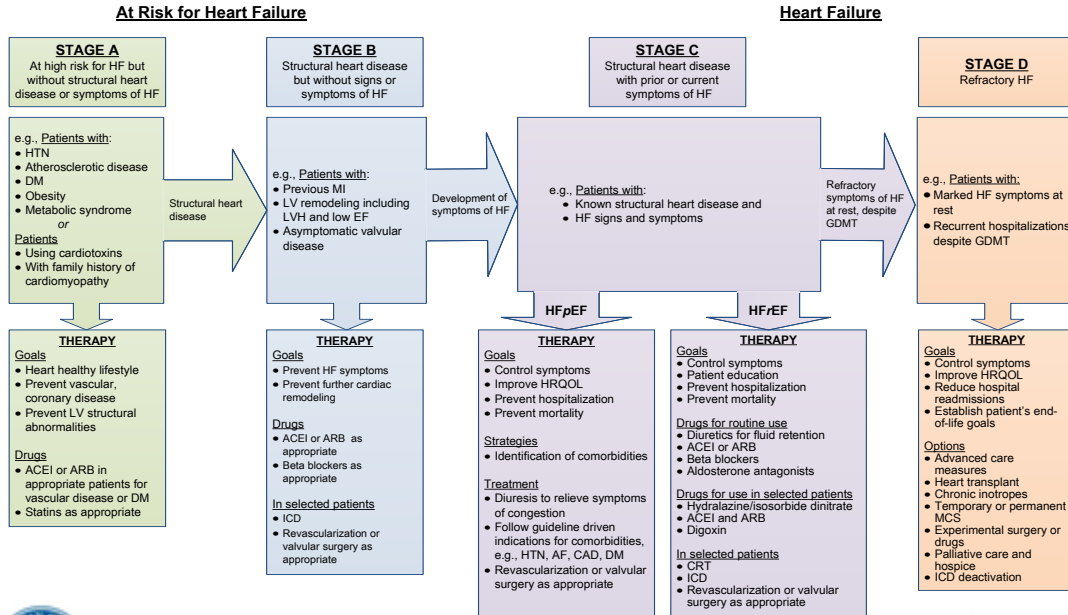


# VCMC/SANTA PAULA HOSPITAL CLINICAL PRACTICE GUIDELINE

## STAGES, PHENOTYPES AND TREATMENT OF HEART FAILURE

The contents of this Clinical Practice Guidelines are to be used as a guide. Healthcare professionals should use sound clinical judgment and individualized patient care. This CPG is not meant to be a replacement for training, experience, CME or studying the latest literature and drug information.

## Stages, Phenotypes and Treatment of HF



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## Recommendations for Treatment of Stage B HF

Recommendations	COR	LOE
In patients with a history of MI and reduced EF, ACE inhibitors or ARBs should be used to prevent HF	I	A
In patients with MI and reduced EF, evidence-based beta blockers should be used to prevent HF	I	B
In patients with MI, statins should be used to prevent HF	I	A
Blood pressure should be controlled to prevent symptomatic HF	I	A
ACE inhibitors should be used in all patients with a reduced EF to prevent HF	I	A
Beta blockers should be used in all patients with a reduced EF to prevent HF	I	C
An ICD is reasonable in patients with asymptomatic ischemic cardiomyopathy who are at least 40 d post-MI, have an LVEF ≤30%, and on GDMT	IIa	B
Nondihydropyridine calcium channel blockers may be harmful in patients with low LVEF	III: Harm	C



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## Therapies in the Hospitalized HF Patient

Recommendation	COR	LOE
HF patients hospitalized with fluid overload should be treated with intravenous diuretics	I	B
HF patients receiving loop diuretic therapy, should receive an initial parenteral dose greater than or equal to their chronic oral daily dose, then should be serially adjusted	I	B
HFrEF patients requiring HF hospitalization on GDMT should continue GDMT unless hemodynamic instability or contraindications	I	B
Initiation of beta-blocker therapy at a low dose is recommended after optimization of volume status and discontinuation of intravenous agents	I	B
Thrombosis/thromboembolism prophylaxis is recommended for patients hospitalized with HF	I	B
Serum electrolytes, urea nitrogen, and creatinine should be measured during the titration of HF medications, including diuretics	I	C



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Recommendation	COR	LOE
When diuresis is inadequate, it is reasonable to a) Give higher doses of intravenous loop diuretics; or b) add a second diuretic (e.g., thiazide)	IIa	B
		B
Low-dose dopamine infusion may be considered with loop diuretics to improve diuresis	IIb	B
Ultrafiltration may be considered for patients with obvious volume overload	IIb	B
Ultrafiltration may be considered for patients with refractory congestion	IIb	C
Intravenous nitroglycerin, nitroprusside or nesiritide may be considered an adjuvant to diuretic therapy for stable patients with HF	IIb	B
In patients hospitalized with volume overload and severe hyponatremia, vasopressin antagonists may be considered	IIb	B



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## Hospital Discharge

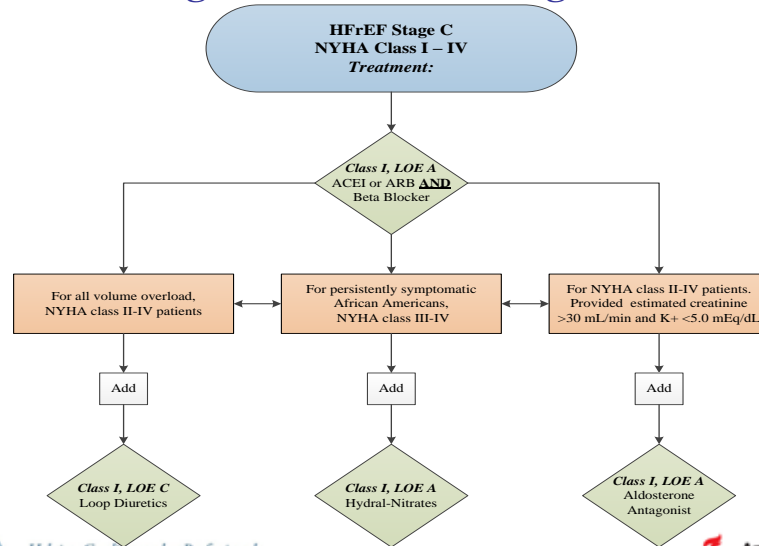
Recommendation or Indication	COR	LOE
Performance improvement systems in the hospital and early postdischarge outpatient setting to identify HF for GDMT	I	B
Before hospital discharge, at the first postdischarge visit, and in subsequent follow-up visits, the following should be addressed: a) initiation of GDMT if not done or contraindicated; b) causes of HF, barriers to care, and limitations in support; c) assessment of volume status and blood pressure with adjustment of HF therapy; d) optimization of chronic oral HF therapy; e) renal function and electrolytes; f) management of comorbid conditions; g) HF education, self-care, emergency plans, and adherence; and h) palliative or hospice care.	I	B
Multidisciplinary HF disease-management programs for patients at high risk for hospital readmission are recommended	I	B
A follow-up visit within 7 to 14 days and/or a telephone follow-up within 3 days of hospital discharge is reasonable	IIa	B
Use of clinical risk-prediction tools and/or biomarkers to identify higher-risk patients is reasonable	IIa	B



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## Pharmacologic Treatment for Stage C HF rEF



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### Medical Therapy for Stage C HF $\neq$ EF: Magnitude of Benefit Demonstrated in RCTs

GDMT	RR Reduction in Mortality	NNT for Mortality Reduction (Standardized to 36 mo)	RR Reduction in HF Hospitalizations
ACE inhibitor or ARB	17%	26	31%
Beta blocker	34%	9	41%
Aldosterone antagonist	30%	6	35%
Hydralazine/nitrate	43%	7	33%



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GDMT for Heart Failure specific to Stage C. This is considered standard of care for outpatient medication and treatment

\* Highlighted items below are in VCMC/SP formulary.

### Drugs Commonly Used for HFÆF (Stage C HF)

Drug	Initial Daily Dose(s)	Maximum Doses(s)	Mean Doses Achieved in Clinical Trials
<b>ACE Inhibitors</b>			
Captopril	6.25 mg 3 times	50 mg 3 times	122.7 mg/d (421)
Enalapril	2.5 mg twice	10 to 20 mg twice	16.6 mg/d (412)
Fosinopril	5 to 10 mg once	40 mg once	-----
Lisinopril	2.5 to 5 mg once	20 to 40 mg once	32.5 to 35.0 mg/d (444)
Perindopril	2 mg once	8 to 16 mg once	-----
Quinapril	5 mg twice	20 mg twice	-----
Ramipril	1.25 to 2.5 mg once	10 mg once	-----
Trandolapril	1 mg once	4 mg once	-----
<b>ARBs</b>			
Candesartan	4 to 8 mg once	32 mg once	24 mg/d (419)
Losartan	25 to 50 mg once	50 to 150 mg once	129 mg/d (420)
Valsartan	20 to 40 mg twice	160 mg twice	254 mg/d (109)
<b>Aldosterone Antagonists</b>			
Spirolactone	12.5 to 25 mg once	25 mg once or twice	26 mg/d (424)
Eplerenone	25 mg once	50 mg once	42.6 mg/d (445)



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Drug	Initial Daily Dose(s)	Maximum Doses(s)	Mean Doses Achieved in Clinical Trials
<b>Beta Blockers</b>			
Bisoprolol	1.25 mg once	10 mg once	8.6 mg/d (118)
Carvedilol	3.125 mg twice	50 mg twice	37 mg/d (446)
Carvedilol CR	10 mg once	80 mg once	-----
Metoprolol succinate extended release (metoprolol CR/XL)	12.5 to 25 mg once	200 mg once	159 mg/d (447)
<b>Hydralazine &amp; Isosorbide Dinitrate</b>			
Fixed dose combination (423)	37.5 mg hydralazine/ 20 mg isosorbide dinitrate 3 times daily	75 mg hydralazine/ 40 mg isosorbide dinitrate 3 times daily	~175 mg hydralazine/90 mg isosorbide dinitrate daily
Hydralazine and isosorbide dinitrate (448)	Hydralazine: 25 to 50 mg, 3 or 4 times daily and isosorbide dinitrate: 20 to 30 mg 3 or 4 times daily	Hydralazine: 300 mg daily in divided doses and isosorbide dinitrate 120 mg daily in divided doses	-----



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