



## Symptom and Activity Level Assessment (Outpatient Setting)

### Guideline Recommended Practice

In general, patients with LV dysfunction or HF present to the healthcare provider in 1 of 3 ways:

- 1. Decreased exercise tolerance.**
  - Complaints of tolerance reduction due to dyspnea and/or fatigue on exertion.
- 2. Fluid retention.**
  - Complaints of leg or abdominal swelling, difficulty lying flat, or weight gain as primary or only symptom.
- 3. With no symptoms or symptoms of another cardiac or non-cardiac disorder.**

#### Assessing Symptom and Activity Level

**Recording NYHA Class should occur at each office visit** to quantify the degree of functional limitation imposed by HF.

#### New York Heart Association (NYHA) Classifications

NYHA Class	Symptoms
I	No limitation of physical activity. Ordinary physical activity (e.g., walking, climbing stairs) does not cause symptoms of HF.
II	Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in symptoms of HF.
III	Marked limitation of physical activity. Comfortable at rest, but less than ordinary activity, e.g. walking short distances (20-100 yards), causes symptoms of HF.
IV	Unable to carry on any physical activity without symptoms of HF, or, symptoms of HF at rest.

### Performance Measure Reporting

#### What's Being Measured

Percentage of all patient visits,  $\geq 18$  years of age with a diagnosis of heart failure, which have documented quantitative results of current activity level and clinical symptoms evaluations.

#### How to Satisfy this Measure

Document the results of both the *current activity level* and *clinical symptoms* of your HF patients ( $\geq 18$  years) at each office visit.

Exceptions are made for those with documentation of medical reason(s) for not evaluating both components (eg, severe cognitive or functional impairment).

**For registry users**, documentation must include assignment of a New York Heart Association (NYHA) Class: NYHA Class I, NYHA Class II, NYHA Class III, or NYHA Class IV (see table on the left).

**Non-registry users** must provide either NYHA Class assignment OR the completion of a valid, reliable, disease-specific instrument, such as:

- [Kansas City Cardiomyopathy Questionnaire](#)
- [Minnesota Living with Heart Failure Questionnaire](#)
- [Chronic Heart Failure Questionnaire](#)



## Left Ventricular Ejection Fraction (LVEF) Assessment (Outpatient Setting)

### Guideline Recommended Practice

#### Conducting LV EF Assessment

**Two-dimensional echocardiogram coupled with Doppler flow studies should be performed during initial evaluation of patients presenting with HF** to assess LVEF, left ventricular size, wall thickness, wall motion, and valve function. Radionuclide ventriculography can be performed to assess LVEF and volumes.

#### Four fundamental questions must be addressed:

1. Is the LV ejection fraction (EF) preserved or reduced?
2. Is the structure of the LV normal or abnormal?
3. Are there other structural abnormalities such as valvular, pericardial, or right ventricular abnormalities that could account for the clinical presentation?
4. Is there an identifiable cause or suggestion for the cause of heart failure (i.e. ischemia, restrictive, infiltrative, etc.)?

#### This information should be quantified with:

- Numerical estimate of EF
- Measurement of ventricular dimensions and/or volumes
- Measurement of wall thickness
- Evaluation of chamber geometry and regional wall motion

### Performance Measure Reporting

#### What's Being Measured

Percentage of your patients,  $\geq 18$  years of age with a diagnosis of heart failure that has documentation within the last 12 months of an LVEF assessment.

#### How to Satisfy this Measure

Document at least once within a 12 month period the LVEF assessment of all patients  $\geq 18$  years with a diagnosis of HF.

Documentation in a progress note can be the results of a recent or prior (any time in the past) LVEF assessment.

Documentation may be quantitative (ejection fraction value) or qualitative (e.g., "moderate dysfunction" or visually estimated ejection fraction).

Qualitative results should correspond to the numeric equivalents as follows:

- Hyperdynamic = LVEF greater than 70%
- Normal = LVEF 50% to 70% (midpoint 60%)
- Mild dysfunction = LVEF 40% to 49% (midpoint 45%)
- Moderate dysfunction = LVEF 30% to 39% (midpoint 35%)
- Severe dysfunction = LVEF less than 30%



## Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (Outpatient and Inpatient Setting)

### Guideline Recommended Practice

#### Prescribing ACE/ARB Therapy

**Angiotensin converting enzyme inhibitors (ACEs) should be prescribed to all patients with current or prior symptoms of HF due to LV systolic dysfunction with reduced LVEF unless contraindicated or have shown intolerance to this drug treatment.** Angiotensin Receptor Blockers (ARBs) are now considered a reasonable alternative to ACEs, particularly in patients with intolerance to ACEs.

#### Key points

- ACE therapy has a favorable effect on survival. Treatment should not be delayed until patient is found to be resistant to other drug therapy.
- Data suggests there are no differences among available ACEs in their effects on symptoms or survival. Treatment with an ACE inhibitor should be initiated at low doses, followed by gradual dose increments if lower doses have been well tolerated.
- ACEs are generally used together with a beta blocker.
- ACE treatment should not be prescribed without diuretics in patients with current or recent history of fluid retention.
- ACEs are often preferred over ARBs because of greater evidence in support of their effectiveness.
- ARBs should be used in patients with HF who are ACE inhibitor intolerant. An ARB may also be used as an alternative to an ACE inhibitor in patients who are already taking an ARB for another reason, such as hypertension, and who subsequently develop HF.

#### ACE or ARB treatment should not be prescribed to patients who:

- Have experienced life-threatening adverse reactions (angioedema or anuric renal failure) during previous exposure to the drug.
- Are pregnant or plan to become pregnant in the near future. ACE-I treatment should be discontinued immediately when pregnancy is known.
- Are at immediate risk of cardiogenic shock.

### Performance Measure Reporting

#### What's Being Measured

Percentage of patients  $\geq 18$  years of age diagnosed with heart failure, with current or prior LVEF  $< 40\%$ , that were prescribed ACE inhibitor or ARB therapy either *within a 12 month period when seen in the outpatient setting or from hospital discharge.*

#### How to Satisfy this Measure

Prescribe\* and document ACE inhibitor or ARB therapy for patients  $\geq 18$  years with HF who have a current or prior LVEF  $< 40\%$ .

OR

Document contraindication(s) to ACE/ARB. At least one of these exceptions must be documented in the patient record lieu of prescription, if they apply:

- Medical reason(s) for not prescribing ACE/ARB therapy
  - For example: hypotensive patients at immediate risk of cardiogenic shock; hospitalized patients who have experienced marked azotemia; patients who have demonstrated life-threatening adverse reactions to the drug
- Patient reason(s) for not prescribing ACE/ARB therapy
- System reason(s) for not prescribing ACE/ARB therapy
  - For example: not covered by insurance plan

\*Prescribed may include prescription given to the patient for ACE inhibitor or ARB therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB therapy as documented in current medication list.

**SPECIAL NOTE:** This measure is paired with performance measure “Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction”. They must be implemented together.



## Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (Outpatient and Inpatient Setting)

### Guideline Recommended Practice

**Prescribing Beta Blocker therapy to patients with LV Systolic Dysfunction**  
**Use of 1 of the 3 beta blockers proven to reduce mortality is recommended for all stable patients with current or prior symptoms of heart failure and reduced LVEF.**

Unless contraindicated, patients with LV systolic dysfunction should be treated with one of the three following beta-blockers:

- carvedilol\*
- sustained-release metoprolol (succinate)
- bisoprolol

#### **Beta blocker treatment should be initiated:**

- At very low doses and gradually increased if lower doses are well tolerated.
- As soon as LV dysfunction is diagnosed.

#### **Beta blocker treatment should not be:**

- Prescribed without diuretics in patients with current or recent history of fluid retention.
- Prescribed to patients with higher degree AV heart block, and should be used with caution in those with second degree AV block.
- Prescribed for initiation in patients with acute HF symptoms or decompensated HF.
- (If a non-cardioselective beta blocker (e.g., carvedilol)), prescribed to patients with significant asthma or bronchostriction, especially if with a positive methacholine challenge.

\*Both the immediate-release and extended-release carvedilol may be prescribed for heart failure.

### Performance Measure Reporting

#### **What's Being Measured**

Percentage of patients  $\geq 18$  years of age diagnosed with heart failure, with a current or prior LVEF  $< 40\%$ , who were prescribed beta-blocker therapy *within a 12 month period* from when seen either in the outpatient setting or at hospital discharge.

#### **How to Satisfy this Measure**

Prescribe\* and document beta-blocker therapy of either carvedilol sustained release metoprolol succinate, or bisoprolol for patients  $\geq 18$  years with HF who have a current or prior LVEF  $< 40\%$ .

OR

Document contraindication(s) to beta-blocker. At least one of these exceptions must be documented in the patient record lieu of prescription, if they apply:

- Medical reason(s) for not prescribing beta-blocker therapy
  - For example: low blood pressure, fluid overload, volume depletion, asthma, recently treated with intravenous positive inotropic agent
- Patient reason(s) for not prescribing beta-blocker therapy
- System reason(s) for not prescribing beta-blocker therapy
  - For example: not covered by insurance plan

\*Prescribe may include prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list

**SPECIAL NOTE:** This measure is paired with performance measure "Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction".  
They must be implemented together.



## Patient Self-Care Education (Outpatient Setting)

### Guideline Recommended Practice

#### Providing Self-Care Education

**Patients at high risk for developing heart failure should be counseled to**

- **implement those behaviors that facilitate self-care, e.g.,**
  - monitor symptoms and weight fluctuations
  - take medications as prescribed
  - stay physically active
  - seek social support
  - change to a healthier lifestyle with an improved diet and exercise
- **avoid behaviors that may increase the risk of heart failure, e.g.,**
  - smoking
  - excessive alcohol consumption and illicit drug use
  - use of non-steroidal anti-inflammatory drugs
  - noncompliance with medical regimen
  - high salt and/or processed food binges

#### Sodium Restriction

Sodium restriction is a reasonable recommendation to improve symptoms in patients with symptomatic HF. Exact restriction levels are unclear, with recommendations differing across organizations. Overall however, patients should be counseled to reduce sodium in their diets, especially from processed foods.

### Performance Measure Reporting

#### What's Being Measured

Percentage of patients  $\geq 18$  years of age diagnosed with heart failure who were provided self-care education **on three or more elements of education** during one or more visits *within a 12 month period*.

#### How to Satisfy this Measure

Provide education on 3 or more self-care elements to all HF patients  $\geq 18$  years AND to document that the education was provided.

Self-care education elements may include, but are not limited to, the following:

- Definition of heart failure (linking disease, symptoms, and treatment) and patient's HF cause
- Recognition of escalating symptoms and concrete plan for response to particular symptoms
- Indications and use of each medication (stressing that the medications work together to improve outcomes)
- Modify risks for heart failure progression
- Specific diet and fluid restriction recommendations
- Individualized low-sodium diet
- Recommendation for alcohol intake
- Specific activity/exercise recommendations
- Importance of treatment adherence and behavioral strategies to promote adherence
- Importance of monitoring weight daily at home
- Avoidance of tobacco and/or illicit drugs



## Drugs Commonly Used for the Treatment of Patients with Heart Failure with Reduced Ejection Fraction

Drug	Initial Daily Dose(s)*	Maximum Daily Dose(s)
<b>ACE Inhibitors</b>		
Captopril	6.25 mg 3 times	50 mg 3 times
Enalapril	2.5 mg twice	10 - 20 mg twice
Fosinopril	5 – 10 mg once	40 mg once
Lisinopril	2.5 - 5 mg once	20 - 40 mg once
Perindopril	2 mg once	8- 16 mg once
Quinapril	5 mg twice	20 mg twice
Ramipril	1.25 - 2.5 mg once	10 mg once
Trandolapril	1 mg once	4 mg once
<b>Angiotensin Receptor Blockers</b>		
Candesartan	4 - 8 mg once	32 mg once
Losartan	25 - 50 mg once	50 - 150 mg once
Valsartan	20 - 40 mg twice	160 mg twice
<b>Aldosterone Antagonists</b>		
Spironolactone	12.5 - 25 mg once	25 mg once or twice
Eplerenone	25 mg once	50 mg once
<b>Beta Blockers</b>		
Bisoprolol	1.25 mg once	10 mg once
Carvedilol	3.125 mg twice	50 mg twice
Carvedilol CR	10 mg once	200 mg once
Metoprolol succinate extended release (Metoprolol CR/XL)	12.5 - 25 mg once	200 mg once
<b>Hydralazine and isosorbide dinitrate</b>		
Fixed-dose combination	37.5 mg hydralazine/20 mg isosorbide dinitrate 3 times daily	75 mg hydralazine/40 mg isosorbide dinitrate 3 times daily
Hydralazine and isosorbide dinitrate	<i>Hydralazine:</i> 25-50 mg, 3 or 4 times daily <i>and isosorbide dinitrate:</i> 20-30 mg 3 or 4 times daily	<i>Hydralazine:</i> 300 mg daily in divided doses and <i>isosorbide dinitrate:</i> 120 mg daily in divided doses

ACE indicates angiotensin-converting enzyme; ARB, angiotensin-receptor blocker; CR, controlled release; CR/XL, controlled release/extended release; HFrEF, heart failure with reduced ejection fraction; and N/A, not applicable.

\*ACE/ARB therapy requires individual titration. These are recommended doses for initiation of therapy.

Note: ACE = angiotensin converting enzyme; kg = kilograms; mg = milligrams

Source: Yancy CW, Jessup M, Bozkurt B, et al. 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013;62(16):e147-e239. doi:10.1016/j.jacc.2013.05.019.. Available at: <http://content.onlinejacc.org/article.aspx?articleid=1695825>



## PATIENT COMMUNICATION TIPS

### Provide quality education and self-management plans to your patients

Providing a tailored education session on self-care for your patients, based on their personal capabilities, habits, and beliefs, may increase the likelihood of adherence to your treatment plan.

This reference document will guide you on *how* to convey important aspects of living with HF and self-care information to your patients. It suggests positive approaches for communicating this information to patients and is not a substitute for comprehensive patient-education hand-out material.

#### Step 1: Establish a clear routine to ensure delivery

Education about self-care should occur during the **first visit** when a patient is diagnosed with HF and be repeated regularly in subsequent visits to ensure that self-management is occurring.

Decide **who** in your practice (this can be more than one person) will present this information to patients and **when** during their visits. It may take at least 20 minutes to cover all aspects.

Be sure to document the treatment plan for symptom management for your patients, and make sure they understand what you've told them.

#### Step 2: Connect your treatment plan to the patient's goals and beliefs.

Talk to your patients. Ask about their:

##### Feelings

- What does the diagnosis of heart failure mean to you?
- What do you feel will be some of the challenges of living with heart failure?

##### Commitment

- How do you want to spend your time in the next 3 to 6 months?
- Are you willing to take medications to help you do that?
- Are you willing to modify your diet and exercise habits?
- Are you willing to record your weight on a daily basis?

##### Challenges

- What interferes with your ability to make changes and stick to them?
- Would the cost of medications get in the way of taking them regularly?

##### Motivators

- Do you have family, friends, or a community organization available if you need help?
- What are your goals? (eg, celebrate my 50th anniversary, play golf with my friends)



**Step 3: Provide the basic education components for their self-management.**

- Definition of heart failure (linking disease, symptoms, and treatment) and patient's HF cause
- Recognizing signs and symptoms of a worsening condition and how to respond to them
- Indications and use of each medication (stressing that the medications work together to improve outcomes. For example ACE/ARB, beta-blockers, and diuretics can be used for blood pressure management, and they improve overall heart function.)
- How to modify risks for heart failure progression
- Specific diet and fluid restriction recommendations, including the importance of a low-sodium diet ( $\leq 1500$  mg per day)
- The importance of monitoring one's weight on a daily basis
- The benefits of exercise and examples of activities
- Importance of treatment adherence and behavioral strategies to promote adherence
- Recommendations for alcohol intake
- Avoidance of tobacco and/or illicit drugs
- Avoidance/limited use of NSAIDs

**Step 4: Help your patients set realistic goals to achieve their longer-term goals**

<b>Your Guidance on Goals</b>	<b>Examples for Your Patients</b>
<b>Focus recommendations on immediate behavior changes rather than long-term goals</b>	<b>Exercising every day, rather than losing 10 pounds in a month</b>
<b>Provide examples of activities that count as exercise and ask which they might enjoy</b>	<b>Light exercises:</b> walking, gardening, playing darts, bowling, calisthenics, yoga
	<b>Moderate exercises:</b> speed walking, swimming, dancing
<b>Guide the patient to one or two small, realistic changes he/she can begin immediately</b>	<b>Buy sodium-free foods</b>
	<b>Walk 10-20 minutes each day</b>
<b>Encourage the patient to create goals that involve positive action</b>	<b>Use lemon juice or herbs instead of salt for seasoning</b>
	<b>Have spouse, friend, or child join you for a walk or other activity</b>

**Step 5: Help your patients stay on track with their goals.**

- Remind patients that treatment can help them reach their stated goals
- Make the recommended treatment plan clear, concrete, simple, and understandable
- At each visit, ask patients to describe the actions they will begin immediately
- Have patients tell you why those actions are important
- Update treatment plan as patients introduce lifestyle changes in their daily routine
- Watch for signs of depression and adjust treatment accordingly
- Refer patients to cardiac rehabilitation when helpful