Michigan Quality Improvement Consortium Guideline

Adults with Systolic 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	Initial assessment should include: ◆ Thorough history and physical examination **[B]** ◆ Depression screening ◆ Assessment for coronary artery disease and risk factors ◆ Chest X-ray **[B]** ◆ 12-lead electrocardiogram **[B]** ◆ Lipid profile, CBC, electrolytes, calcium, magnesium, BUN, creatinine, blood glucose, liver function tests, TSH, urinalysis **[B]** ◆ Two-dimensional echocardiography with Doppler **[B]** ◆ Serial monitoring should include: weight, volume status, electrolytes, renal function and activity tolerance.
Adults diagnosed with left-ventricular systolic dysfunction, including heart failure	Pharmacological management	Drugs recommended for routine use: ◆ ACE inhibitors in all patients, unless contraindicated[1] **[A]** ◆ Recommend beta-blockers (carvedilol, sustained-release metoprolol, bisoprolol) in all stable patients, unless contraindicated[1,2] **[A]** Drugs recommended for use in select patients: ◆ Diuretics and sodium restriction for evidence of fluid retention **[A]** ◆ Spironolactone for patients with moderate or severe symptoms of heart failure, preserved renal function (creatinine < 2.0 in women; creatinine < 2.5 in men) and normal serum potassium concentration **[B]** ◆ In patients who cannot tolerate ACE inhibitors due to cough or angioedema, angiotensin receptor blockers are recommended **[A].** ◆ In patients who cannot tolerate ACE inhibitors or ARBs due to angioedema or renal insufficiency; hydralazine and nitrate combination is recommended **[C].** ◆ African-American patients who remain symptomatic despite therapy with ACE inhibitors, beta-blockers and PRN diuretics, may be candidates for adding the combination of hydralazine and isosorbide dinitrate **[A].**
	Education, counseling and risk factor modification	Educate patient and family regarding: ◆ Daily self-monitoring of weight and adherence to recommended patient action plan ◆ Recognition of symptoms and when to seek medical attention ◆ Moderate dietary sodium restriction (e.g., 2,000-3,000 mg sodium/day) ◆ Risk factor modification (regular exercise 5 times per week as tolerated; smoking cessation; control of BP, DM, lipids) ◆ Avoid excessive alcohol intake, illicit drug use, and the use of NSAIDS [B] ◆ Vaccination against influenza and pneumoccocal disease [B]

[1] 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.

[2] 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, clinical trials; B = cohort and case-controlled studies; C = expert opinion

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.

Approved by MQIC Medical Directors 01/09 **www.mqic.org** **Reviewed and Approved by Priority Health 04/2009**