



# Michigan Quality Improvement Consortium Guideline

## Management of Adults with Chronic Heart Failure

The following guideline recommends diagnostic evaluation, pharmacologic treatment and education that support effective patient self-management.

Eligible Population	Key Components	Recommendation and Level of Evidence
Adults with suspicion of left-ventricular systolic dysfunction, including heart failure	Evaluation	<p><u>Initial assessment should include:</u></p> <ul style="list-style-type: none"> <li>♦ Thorough history and physical examination [C] including consideration of obstructive sleep apnea</li> <li>♦ Chest x-ray [C]</li> <li>♦ 12 lead electrocardiogram [C]</li> <li>♦ Laboratory tests and other studies should include: lipid profile, CBC, serum electrolytes, calcium, magnesium, BUN, creatinine, blood glucose, liver function tests, TSH, urinalysis [C]</li> <li>♦ Two-dimensional echocardiography with Doppler or radionuclide ventriculography [C]</li> <li>♦ Assessment for coronary artery disease and risk factors</li> <li>♦ Serial monitoring should include: weight, volume status, electrolytes, renal function and activity tolerance</li> </ul>
Adults diagnosed with left-ventricular systolic dysfunction, including heart failure	Pharmacological Management	<p><u>Drugs recommended for routine use:</u></p> <ul style="list-style-type: none"> <li>♦ ACE inhibitors in all patients, unless contraindicated<sup>1</sup> [A]</li> <li>♦ Recommend beta-blockers (carvedilol, sustained-release metoprolol, bisoprolol) in all stable patients, unless contraindicated<sup>1,2</sup> [A]</li> </ul> <p><u>Drugs recommended for use in select patients:</u></p> <ul style="list-style-type: none"> <li>♦ Diuretics and sodium restriction for evidence of fluid retention [A]</li> <li>♦ Spironolactone for patients with severe symptoms of heart failure, preserved renal function and normal potassium concentration [A]</li> <li>♦ In patients who cannot tolerate ACE inhibitors due to cough or angioedema, angiotensin receptor blockers (ARBs) are recommended [A]</li> <li>♦ In patients who cannot tolerate ACE inhibitors or ARBs due to angioedema, hypotension or renal insufficiency; hydralazine and nitrate combination is recommended [A]</li> <li>♦ African-American patients may be candidates for adding the combination of hydralazine and isosorbide dinitrate [A]</li> </ul>
	Education, counseling and risk factor modification	<p><u>Educate patient/family regarding:</u></p> <ul style="list-style-type: none"> <li>♦ Daily self-monitoring of weight and adherence to recommended patient action plan</li> <li>♦ Recognition of symptoms and when to seek medical attention</li> <li>♦ Moderate dietary sodium restriction (e.g., 2000 - 2500 mg sodium/day)</li> <li>♦ Risk factor modification (regular exercise 3 times per week as tolerated [B]; smoking cessation; control of BP, DM, lipids, etc.)</li> <li>♦ Avoid excessive alcohol intake, illicit drug use, and the use of NSAIDS</li> <li>♦ Vaccination against influenza and pneumococcal disease</li> </ul>

<sup>1</sup> Contraindications include: life-threatening adverse reactions (angioedema or anuric renal failure), pregnancy, hypotensive patients at immediate risk of cardiogenic shock, systolic blood pressure < 80 mm Hg, serum creatinine > 3 mg/dL, bilateral renal artery stenosis, or serum potassium > 5.5 mmol/L.

<sup>2</sup> Contraindications include: patients with current or recent fluid retention history, unstable or poorly controlled reactive airway disease, symptomatic bradycardia or advanced heart block (unless treated with a pacemaker), or recent treatment with an intravenous positive inotropic agent.

**Levels of Evidence for the most significant recommendations:** A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel

This guideline lists core management steps. It is based on the ACC/AHA 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (www.acc.org). Individual patient considerations and advances in medical science may supersede or modify these recommendations.