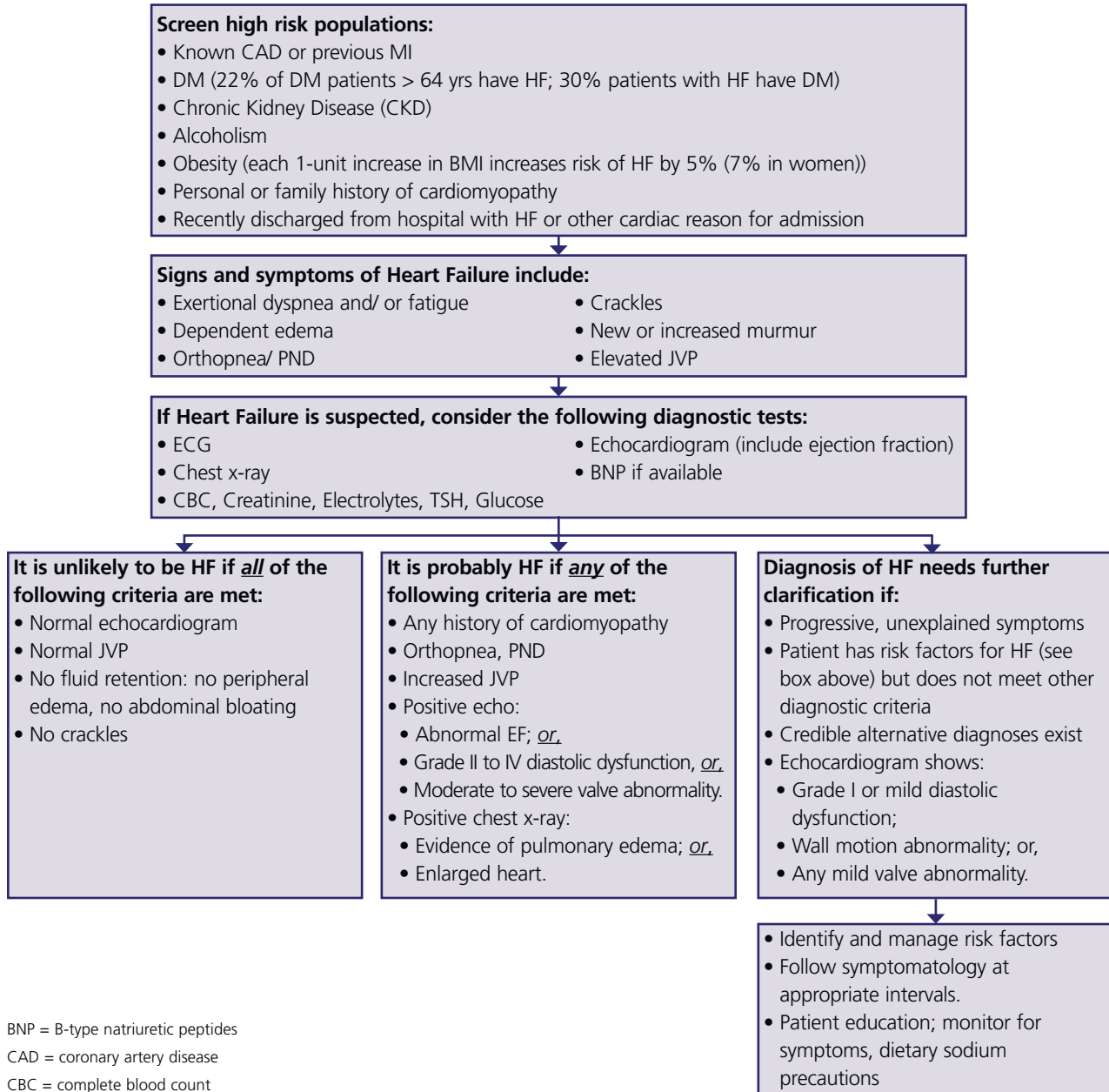




HEART FAILURE

Source: Adapted from Arnold JMO, Liu P, Demers C, et al. Canadian Cardiovascular Society Consensus conference recommendations on heart failure 2006: Diagnosis and management. Can J Cardiol 2006;22(1):23-45.³⁵

DIAGNOSIS OF HEART FAILURE



BNP = B-type natriuretic peptides
 CAD = coronary artery disease
 CBC = complete blood count
 DM = Diabetes Mellitus
 ECG = electrocardiogram
 EF = ejection fraction
 HF = heart failure
 JVP = jugular venous pressure
 MI = myocardial infarction
 PND = paroxysmal nocturnal dyspnea
 TSH = thyroid stimulating hormone

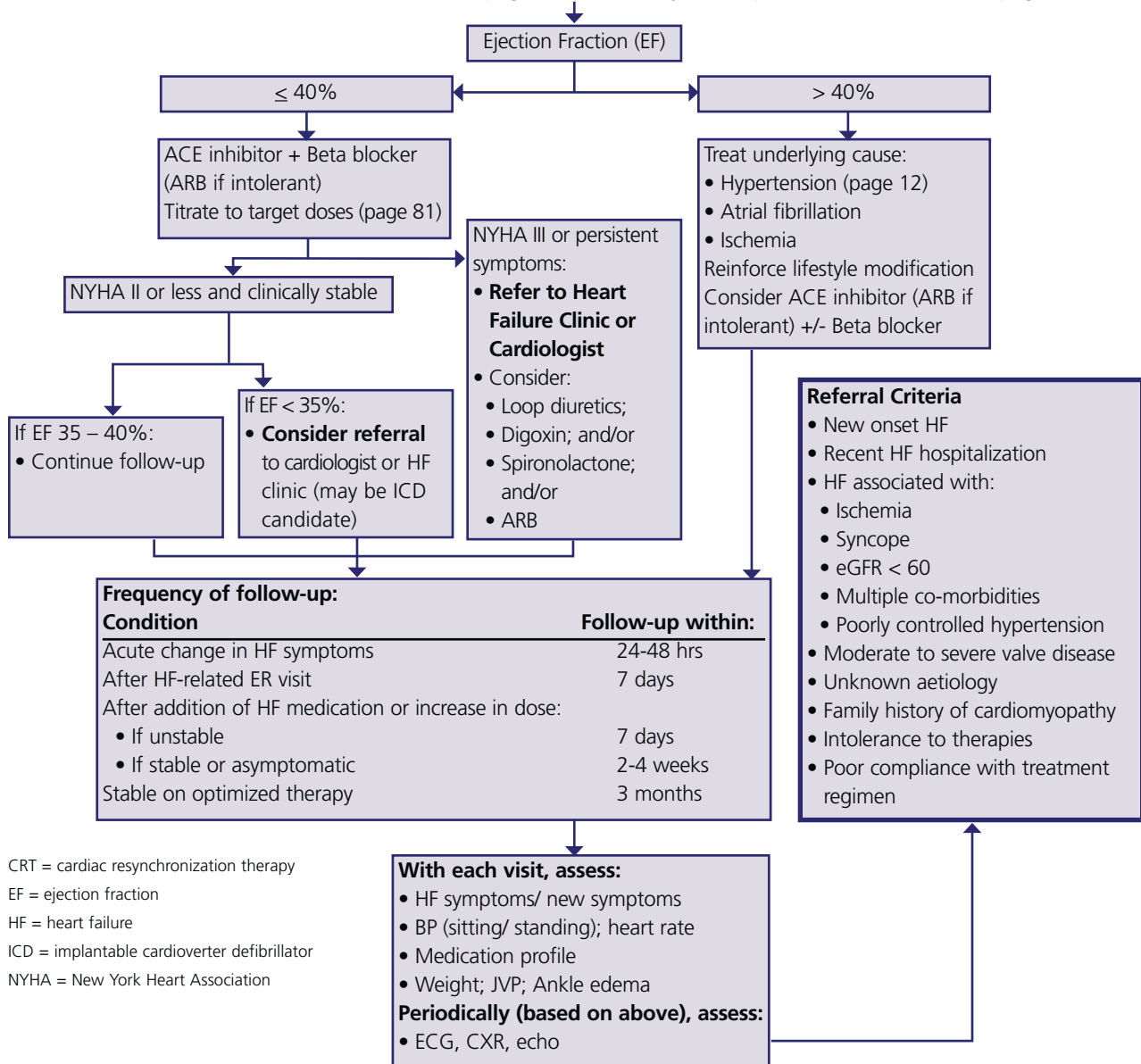


HEART FAILURE MANAGEMENT

All patients with Heart Failure require self-management education which includes the following:

<p>Warning Signs and Symptoms</p> <ul style="list-style-type: none"> • Dyspnea; when flat, during sleep, with less exertion • Fatigue with less exertion • Symptoms at rest • Sudden weight gain • Lightheaded/ faint • Prolonged palpitations 	<p>Lifestyle</p> <ul style="list-style-type: none"> • Eliminate added salt and ↑ sodium foods • Avoid pushing oral fluids • Weight daily if fluid retention • Attain BMI: 18.5 – 24.9 kg/m² or aim for 5 – 10% weight loss • Engage in regular tolerated activity • Quit smoking • Manage cardiovascular risk factors: <ul style="list-style-type: none"> • Hypertension • Lipids • Diabetes 	<p>Treatment Regimen</p> <ul style="list-style-type: none"> • May require medications such as: <ul style="list-style-type: none"> • ACE inhibitor/ ARB • Beta blocker • Spironolactone, which: <ul style="list-style-type: none"> • Improve survival • May be prescribed in combinations • May require dosage adjustments • Will probably be required over the long term • May produce common side effects • May require referral for consideration of ICD or CRT
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Consider referral to cardiac rehabilitation (page 82) in clinically stable patients with NYHA I-III (page 81)



CRT = cardiac resynchronization therapy
 EF = ejection fraction
 HF = heart failure
 ICD = implantable cardioverter defibrillator
 NYHA = New York Heart Association



NEW YORK HEART ASSOCIATION (NYHA) FUNCTIONAL CLASSIFICATION OF HEART FAILURE SYMPTOMS*

Class	Patient Symptoms
Class I (Mild)	No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, or dyspnea (shortness of breath).
Class II (Mild)	Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in fatigue, palpitation, or dyspnea.
Class III (Moderate)	Marked limitation of physical activity. Comfortable at rest, but less than ordinary activity causes fatigue, palpitation, or dyspnea.
Class IV (Severe)	Unable to carry out any physical activity without discomfort. Symptoms of cardiac insufficiency at rest. If any physical activity is undertaken, discomfort is increased.

*This system relates symptoms to everyday activities and the patient's quality of life.

HEART FAILURE MEDICATION TITRATION**

Medication	Start Dose	Target Dose	Precautions
ACE Inhibitor			<ul style="list-style-type: none"> • Initiate ACE inhibitor or ARB if creatinine <180 and stable ($\leq 25\%$ change within the last 3 – 6 months) and K <5.2. • Check electrolytes and creatinine weekly x 2; then biweekly x 2 and with any change in diuretic or dose of ACE inhibitor/ ARB.
Captopril	6.25 mg to 12.5 mg tid	25 mg to 50 mg tid	
Enalapril	1.25 mg to 2.5 mg bid	10 mg bid	
Ramipril	1.25 mg to 2.5 mg bid	5 mg bid	
Lisinopril	2.5 mg to 5 mg od	20 mg to 35 mg od	
ARB			
Candesartan	4 mg od	32 mg od	
Valsartan	40 mg bid	160 mg bid	
Beta blocker			
Carvedilol	3.125 mg bid	25 mg bid	
Bisoprolol	1.25 mg od	10 mg od	
Metoprolol	12.5 mg to 25 mg bid	100 mg bid	
Other			<ul style="list-style-type: none"> • Not recommended in patients already prescribed combination ACE inhibitor <i>and</i> ARB therapy. • Same titration schedule as in the ACE inhibitor/ ARB section. • Avoid combination with other K sparing diuretics. • Discontinue use if K >5.2.
Spirolactone	12.5 mg od	25 mg od	

**Adapted from CCS consensus conference recommendations on heart failure 2006: Diagnosis and management.³⁵