

VA/DoD Clinical Practice Guideline for PHARMACOLOGIC MANAGEMENT OF CHRONIC HEART FAILURE

Treatment of HF is based upon the four-stage classification system developed by the ACC/AHA, and should be used in conjunction with the New York Heart Association (NYHA) functional classification that estimates the severity of disease based on patient symptoms.

Four-stage classification system (ACC/AHA)

Stage A: High risk for developing HF, but no structural heart disease.

Stage B: Structural damage to the heart, but no symptoms.

Stage C: Past or current HF symptoms and evidence of structural heart damage.

Stage D: End-stage disease, requiring special interventions.

Functional Classification (NYHA)

- I No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea, or angina
- II Slight limitation of physical activity. Ordinary physical activity results in fatigue, palpitation, dyspnea, or angina
- III Marked limitation of physical activity. Comfortable at rest, but less than ordinary physical activity results in fatigue, palpitation, dyspnea, or angina
- IV Unable to carry on any physical activity without discomfort. Symptoms are present at rest. With any physical activity, symptoms increase

Goals of therapy - Improving symptoms, increasing functional capacity, improving quality of life, slowing disease progression, decreasing need for hospitalization, and prolonging survival.

Management and Follow-up

1. Nonpharmacologic therapy includes abstaining from alcohol and tobacco, limiting dietary sodium, reducing weight if appropriate, exercising regularly, and influenza and pneumococcal vaccinations. Other nonpharmacologic therapies such as automatic implantable defibrillators or cardiac resynchronization therapy should be considered in appropriate patients but are beyond the scope of this document.
2. Risk factor modification should be implemented in **all patients in Stage A-C** to potentially reduce the development of HF.
3. Patients should receive regular follow-up in order to provide the most effective care. At each encounter, an inquiry should be made as to the patient's adherence to the medication regimen, nonpharmacologic measures, and adverse effects to therapy.
4. Patients should be scheduled for routine laboratory monitoring. The patient should also be assessed for any change in functional status or frequency of hospitalizations, and medication therapy should be optimized.

Pharmacologic treatment:

Stage A:

- Evaluate and treat of concomitant cardiac conditions and underlying causes

Stage B:

- Provide post-myocardial infarction (MI) treatment with an angiotensin-converting enzyme inhibitor (ACEI) and beta-adrenergic blocker, regardless of the presence of left ventricular systolic dysfunction, to prevent future development of HF and improve overall survival [A].

Signs/Symptoms	Preferred Treatment
Evidence of left ventricular systolic dysfunction who are without symptoms	ACEI [A] and beta-adrenergic blocker [B] ARB may be used in patients who are ACEI intolerant [A].

Stage C:

- All patients should be treated with an ACEI unless contraindicated or ARB if not tolerated, to improve HF symptoms, functional status, and quality of life, while decreasing frequency of hospitalization and mortality. [A]
- Titrate to target dose or as tolerated
- Add other agent:

Signs/Symptoms	Preferred Treatment
Stable patients (i.e., minimal or no signs of fluid overload or volume depletion and not in an intensive care unit),	A beta-adrenergic blocker that has proven to reduce mortality (i.e., bisoprolol, carvedilol, sustained release metoprolol succinate) in conjunction with an ACEI has been shown to reduce mortality and decrease the symptoms of HF [A].
Signs of fluid overload	A diuretic [B], titrate to euvolemic state
Recent Class IV HF and current Class III or IV symptoms and LVEF < 35%, (with preserved renal function and normal potassium levels) OR LVEF < 40% in patients early post-MI on standard therapy for HF	Consider low dose of an aldosterone antagonist to improves symptoms (as assessed by change in NYHA functional class), decreases hospitalizations for worsening HF, and decreases mortality [A]
Especially in African American patients with NYHA Class III or IV HF, who continue to have symptoms despite therapy with an ACEI and beta-adrenergic blocker	Combination of hydralazine and a nitrate [B]. Considered as an alternative to an ACEI in patients who are unable to tolerate an ACEI (or angiotensin II receptor antagonist) due to hypotension, renal

	insufficiency, hyperkalemia, or possibly, angioedema [C].
Systolic HF	Consider addition of an angiotensin II receptor antagonist to standard therapy (i.e., an ACEI and beta-adrenergic blocker) to decrease cardiovascular death or HF hospitalizations [B]; Routine use of an angiotensin II receptor antagonist, ACEI, and aldosterone antagonist is not recommended.
Continued symptoms despite treatment with an ACEI (or ARB), a beta-blocker, and a diuretic	Digoxin reduces symptoms associated with HF and decreases the risk for hospitalizations due to HF but does not improve mortality [B].

Stage D

- Refer to a cardiologist or appropriate specialist for evaluation and treatment