CARDOVASCULAR CENTER POCKET GUIDE
Chronic Heart Failure in Adults

I. Evaluation
History:
- Thorough Assessment of Functional Status
- Thorough Assessment of Activities of Daily Living
Physical Exam:
- Thorough Assessment of Volume Status:
  - edema, jugular venous distention, organomegally
Initial Lab Tests:
- CBC with differential, UA, Electrolytes, BUN, Creatinine, LFTs, SNP, TSH, TIBC, Ferritin, Uric Acid, Lipid Profile

Diagnostic Testing:
- Chest Radiograph
- Electrocardiogram
- Cardiac Cath/Cor Angio
- Myocardial Perfusion Imaging
- Cardiac CT/MR

Serial Monitoring:
- Daily weight, electrolytes, renal function

ACC/AHA Heart Failure Stages:
- Stage A: Patients at risk (diabetes, hypertension, history of familial CM, etc.)
- Stage B: Asymptomatic, but with structural lesions (LVM, CAD, valvular lesions, etc.)
- Stage C: Current or prior symptoms of HF
- Stage D: Refractory, end-stage disease

II. Stage A Heart Failure
Hypertension:
- Control to guideline goals
Dyslipidemia:
- Control to guideline goals
ACE Inhibitors if:
- Atherosclerotic disease
- Diabetes
- Hypertension

Lifestyle Modifications:
- Obesity control
- Dietary compliance
- Tobacco cessation
- Avoid cardiotoxins (EtOH, cocaine)

III. Stage B Heart Failure - Systolic Dysfunction
- All therapies for Stage A are appropriate
- ACE inhibitors for: All patients with reduced EF, unless contraindicated
- ARBs - consider if ACE intolerant
- Rhythm/Electrical management per section VI

Beta blockers for: All patients with reduced EF, unless contraindicated
- Coronary revascularization when appropriate
- ASA, statin if CAD or other vascular disease
- Valve replacement or repair considered if hemodynamically significant lesions exist

IV. Stage C Heart Failure - Systolic Dysfunction
- Salt restriction and when necessary, fluid restriction; ongoing dietary education
- Aldosterone blockade if moderately severe or severe symptoms unless contraindicated and with appropriate monitoring of renal function and serum potassium
- Hydralazine/nitrate combination can be added if persistent symptoms despite appropriate therapy
- ARB in addition to ACE if symptoms persist with appropriate monitoring

Rhythm/Electrical management per section VI

V. Stage D Heart Failure - Systolic Dysfunction
- All therapies for stage A, B and C are appropriate
- ACE inhibitors, ARBs, Beta blockers, aldosterone blockade per section III and IV
- Positive inotropes generally only for palliation of symptoms
- Consider de-activation of ICD when appropriate
- End-of-life discussions are very appropriate

Consider Hospice when appropriate

VI. Rhythm and Electrical Considerations
Consider ICD for:
- History of Aborted Sudden Death, hemodynamically significant VT, reduced EF (any degree)
- Ischemia Cardiomyopathy, EF = or < 35%, Class II or III on optimal medical therapy, at least 40 days post MI
- Non-ischemic Cardiomyopathy, EF = or < 30%, Class III on appropriate medical therapy
- Ischemia or Non-ischemic cardiomyopathy, EF 30-35%, Class II or III on optimal medical therapy
- ICD not appropriate for class IV patients despite optimal medical therapy - if ICD already present, consider inactivation when appropriate

Consider BiVentricular Pacemaker for:
- Ischemia or Non-ischemia Cardiomyopathy, EF = or < 35%, Class III or ambulatory Class IV on optimal medical therapy, sinus rhythm, and QRS duration of 120 ms or greater
- Consider combination ICD/Biv pacemaker in combination when appropriate

Atrial Fibrillation or Flutter Issues:
- Rate control - Beta blocker preferred (or amiodarone), rule out thyroid disorder
- Rhythm control can be considered
- Consider anticoagulants if paroxysmal or persistent, or if history of thromboembolic event

VII. Pharmacologic Treatment
ACE Inhibitors:
- Captopril
- Enalapril
- Lisinopril
- Tinzapril
- Fosinopril
- Ramipril

Angiotensin Receptor Blockers:
- Losartan
- Valsartan
- Canagliflozin

Beta Blockers:
- Carvedilol
- Bisoprolol
- Metoprolol Succinate

Aldosterone Receptor Blockers:
- Spironolactone
- Eplerenone

Vasodilators (other):
- Hydralazine/Nitrates

Digitalis Glycosides:
- Digitalis

Diuretics:
- Furosemide
- Torsemide
- Bumetamide
- Hydrochlorothiazide
- Metolazone

VIII. Heart Failure with Preserved Systolic Function
Diseases Associated with Diastolic HF:
- Hypertension
- Aortic Stenosis
- Hypertrophic Cardiomyopathy
- Infiltrative diseases (amyloid, sarcoid, iron overload)
- Coronal artery disease
- Chronic kidney disease

Treatment of Diastolic HF:
- Hypertension control
- Coronary revascularization
- Atrial fibrillation or flutter - adequate rate control
- Rhythm control can be considered in certain cases

- ACE inhibitors, ARBs, Aldosterone blockade
- Diuretics for pulmonary congestion or edema
- Calcium channel blockers
- Digoxin

IX. Miscellaneous
Consider appropriate immunizations:
- Pneumovax, influenza, Tdap
Things to Avoid:
- NSAIDs, calcium channel antagonists (except amiodipine)
- Most antiarrhythmics, except amiodarone

Consider anticoagulation:
- Atrial fibrillation or flutter
- Past or present emboli or mural thrombi
- Prosthetic mechanical valves

Faculty Lead: DB Dyke/T Koelling
REV: 2008; CHF