



CHRONIC HEART FAILURE IN ADULTS CLINICAL PRACTICE GUIDELINES

Risk Intervention	Recommendations
Objective	To assist health care providers in decision making by describing a range of accepted approaches for the prevention, diagnosis, and treatment of heart failure in adults.
Target Population	Adults with chronic heart failure and at high risk of developing heart failure.
Goals	<ul style="list-style-type: none"> ▪ Minimize daily symptoms and recurrent exacerbations. ▪ Minimize need for emergent care and hospitalization. ▪ Provide optimal pharmacotherapy with no or minimal side effects. ▪ Prolong quality functioning status
Medication Reconciliation	<p>Accurately and completely reconcile all medications patient is taking across the continuum.</p> <p><i>(National Patient Safety Goal)</i></p>
Diagnosis	A diagnosis of COPD should be considered in any patient who has cough, sputum production, or dyspnea, and/or a history of exposure to risk factors objective for disease.
History and Physical Exam	<p>A thorough history and physical exam to include:</p> <ul style="list-style-type: none"> ▪ History of alcohol and drug abuse ▪ Orthostatic blood pressure changes ▪ Weight and height ▪ Calculation of body mass index ▪ Depression screening and education ▪ Determining HF stage and NYHA class during assessment
Diagnostic Testing	<p>Laboratory testing:</p> <ul style="list-style-type: none"> ▪ Complete blood count ▪ Urinalysis ▪ Serum electrolytes to include calcium and magnesium

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	<ul style="list-style-type: none"> ▪ BUN ▪ Serum creatinine ▪ Fasting blood glucose ▪ Lipid profile, ▪ Liver function tests ▪ TSH ▪ Iron studies, ferritin level (if indicated) ▪ 12 lead EKG ▪ Chest X-Ray (PA and Lateral) ▪ 2-D echocardiogram with Doppler flow studies ▪ Coronary arteriography in appropriate patients ▪ Maximal stress testing in appropriate patients ▪ Screening for hemochromatosis, sleep-disturbed breathing, or human immunodeficiency virus in selected patients. ▪ Testing for rheumatologic disease, amyloidosis, or pheochromocytoma, if indicated. ▪ Endomyocardial biopsy, when specific diagnosis suspected that would influence therapy ▪ Holter Monitoring if indicated. ▪ Measurement of B-type natriuretic peptide can be useful in the evaluation of patients presenting in the urgent care setting in who the diagnosis of heart failure is uncertain.
Pharmacologic Management	<ul style="list-style-type: none"> ▪ Diuretics and salt restriction in patients with current or prior symptoms of heart failure and reduce left ventricular ejection fraction who have fluid retention. ▪ Angiotensin converting enzyme (ACE) inhibitors should be prescribed to all patients with heart failure due to left ventricular systolic dysfunction unless contraindicated. They should also be used in patients with a history of MI regardless of ejection fraction or presence of heart failure. It should also be used with a reduced ejection fraction regardless of history of MI. ▪ Beta-adrenergic blockers should be prescribed to all patients with stable heart failure due to left ventricular systolic dysfunctions unless contraindicated. They should also be used in all patients with a history of MI regardless of ejection fraction or presence of heart failure. They are also indicated in patients without an MI who have a reduced ejection fraction. Use of bisoprolol, carvedilol, and sustained release metoprolol is recommended. ▪ Angiotensin receptor blockers should be considered in patients who are intolerant to ACE inhibitors. ▪ Digoxin can be useful for patients with reduced left ventricular ejection fraction to decrease hospitalizations. It can be used with diuretics, ACE inhibitors and beta-blockers but should not be used with significant sinus

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	<p>or atrioventricular block and used cautiously in patients taking other drugs that can depress sinus or AV nodal function, such as amiodarone or a beta-blocker.</p> <ul style="list-style-type: none"> ▪ Aldosterone antagonists, such as spironolactone and eplerenone should be considered in patients on multiple therapies with symptoms at rest. Serum potassium levels should be <5mEq/L and serum creatinine ≤ 2.5 mEq/dl in men or ≤ 2.0 mEq/dl in women before therapy is initiated and levels should be closely monitored. ▪ Hyralazine and nitrates ▪ Infusion of a positive inotropic drug only as palliation for patients with end-stage disease. ▪ Drugs known to exacerbate heart failure <u>should be withdrawn.</u> ▪ Antiarrhythmic agents can cause cardiodepressant and proarrhythmic effects. Only amiodarone and dofetilide <u>do not</u> adversely affect survival. ▪ Calcium channel blockers can lead to worsening heart failure. Only vasoselective ones have been shown not to adversely affect survival. ▪ Nonsteroidal anti-inflammatory drugs can cause sodium retention, peripheral vasoconstriction, and enhance the toxicity of diuretics and ACE inhibitors.
<p>Non-Pharmacologic Management</p>	<ul style="list-style-type: none"> ▪ Coronary revascularization in appropriate patients ▪ Valve replacement or repair surgery in patients with significant valvular disease in appropriate patients. ▪ Placement of implantable cardioverter-defibrillator in appropriate patients. ▪ Cardiac resynchronization therapy in appropriate patients. ▪ Heart transplantation in appropriate patients. ▪ Exercise training ▪ Avoidance counseling for high-risk behaviors, such as smoking, excessive alcohol intake, and drug use. ▪ Counseling regarding end-of-life care and treatment options.
<p>Member Education</p>	<p>Member Education should focus on:</p> <ul style="list-style-type: none"> ▪ Diagnosis ▪ Prognosis ▪ Weight parameters ▪ Self-monitoring of daily weights ▪ Symptoms of worsening heart failure ▪ Dietary recommendations ▪ Fluid intake ▪ Activity ▪ Medication knowledge and compliance. ▪ Limiting alcohol intake

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	<ul style="list-style-type: none"> ▪ Smoking cessation ▪ Sexuality ▪ Sudden cardiac death/implantable devices
End of Life Issues	<ul style="list-style-type: none"> ▪ Patient and family education regarding prognosis is recommended with heart failure at the end of life. ▪ Advance directives are recommended. ▪ Palliation and hospice care are appropriate to relieve suffering. ▪ Aggressive procedures within the final days of life are not appropriate.

Source:

ACC/AHA Guidelines for the Evaluation and Management of Chronic Heart Failure in the Adult, Nov. 2001.

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.

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Stages in the Evolution of Heart Failure

Recommended Therapy by Stage

<u>Stage A</u>	<u>Stage B</u>	<u>Stage C</u>	<u>Stage D</u>
At high risk for heart failure but no structural heart disease or symptoms	Structural heart disease without symptoms of HF	Structural heart disease with prior or current symptoms	Refractory heart failure requiring specialized interventions
Examples: <ul style="list-style-type: none"> ▪ Hypertension ▪ Coronary artery disease ▪ Diabetes Mellitus ▪ Obesity ▪ Metabolic Syndrome ▪ Family history of Cardiomyopathy ▪ Patients using cardiotoxins 	Examples: <ul style="list-style-type: none"> ▪ Previous MI ▪ LV Remodeling Including LVH and Low EF ▪ Asymptomatic valvular disease 	Examples: <ul style="list-style-type: none"> ▪ Known structural heart disease ▪ Symptoms of shortness of breath, fatigue, and decreased exercise tolerance 	Examples: <ul style="list-style-type: none"> ▪ Patients who have marked symptoms at rest despite maximal medical therapy (e.g., those who are recurrently hospitalized or cannot be safely discharged from the hospital without specialized interventions)
Therapies: <ul style="list-style-type: none"> ▪ Treat Hypertension ▪ Encourage smoking cessation ▪ Treat Lipid Disorders ▪ Exercise ▪ Discourage alcohol and illicit drug use ▪ Control Metabolic Syndrome ▪ ACE or ARB in appropriate patients for vascular disease or diabetes 	Therapies: <ul style="list-style-type: none"> ▪ All measures under stage A ▪ ACE or ARB in appropriate patients ▪ Beta-blockers in appropriate patients ▪ Devices in selected patients - Implantable defibrillators 	Therapies: <ul style="list-style-type: none"> ▪ All measures under stage A and B ▪ Dietary salt restriction ▪ Drugs for routine use: Diuretics, ACE inhibitors, Beta-blockers ▪ Drugs in Selected Patients: Aldosterone, ARBs, Digitalis, Hydralazine/nitrates ▪ Devices in Selected Patients: Biventricular Pacing, Implantable defibrillators 	Therapies: <ul style="list-style-type: none"> ▪ All measures under stages A,B, and C. ▪ Decision on the appropriate level of care ▪ Options: Hospice Care ▪ Extraordinary Measures: Mechanical assist devices, heart transplantation, chronic inotropes, experimental surgery or drugs

Source:

American College of Cardiology/American Heart Association Guidelines for the Evaluation and Management of Chronic Heart Failure in the Adult. A report of the ACC/AHA Task Force on Practice Guidelines, 2001-Full text. Page 7. Retrieved from <http://www.acc.org> June 2004.