamic measurement) |
| HFrEF (HF with preserved EF) | LVEF ≥50%
  - Evidence of spontaneous or provokable increased LV filling pressures (eg, elevated natriuretic peptide, noninvasive and invasive hemodynamic measurement) |
Recommendations for Patients with Symptomatic (Stage C) HFrEF

**STEP 1**
Established diagnosis of HFrEF
Address congestion
Initiate GDMT

- HFrEF
- LVEF ≤40% (Stage C)
- ARNI in NYHA II-III; ACEi or ARB in NYHA II-IV (1)
- Beta blocker (1)
- MRA (1)
- SGLT2i (1)
- Diuretics as needed (1)

**STEP 2**
Titrate to Target dosing as tolerated, labs, health status, and LVEF

- LVEF ≤40% Persistent HFrEF (Stage C)
- LVEF >40% HFmPEF (Stage C)

**STEP 3**
Consider these patient scenarios

- NYHA III-IV, in African American patients
- NYHA I-III; LVEF ≤35%; >1 y survival
- NYHA I-III; ambulatory IV; LVEF ≤35%; NSR and QRS ≤150 ms with LBBB

**STEP 4**
Implement additional GDMT and device therapy, as indicated

- Hydral-nitrates (1)
- ICD (1)
- CRT-D (1)
- Consider additional therapies

**STEP 5**
Reassess symptoms, labs, health status, and LVEF

- Hydral-nitrates (1)
- ICD (1)
- CRT-D (1)
- Consider additional therapies

- Refractory HF (Stage D)
- Symptoms improved

**STEP 6**
Referral for HF specialty care for additional therapy

- In Selected patients, durable MCS (1)
- Cardiac transplant (1)
- Palliative care (1) (Can be initiated before Stage D)
- Investigational studies*

*Participation in investigational studies is appropriate for stage C, NYHA class II and III HF.

Continue GDMT with serial reassessment and optimize dosing, adherence and patient education, address goals of care

Recommendations for Patients with (Stage C) Mildly Reduced LVEF

Treatment for HFmrEF

Symptomatic HF with LVEF 41-49%

- Diuretics, as needed (1)
- SGLT2i (2a)
- ACEi, ARB, ARNi (2b)
- MRA (2b)
- Evidence-based beta blockers for HFrEF (2b)

Patients With HFmpEF

COR RECOMMENDATIONS

1. In patients with HFmpEF after treatment, GDMT should be continued to prevent relapse of HF and LV dysfunction, even in patients who may become asymptomatic. (1)

Abbreviations: ARB indicates angiotensin receptor blocker; ARNi, angiotensin receptor-neprilysin inhibitor; HF, heart failure; HFrEF, heart failure with preserved ejection fraction; LV, left ventricle; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; and SGLT2i, sodium-glucose cotransporter-2 inhibitor.

Recommendations for Patients with (Stage C) Preserved LVEF

**Treatment for HfPEF**

**Symptomatic HF with LVEF ≥50%**

- **Diuretics, as needed (1)**
- **SGLT2i (2a)**
- **ARNi* (2b)**
- **MRA* (2b)**
- **ARB* (2b)**

**NOTE:** *Greater benefit in patients with LVEF closer to 50%

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1. Patients with HfPEF and hypertension should have medication titrated to attain blood pressure targets in accordance with published clinical practice guidelines to prevent morbidity. 1-3

2. In patients with HfPEF, SGLT2i can be beneficial in decreasing HF hospitalizations and cardiovascular mortality. 4

3. In patients with HfPEF, management of AF can be useful to improve symptoms.

4. In selected patients with HfPEF, MRAs may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum. 5-7

5. In selected patients with HfPEF, the use of ARB may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum. 8,9

6. In selected patients with HfPEF, ARNi may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum. 10,11

7. In patients with HfPEF, routine use of nitrates or phosphodiesterase-5 inhibitors to increase activity or QOL is ineffective. 12,13

**Abbreviations:** ACEi indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNi, angiotensin receptor-neprilysin inhibitor; HfPEF, heart failure with preserved ejection fraction; HFmrEF, heart failure with mildly reduced ejection fraction; HFref, heart failure with reduced ejection fraction; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; and SGLT2i, sodium-glucose cotransporter 2 inhibitor.

Recommendations for Addressing SDOH and Disparities in Vulnerable Populations

COR RECOMMENDATIONS

1
Evidence of health disparities should be monitored and addressed at the clinical practice and the health care system levels.

COR RECOMMENDATIONS

1
In vulnerable patient populations at risk for health disparities, HF risk assessments and multidisciplinary management strategies should target both known risks for CVD and social determinants of health, as a means toward elimination of disparate HF outcomes.

Take Home Point:
Class I recommendation to assess, monitor, and address SDOH and disparities impacting HF patients with multidisciplinary management, across phases of care.

Abbreviations: CVD indicates cardiovascular disease; and HF, heart failure.

Social Barriers

Take Home Point:
Class I recommendation to assess, monitor, and address SDOH and disparities impacting HF patients with multidisciplinary management, across phases of care.

- Financial Burden
- Unsafe Environments
- Food Insecurity
- Language Barriers
- Housing Insecurity
- Transportation Issues
- Low Health Literacy
- Low Social Support

Intervene
Value Statements for GDMT for HFrEF

Take Home Point: Class 1 recommended medical therapies for HFrEF have very high economic value (low cost).

In patients:

- With previous or current symptoms of chronic HFrEF, in whom ARNi is not feasible, tx with ACEi or ARB provides high economic value.  
  Value Statement: High Value (A)

- With chronic symptomatic HFrEF, tx with an ARNi instead of an ACEi provides high economic value.  
  Value Statement: High Value (A)

- With HFrEF and NYHA class II to IV symptoms, MRA therapy provides high economic value.  
  Value Statement: High Value (A)

- With HFrEF, with current or previous symptoms, beta-blocker therapy provides high economic value.  
  Value Statement: High Value (A)

- With symptomatic chronic HFrEF, SGLT2i therapy provides intermediate economic value.  
  Value Statement: Intermediate Value (A)

Self-identified African American patients with NYHA class III to IV HFrEF who are receiving optimal medical therapy with ACEi or ARB, beta blockers, and MRA, the combination of hydralazine and isosorbide dinitrate provides high economic value.  
Value Statement: High Value (B-NR)

Abbreviations: ACEi indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNi, angiotensin receptor-neprilysin inhibitor; HFrEF, heart failure with reduced ejection fraction; MRA, mineralocorticoid receptor antagonist; SGLT2i, NR, non-randomized; sodium-glucose cotransporter 2 inhibitor; and tx, treatment.

A transvenous ICD provides high economic value in the primary prevention of SCD particularly when the patient’s risk of death caused by ventricular arrhythmia is deemed high and the risk of nonarrhythmic death (either cardiac or noncardiac) is deemed low based on the patient’s burden of comorbidities & functional status.

*Value Statement: High Value (A)*

For patients who have LVEF <35%, sinus rhythm, LBBB with a QRS duration of >150 ms, and NYHA class II, III, or ambulatory IV symptoms on GDMT, CRT implantation provides high economic value.

*Value Statement: High Value (B-NR)*

**Take Home Point:** Class 1 recommended medical devices for specifically selected HFrEF patients have very high economic value (low cost).

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Abbreviations: CRT indicates cardiac resynchronization therapy; GDMT, guideline-directed medical therapy; ICD, implantable cardioverter-defibrillator; LBBB, left bundle branch block; LVEF, left ventricular ejection fraction; ms, millisecond; NR, nonrandomized; NYHA, New York Heart Association; and SCD, sudden cardiac death.

# Initial & Serial Evaluation

## Wearables & Remote Monitoring

In patients with NYHA class III HF with a HF hospitalization within the previous year, wireless monitoring of the PA pressure by an implanted hemodynamic monitor provides uncertain value.  
*Value Statement: Uncertain Value (B-NR)*

## Exercise & Functional Capacity Testing

### COR RECOMMENDATIONS

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<tr>
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<th>RECOMMENDATIONS</th>
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<tr>
<td>1</td>
<td>In patients with HF, assessment and documentation of NYHA functional classification are recommended to determine eligibility for treatments</td>
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<tr>
<td>1</td>
<td>In selected ambulatory patients with HF, CPET is recommended to determine appropriateness of advanced treatments (e.g., LVAD, heart transplant)</td>
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<tr>
<td>2a</td>
<td>In ambulatory patients with HF, performing a CPET or 6-minute walk test is reasonable to assess functional capacity</td>
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<tr>
<td>2a</td>
<td>In ambulatory patients with unexplained dyspnea, CPET is reasonable to evaluate the cause of dyspnea</td>
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</table>

### Abbreviations

CPET indicates cardiopulmonary exercise testing; GDMT, guideline-directed medical therapy; HF, heart failure; LVAD, left ventricular assist device; NYHA, New York Heart Association; and PA, pulmonary artery.

## Goals of Care

<table>
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<tr>
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<tbody>
<tr>
<td>1</td>
<td>1. For all patients with HF, palliative and supportive care—including high quality communication, conveyance of prognosis, clarifying goals of care, shared decision-making, symptom management, and caregiver support—should be provided to improve QOL and relieve suffering.</td>
</tr>
<tr>
<td>1</td>
<td>2. For patients with HF being considered for, or treated with, life-extending therapies, the option for discontinuation should be anticipated and discussed through the continuum of care, including at the time of initiation, and reassessed with changing medical conditions and shifting goals of care.</td>
</tr>
<tr>
<td>2a</td>
<td>3. For patients with HF, execution of advance care directives can be useful to improve documentation of treatment preference, delivery of patient-centered care, and dying in preferred place.</td>
</tr>
<tr>
<td>2a</td>
<td>4. For patients with HF—particularly stage D HF patients being evaluated for advanced therapies, patients requiring inotropic support or temporary mechanical support, patients experiencing uncontrolled symptoms, major medical decisions, or multimorbidity, frailty, and cognitive impairment—specialist palliative care consultation can be useful to improve QOL and relieve suffering.</td>
</tr>
<tr>
<td>2a</td>
<td>5. In patients with advanced HF with expected survival &lt;6 months, timely referral to hospice can be useful to improve QOL.</td>
</tr>
</tbody>
</table>

**Abbreviations:** HF indicates heart failure; and QOL, quality of life.

Recommendations for HF and Pregnancy: Multi-disciplinary Care

In women with a history of HF or cardiomyopathy, including previous peripartum cardiomyopathy, patient-centered counseling regarding contraception and the risks of cardiovascular deterioration during pregnancy should be provided (1)

In women with acute HF caused by peripartum cardiomyopathy and LVEF <30%, anticoagulation may be reasonable at diagnosis, until 6 to 8 weeks postpartum, although the efficacy and safety are uncertain (2b)

In women with HF or cardiomyopathy who are pregnant or currently planning for pregnancy, ACEi, ARB, ARNi, MRA, SGLT2i, ivabradine, and vericiguat should not be administered because of significant risks of fetal harm (3 – Harm)

Abbreviations: ACEi, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNi, angiotensin receptor-neprilysin inhibitor; HF, heart failure; LV, left ventricular; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; and SGLT2i, sodium-glucose cotransporter-2 inhibitor.

Diagnosis and Treatment of Transthyretin Cardiac Amyloidosis

**History, ECG, echocardiogram, cardiac MRI suggestive of cardiac amyloidosis**

- **Cardiac amyloidosis unlikely**
- **Evidence of amyloid**
  - AL-CM
  - ATTR-CM
- **Amyloid on heart biopsy?**
  - No evidence of amyloid
- **Hematology-oncology consultation and consider heart or other biopsy**
- **Check for monoclonal light chains (1)**
- **Presence of monoclonal light chain?**
  - YES
  - NO
- **Check Tc-99m-PYP scan (1)**
- **Tc-99m-PYP abnormal?**
  - NO
  - YES
- **Perform TTR gene sequencing (1)**
  - Cardiac amyloidosis unlikely
  - ATTRwt-CM
  - ATTRv-CM
  - Tafamidis (1)
  - NYHA I-III
  - Symptoms
  - Anticoagulation regardless of CHA2DS2-VASc score (2a)

**Value Statement:**
**Low Value (B-NR)**

- **At 2020 list prices, tafamadis provides low economic value (>$180,000 per QALY gained) in patients with HF with wild-type or variant transthyretin cardiac amyloidosis.**

**Abbreviations:**
AF indicates atrial fibrillation; AL-CM, AL amyloid cardiomyopathy; ATTR-CM, transthyretin amyloid cardiomyopathy; ATTRV, variant transthyretin amyloidosis; ATTRwt, wild-type transthyretin amyloidosis; CHA2DS2-VASc, congestive heart failure, hypertension, age ≥75 years, diabetes mellitus, stroke or transient ischemic attack (TIA), vascular disease, age 65 to 74 years, sex category; ECG, electrocardiogram; H/CL, heart to contralateral chest; HFrEF, heart failure with reduced ejection fraction; IFE, immunofixation electrophoresis; MRI, magnetic resonance imaging; NYHA, New York Heart Association; PYP, pyrophosphate: Tc, technetium: and TTR, Transthyretin.

Age 45
Woman,
Hypertension,
Diabetes &
High Cholesterol

**LAYLA**

**STAGE A:**
At-Risk for Heart Failure

Patients at risk for HF but without current or previous symptoms/signs of HF and without structural/functional heart disease or abnormal biomarkers.

Patients with HTN, CVD, diabetes, obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or family history of cardiomyopathy.
Recommendations for Patients at Risk of HF: Stage A

**STAGE A: At-Risk for Heart Failure**

Patients at risk for HF but without current or previous symptoms/signs of HF and without structural/functional heart disease or abnormal biomarkers.

Patients with HTN, CVD, diabetes, obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or family history of cardiomyopathy.

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**Primary Prevention**

- Patients with hypertension
  - Optimal control of BP (1)

- Patients with Type 2 diabetes and CVD or high risk for CVD
  - SGLT2i (1)

- Patients with CVD
  - Optimal management of CVD (1)

- Patients with exposure to cardiotoxic agents
  - Multidisciplinary evaluation and management (1)

- First-degree relatives of patients with genetic or inherited cardiomyopathies
  - Genetic screening and counselling (1)

- Patients at risk for HF
  - Natriuretic peptide screening (2a)

- Patients at risk for HF
  - Validated multivariable risk score (2a)

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Continue Lifestyle modification and management strategies implemented in Stage A, through Stage B

Abbreviations: ACEi indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; BP, blood pressure; CVD, cardiovascular disease; HF, heart failure; ICD, implantable cardioverter-defibrillator; LVEF, left ventricular ejection fraction; MI, myocardial infarction; and SGLT2i, sodium glucose cotransporter 2 inhibitor.

DONNA

STAGE B: Pre-Heart Failure

Patients without current or previous symptoms/signs of HF but evidence of 1 of the following: structural heart disease, increased filling pressures, or risk factors and increased natriuretic peptide levels or cardiac troponin (in the absence of competing diagnosis)
Recommendations for Patients with Pre-HF: Stage B

STAGE B: Pre-Heart Failure

Patients without current or previous symptoms/signs of HF but evidence of 1 of the following: structural heart disease, increased filling pressures, or risk factors and increased natriuretic peptide levels or cardiac troponin (in the absence of competing diagnosis)

Pre-HF (Stage B)

Preventing the Syndrome

- Patients with LVEF ≤ 40%
  - ACEi (1)
- Patient with recent MI and LVEF ≤ 40%
  - ARB if ACEi intolerant (1)
- Patients with LVEF ≤ 40%
  - Beta blocker (1)
- Patient with LVEF ≤ 30%; >1 y survival; >40 d post MI
  - ICD (1)
- Patients with nonischemic cardiomyopathy
  - Genetic counselling and testing (2a)

Continue Lifestyle modification and management strategies implemented in Stage A, through Stage B

Abbreviations: ACEi indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; BP, blood pressure; CVD, cardiovascular disease; HF, heart failure; ICD, implantable cardioverter-defibrillator; LVEF, left ventricular ejection fraction; MI, myocardial infarction; and SGLT2i, sodium glucose cotransporter 2 inhibitor.

Challenges & Barriers to GDMT (Stage A & B)

- Barriers to Screening for Risk Factors
- Barriers to Control, Despite Awareness, Treatment
- Disparities in Treatment Intensification to Target
- Barriers to Physical Activity, Walkability, and Food Access
- Barriers to Health Care & Medication Access & Affordability
- Social Barriers to Effective GDMT Initiation & Maintenance
- Medical Barriers to Effective GDMT Initiation & Maintenance
Stages C & D: Overcoming Barriers to Guideline Directed Medical Therapy (GDMT)

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FAHA, FAAN
Dr. Leanne Lefler is a Professor and the Associate Dean for Research in the Loewenberg College of Nursing at the University of Memphis and holds the Loewenberg Endowed Chair of Excellence. Dr. Lefler obtained her PhD in Nursing Science from the University of Arkansas for Medical Sciences’ and postdoctoral training from the John A Hartford Foundation. Prior to that, she worked 17 years in clinical practice caring for adults with cardiovascular disease.

She is a board-certified Advanced Practice Nurse and Adult Clinical Nurse Specialist. She holds Fellowships in the American Academy of Nursing and the American Heart Association where she serves on the Heart Failure System of Care Advisory Group. Dr. Lefler is nationally recognized for her research work in cardiovascular disease health promotion and heart failure self-management using technological advances.
Disclosures

• Dr. Leanne Lefler – No disclosures
Revised Stages of Heart Failure

Abbreviations: CVD indicates cardiovascular disease; GDMT, guideline-directed medical therapy; HF, heart failure; HTN, hypertension; and NYHA, New York Heart Association.

STAGE C: Symptomatic Heart Failure

Patients with current or previous symptoms/signs of HF

STAGE D: Advanced Heart Failure

Marked HF symptoms that interfere with daily life and with recurrent hospitalizations despite attempts to optimize GDMT

Trajectory of Stage C HF

New Onset/De Novo HF
Resolution of Symptoms
Persistent HF
Worsening HF

Age 63
HF Diagnosis
Confirmed
EF 35
Hospitalized w/
Dyspnea
Treatment of HFrEF Stages C and D

**STEP 1**
Established diagnosis of HFrEF
Address congestion
Initiate GDMT

<table>
<thead>
<tr>
<th>HFrEF LVEF ≤40% (Stage C)</th>
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<tbody>
<tr>
<td>ARNI in NYHA II-III; ACEi or ARB in NYHA II-IV (1)</td>
</tr>
<tr>
<td>Beta blocker (1)</td>
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<tr>
<td>MRA (1)</td>
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<tr>
<td>SGLT2i (1)</td>
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<tr>
<td>Diuretics as needed (1)</td>
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**ADD:** Combination of hydralazine & isosorbide dinitrate

**STEP 2**
Titrate to Target dosing as tolerated, labs, health status, and LVEF

<table>
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<tr>
<th>LVEF ≤40% Persistent HFrEF (Stage C)</th>
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**STEP 3**
Consider these patient scenarios

<table>
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<tr>
<th>NYHA III-IV, in African American patients</th>
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<td>NYHA I-III; LVEF ≤35%; &gt;1 y survival</td>
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<td>NYHA I-III; ambulatory IV; LVEF ≤35%; NSR and QRS ≥150 ms with LBBB</td>
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**STEP 4**
Implement additional GDMT and device therapy, as indicated

<table>
<thead>
<tr>
<th>Hydral-nitrates (1)</th>
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<tr>
<td>ICD (1)</td>
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<tr>
<td>CRT-D (1)</td>
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**STEP 5**
Reassess symptoms, labs, health status, and LVEF

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<th>Refractory HF (Stage D)</th>
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<tr>
<td>Symptoms improved</td>
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**STEP 6**
Referral for HF specialty care for additional therapy

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<th>In Selected patients, durable MCS (1)</th>
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<tr>
<td>Cardiac transplant (1)</td>
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<tr>
<td>Palliative care (1) (Can be initiated before Stage D)</td>
</tr>
<tr>
<td>Investigational studies*</td>
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**Continue GDMT with serial reassessment and optimize dosing, adherence and patient education, address goals of care**

Assessment of Patients Hospitalized With Decompensated HF

**Evaluation**

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<tr>
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<tr>
<td>1</td>
<td>Address precipitating factors</td>
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<tr>
<td>1</td>
<td>Evaluate severity of congestion</td>
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<td>1</td>
<td>Assess adequacy of perfusion</td>
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**Goals for GDMT**

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<tr>
<td>1</td>
<td>Optimize volume status</td>
</tr>
<tr>
<td>1</td>
<td>Address reversible factors</td>
</tr>
<tr>
<td>1</td>
<td>Continue or initiate GDMT</td>
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**COMMON FACTORS PRECIPITATING HF HOSPITALIZATION**

- Acute coronary syndrome
- Uncontrolled hypertension
- Atrial fibrillation and arrhythmias
- Additional cardiac disease
- Acute infections
- Non-adherence to medications or diet
- Anemia
- Hypo-/Hyperthyroidism
- Medications that increase sodium retention
- Medications with negative inotrope

**Abbreviation:** GDMT indicates guideline-directed medical therapy.

GDMT During Hospitalization

Oral GDMT should be continued and optimized on admission, as doing so is associated with lower post-discharge death and readmission.

**Admission:**
Continue GDMT, unless contraindicated (Class 1)

**Inpatient:**
Continue diuresis despite mild reduction in renal function and BP (Class 1)

**Pre-Discharge:**
Re-initiate and/or optimize GDMT when clinically stable (Class 1)

Special considerations

- Consider discontinuation of beta blockers in patients with low cardiac output, severe volume overload, advanced AV block or ACEi/ARNi with angioedema
- VTE prophylaxis is recommended in all hospitalized patients

Abbreviations: ACEi indicates angiotensin-converting enzyme inhibitor; ARNi, angiotensin receptor-neprilysin inhibitor; AV, atrioventricular; BP, blood pressure; GDMT, guideline-directed medical therapy; and VTE, venous thromboembolism.

**Recommendation for Specialty Referral to Advanced HF**

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<tr>
<td>1</td>
<td>1. In patients with advanced HF, when consistent with the patient’s goals of care, timely referral for HF specialty care is recommended to review HF management and assess suitability for advanced HF therapies (e.g., LVAD, cardiac transplantation, palliative care, and palliative inotropes).</td>
</tr>
</tbody>
</table>

Consider if “I-Need-Help” to aid with recognition of patients with advanced HF:

- Complete assessment is not required before referral
- After patients develop end-organ dysfunction or cardiogenic shock, they may no longer qualify for advanced therapies

<table>
<thead>
<tr>
<th>I</th>
<th>Intravenous inotropes</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>New York Heart Association class IIIb or IV, or persistently elevated natriuretic peptides</td>
</tr>
<tr>
<td>E</td>
<td>End-organ dysfunction</td>
</tr>
<tr>
<td>E</td>
<td>EF ≤35%</td>
</tr>
<tr>
<td>D</td>
<td>Defibrillator shocks</td>
</tr>
<tr>
<td>L</td>
<td>Low systolic BP ≤90mmHg</td>
</tr>
<tr>
<td>H</td>
<td>Hospitalizations &gt;1</td>
</tr>
<tr>
<td>P</td>
<td>Prognostic medication; intolerance of GDMT</td>
</tr>
<tr>
<td>E</td>
<td>Edema despite escalating diuretics</td>
</tr>
</tbody>
</table>

**Abbreviations:** BP indicates blood pressure; EF, ejection fraction; GDMT, guideline-directed medical therapy; and LVAD, left ventricular assist device.

Challenges & Barriers to GDMT- (Stage C & D)

- Patients face different personal, disease-related, social determinate barriers to self-care, often precipitating hospitalization.

**MEDICAL BARRIERS:**
- IMPAIRED COG.
- DEPRESSION
- SUBSTANCE USE
- FRAILTY

**SOCIAL DETERMINATES BARRIERS**
- FINANCIAL BURDEN
- FOOD INSECURITY
- HOME INSECURITY

**PERSONAL BARRIERS**
- ENGLISH PROFICIENCY
- HEALTH LITERACY
- SOCIAL SUPPORT
- TRANSPORTATION

**DOMESTIC BARRIERS**
- ELDER ABUSE
- PARTNER VIOLENCE

**Recommendations for Nonpharmacological Interventions: Self-Care Support in HF**

Referenced studies that support the recommendations are summarized in the Online Data Supplements.

<table>
<thead>
<tr>
<th>COR</th>
<th>LOE</th>
<th>RECOMMENDATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>Patients with HF should receive care from multidisciplinary teams to facilitate the implementation of GDMT, address potential barriers to self-care, reduce the risk of subsequent rehospitalization for HF, and improve survival.</td>
</tr>
</tbody>
</table>

Interventions to Overcome Self-Care Barriers

• Consider referral to case-management, social services, dietary counseling, palliative care to support tailored care
• Monitor for mental health needs, depression, cognitive impairment & refer
• Building therapeutic relationship with patient, increase engagement
• Including family/caregivers (if appropriate)
• Refer to education program, disease management program (HF, diabetes, etc), sensitive to culture
• Vouchers for transportation (improve access to care)
• Consider advocating to include SDH information in eHR
• Participation in GWTG reporting

Nayak, Hicks, Morris (2020). Understanding the Complexity of Heart Failure… Circulation: Heart Failure
Transitions of Care: Overcoming Barriers to Guideline Directed Medical Therapy (GDMT)

Kyle G. Lavergne, DNP, APRN, FNP-bc
Vice President Clinical Programs
CenterWell Home Health
Kyle G. Lavergne, DNP, APRN, FNP-BC

Dr. Kyle G. Lavergne is Vice President of Clinical Programs at CenterWell Home Health. Originally from South Louisiana, he earned his bachelor's degree in nursing from The University of Louisiana at Lafayette. He earned his master's degree, with honors, as a family nurse practitioner after completing his studies at Northwestern State University. He then earned his Doctor of Nursing Practice from the University of Louisiana at Lafayette.

Dr. Lavergne is board certified as a Family Nurse Practitioner by the American Nurses Credentialing Center. He practiced as a nurse practitioner for six years in private family practice prior to working with a large group of cardiologists. He is a member of the American Academy of Nurse Practitioners, the Louisiana Association of Nurse Practitioners, where he is a board member and health policy co-chairman.

The recommendations and opinions presented by our guest speakers may not represent the official position of the American Heart Association. The materials are for educational purposes only, and do not constitute an endorsement or instruction by AHA/ASA. The AHA/ASA does not endorse any product or device.
Disclosures

- Kyle G. Lavergne, DNP, APRN, FNP-BC
  - No disclosures
MORRIS

Morris has a 5 year history of HF. Additionally has HTN, hypercholesterolemia, and afib. He resides by himself at home. He has had multiple hospital stays over the past 3 years for HF. He has had difficulty with his treatment regime in the past due to multiple medication changes.
Transitions of Care

A transition of care plan should be communicated prior to discharge (1)

This should include...

1. Early follow-up, ideally within 7 days (Class 2a)
2. Referrals to multidisciplinary HF management programs (Class 1)
3. Participation in benchmarking programs to improve GDMT and quality of care (Class 2a)
4. Addressing precipitating causes and high-risk factors (e.g. co-morbidities and SDOH)
5. Adjusting diuretics
6. Coordination of safety laboratory checks

Abbreviations: GDMT indicates goal-directed medical therapies; HF, heart failure; and SDOH, social determinates of health.

Challenges

• Moving from one silo to another through continuum

• Post-acute care is often “fragmented and siloed” from the rest of the health care system.

  ⇒ This can result in poor coordination of care, higher than normal readmission rates, and suboptimal patient outcomes

• HF treatment is very complex and requires an interdisciplinary team

• Legacy habit of cost shifting unintentionally takes precedence over outcome measurement in the healthcare industry

• Focusing on improving short term financial performance instead of outcome improvement perpetuates cycle of runaway cost for treating chronic diseases

• Financial success for health care professionals ≠ patient success
MORRIS

• Transferred to home with homecare
• Proper HF evaluation/assessment done including:
  • Multi-disciplinary team evaluation
  • Medication reconciliation and discussion on importance, beliefs & concerns
  • Self-care compliance
  • SDOH
  • ADL/IADL evaluation
• Individualized HF care plan initiated
  • Ongoing assessments including remote patient monitoring and virtual visits
  • Care compliance plan
  • Ongoing communication with all clinicians
Optimal Solution

- Develop a robust, standardized method of treating HF patients that includes:
  - Having a specialized HF program
  - Comprehensive HF education
    - Staff
    - Patient/Caregivers
  - Collaboration with clinicians and hospital systems to ensure flawless transitions of care.
  - Close, real-time monitoring of patient
  - Protocols in place to adjust to changes in profile
  - Strict following of evidence-based guidelines
  - Perpetual performance improvement and outcome measurement
Optimal HF System of Care

AHA Certified Heart Failure Home Health

AHA Certified Heart Failure SNF

AHA Certified Heart Failure Palliative/Hospice

American Heart Association, Certified Care™
Home Health Heart Failure

American Heart Association, Certified Care™
Skilled Nursing Facility Heart Failure

American Heart Association, Certified Care™
Palliative/Hospice Heart Failure
Morris gained a thorough understanding of the importance of treatment regime with following:

- Prescribed medications
- Increased activity
- Daily weights
- Modified diet

His EF improved and functional status increased, increasing his overall quality of life. He required community resources to improve his dietary intake and ability to follow his medication regimen. He was discharged from home care after 60 days and has had regular follow-ups with his health care team. He continues to remain at home and has not had a hospital re-admission for the past 9 months.
Resources

Q & A
Guideline: Supporting Materials

- 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure:
- Get With The Guidelines® Heart Failure Infographic
- Top Things to Know: 2022 Guideline for the Management of Heart Failure
- NEW! CardioNerds Podcast Series: Decipher The HF Guidelines
- Executive Summary
- Guideline Slide Set (PDF)
- AHA Clinical Update Slide Set (PPTX)
- Editorial: The Updated Heart Failure Guidelines: Time for a Refresh
- AHA News: New heart failure guidelines expand focus on people at risk or showing early signs
- News Release: ACC, AHA, HFSA Issue Heart Failure Guideline
- Guideline Central: Heart Failure
- Guideline Central: Heart Failure Guidelines 2022 (Flipbook)
ACHIEVEMENT SCORE 85% OR GREATER ON ALL MEASURES

- ACEI/ARB or ARNI at Discharge for Patients with LVSD (AHAHF1)
- Evidence-Based Beta Blocker Prescribed at Discharge (AHAHF2)
- Left Ventricular Function Assessed (AHAHF3)
- Post-Discharge Appointment Scheduled (AHAHF4)

**GOLD**
2 consecutive calendar years

**SILVER**
1 calendar year

**BRONZE**
1 calendar quarter and >30 patients
HOSPITAL RECOGNITION CRITERIA (based on 2022 data)

QUALITY MEASURES + AWARD

*Must achieve Silver or Gold to be eligible

≥75% on at least 4 measures

AHAHF5 - Aldosterone Antagonist Prescribed at Discharge for Patients with HFpEF (LVEF <=35)

AHAHF6 - Angiotensin Receptor-Nephrilisin Inhibitor (ARNI) Prescribed at Discharge

AHAHF7 - Anticoagulation Prescribed at Discharge for Patients with Atrial Fibrillation

AHAHF8 - Cardiac Resynchronization Therapy Defibrillator (CRT-D) or Pacemaker (CRT-P) Placed or Prescribed at Discharge

AHAHF9 - DVT Prophylaxis by End of Hospital Day 2

AHAHF10 - Follow-up Visit Within 7 Days of Discharge

AHAHF11 - Hydralazine/Nitrate at Discharge

AHAHF12 - ICD Counseling, or ICD Placed or Prescribed at Discharge

AHAHF13 - Influenza Vaccine During Flu Season

AHAHF14 - Pneumococcal Vaccine Prior to Discharge

AHAHF15 - Lab Monitoring Follow-up

AHAHF16 - Lab Monitoring Follow-up

AHAHF17 - Quadruple Medication Therapy at Discharge for Patients with HFpEF

AHAHF18 - SGLT2 Inhibitor at Discharge for Patients with HFpEF

AHAHF19 - Defect-Free Care for Quadruple Therapy Medication for Patients with HFpEF

AHAHF20 - DOAC at Discharge for Heart Failure with Non-Valvular Atrial Fibrillation or Atrial Flutter Patients

AHAHF21 - Mineralocorticoid Receptor Antagonist at Discharge for Patients with HFpEF (LVEF <=40)

TARGET: HEART FAILURE

≥50% on ALL measures

AHAHF1 - ACEI/ARB or ARNI at Discharge for Patients with Left Ventricular Systolic Dysfunction

AHAHF2 - Evidence-Based Beta Blocker Prescribed at Discharge

AHAHF3 - Aldosterone Antagonist Prescribed at Discharge for Patients with HFpEF (LVEF <=35)

AHAHF4 - Follow-up Visit Within 7 Days of Discharge

AHAHF5 - Referral to HF Disease Management, 60 Minutes Patient Education, HF Interactive Workbook, or Referral to Outpatient Cardiac Rehabilitation Program

December 2022 | www.Heart.org/quality

HFRecognition-2023-122022_updated (heart.org)
AHA Guidelines On-The-Go Mobile App

Access guidelines on your mobile device anytime, anywhere! Download the association's mobile app today and enjoy the benefits of staying up-to-date no matter where you are. Actionable at the point of care, users will be able to retrieve relevant pieces of content while also having access to additional support detail and evidence.

For Android  
For iOS  

To download Guidelines on an Android CLICK HERE  
To download Guidelines to an iOS CLICK HERE
Downloadables and Interactive Resources

- Discharge Packet (PDF) | Spanish (PDF)
- HF Helper: An app that helps you manage heart failure
- My HF Guide: Our free interactive workbook
- Symptom Tracker (PDF) | Spanish (PDF)
- HF and Your Ejection Fraction Explained (PDF) | Spanish (PDF)
- How Can I Improve My Low Ejection Fraction? (PDF)
- Medication Tracker (PDF)
- Discussion Guide (PDF) - Make the most out of your next appointment
- Partnering in Your Treatment: Questions to Ask Your Doctor (PDF)
- Patient Information Sheets
  - What is Heart Failure? (PDF) | Spanish (PDF)
  - How Can I Live with Heart Failure? (PDF) | Spanish (PDF)
  - What is Transthyretin Amyloid Cardiomyopathy (ATTR-CM)? (PDF)
- Support Network online community
## Evidence Gaps and Future Research Directions

**Common issues that should be addressed in future clinical research**

### Definitions

| Cardiomyopathies | Myocardial injury | Ejection fraction ranges |

### Screening

| Cost effectiveness | Predict higher risk patients based on comorbidities |

### Diagnostics & monitoring

| Treatment based on etiology | Using biomarkers to optimize therapy |

### Nonmedical strategies

| Dietary intervention | Efficacy and safety of cardiac rehab |

### Medical therapies

| See complete list in Table 33 of guideline document |

### Device Management and Advanced Therapies

| Timely selection for invasive therapies | Interventional approach to tachyarrhythmias |

### Clinical outcomes

| Impact of therapy in patient-reported outcomes | Addressing patient goals according to disease trajectory |

### Systems of Care and SDOH

| Multidisciplinary care models | Eliminating disparities | Palliative care |

### Comorbidities

| Atrial fibrillation and Valvular heart disease | Comorbidities and obesity |

### Future/Novel strategies

| Pharmacologic therapies | Device therapy |

### Abbreviations:

SDOH indicates social determinates of health.

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Thank You