Management of Congestive Heart Failure

Definition: Heart failure is a common clinical syndrome characterized by dyspnea, fatigue, and signs of volume overload, which may include peripheral edema and pulmonary rales. There is no single diagnostic test for heart failure; therefore, it remains a clinical diagnosis requiring a history, physical examination, diagnostic and laboratory testing. Symptoms of heart failure can be caused by systolic or diastolic dysfunction. Appropriate diagnosis and therapy for heart failure are important given the poor prognosis. Survival is 89.6 percent at one month from diagnosis, 78 percent at one year, and only 57.7 percent at five years.¹

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| A                     | Risk for heart failure, but without structural heart disease or symptoms of heart failure (i.e., patients with hypertension, CAD, DM2, obesity, metabolic syndrome) | • Treat all other disease (i.e., hypertension, diabetes mellitus, hypercholesterolemia, etc.)  
• Encourage smoking cessation  
• Discourage alcohol use  
• Discourage illicit drug use  
• Encourage exercise  
• Drug therapy including ACEI or ARB in appropriate patients with vascular disease and diabetes unless contraindicated. |
| B                     | Risk for heart failure, with structural heart disease but without symptoms of heart failure (i.e., patients with previous MI, left ventricular remodeling including left ventricular hypertrophy and low ejection fraction, asymptomatic valvular disease) | • See Stage A treatment goals  
• Prevent heart failure symptoms  
• Prevent further cardiac remodeling  
• Drug therapy including ACEI or ARB as appropriate unless contraindicated  
• β-Blockers as appropriate unless contraindicated  
• In selected patients, implantable cardioverter-defibrillator (ICD), revascularization or valvular surgery as appropriate |
| C                     | Structural heart disease with prior or current symptoms of heart failure (i.e., patients with known structural heart disease and shortness of breath and fatigue, reduced exercise tolerance) | • See Stage A and B treatment goals  
• Dietary salt restriction  
• Therapies will vary based on preserved vs. reduced ejection fraction  
• Drug therapy may include diuretics for fluid retention  
• For selected patients, consider aldosterone antagonists. ARB, Digitalis, Hydralazine or Nitrates |
| D                     | Refractory heart failure requiring specialized interventions (i.e., patients who have marked symptoms at rest despite maximal medical therapy and those with recurrent hospitalizations despite medical therapy) | • See Stages A,B,C treatment goals  
• Decisions regarding appropriate level of care  
• Other options include compassionate end-of-life care/hospice and extraordinary measures |

ACEI= angiotensin converting enzyme inhibitor; ARB= angiotensin II receptor blocker
Clinical Assessment

- Thorough history and physical examination in patients presenting with HF to identify cardiac and non-cardiac disorders or behaviors that might cause or accelerate the development or progression of heart failure
- History of prescription medications, alternative medicines, chemotherapy drugs, illicit drugs, and alcohol use
- Current daily activities
- Patient’s current daily activities
- Influenza and pneumococcal vaccinations
- Tobacco use
- Volume status and orthostatic blood pressure changes
- Perform measurement of weight, height, and calculation of body mass index

Diagnostic Testing

- Complete blood count, urinalysis, serum electrolytes (including calcium and magnesium), blood urea nitrogen, serum creatinine, glucose, fasting lipid profile, liver function tests, and thyroid-stimulating hormone
- Serial monitoring, when indicated, should include serum electrolytes and renal function
- 12-lead ECG
- Chest radiograph (PA and lateral)
- Two-dimensional echocardiography with Doppler should be performed during initial evaluation of patients presenting with heart failure to assess LVEF, LV size, wall thickness and valve function; Radionuclide entriculography can be performed to assess LVEF and volumes.
- The value of serial measurements of BNP to guide therapy for patients with HF is not well established.
References


2. ACC/AHA 2009 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult

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