

OUTPATIENT SYSTOLIC HF Algorithm

(May consider a Cardiology Consult at any point in the algorithm)

**Signs /Symptoms of Heart Failure:

- Dyspnea
- Orthopnea
- Paroxysmal nocturnal dyspnea
- Extremity swelling
- Weight gain consistent with fluid retention

**Causes/Contributing Factors:

- Ischemic Cardiac Disease
- Compliance Issues: diet, medication
- Drugs: most *Non-dihydropyridine Calcium Channel Blockers, NSAIDs, Thiazolidinediones*, most *Anti-Arrhythmics*
- Hypertension
- Valvular Disease
- Anemia
- Thyroid Ds
- Infection
- Uncontrolled DM
- Cardiotoxins
- Collagen Vascular Ds

Clinical Presentation of Heart Failure

- Complete H & P
12 lead EKG
Chest X-Ray
Labs: CBC, Comp Metabolic Panel, TFT, UA

**Physical Exam Findings of Heart Failure:

- Jugular venous distention
- Audible S3 or S4
- Hepato-jugular reflex
- Inspiratory rales
- Peripheral edema

Doppler 2-D Echocardiogram Systolic Function Evaluation Left Ventricular Ejection Fraction (LVEF)

EF < 40%

EF > 40%

- Determine Underlying Cause
- Identify Contributing Factors
- Educate patient (see handout)

LVEF > 40%:

- Consider Diastolic Dysfunction
- Explore Differential Diagnoses for HF

- Start ACE Inhibitor
•Monitor K, Creatinine, B.P.

- If ACE I Angioedema/Cough: Switch to ARB
If Renal Insufficiency: Oral Nitrates and/or Hydralazine

Evaluate Fluid Status Signs of Fluid Overload?

- Add Diuretic
•Mild Edema/Dyspnea: HCTZ
•Moderate Edema/Dyspnea: Loop Diuretic
•Monitor Lytes, Creatinine, B.P.

- Add Beta Blocker
•Do not start during acute exacerbation
•Monitor COPD/Asthmatic, Heart Block patient closely

Persistent Symptoms?

Yes

No

- Add Digoxin
• If symptoms despite above Rx
• If Afib w/ RVR despite beta-blocker
• Goal Digoxin Level <1.0 ng/mL

- Maintenance Regimen
•Consult HF Coordinator
•Medication & Heart Healthy Instructions
•Fluid Management
•Nutrition Consult
(Consider Center for Health Promotion)
•Smoking Cessation
•Alcohol Reduction
•Immunization Evaluation

Persistent Symptoms?

No

- Add Spironolactone
•Monitor K, Creatinine

Persistent Symptoms?

No

- Consider Cardiology Consultation, if not already done
Consider Palliative Care Consultation
Consider Hospice Consultation or education
for Class IV patients

Other Special Considerations:

- Warfarin: Atrial Fibrillation, Thromboembolic Ds, EF </=30%
- Amiodarone: Arrhythmias
- Aspirin: Atherosclerotic Ds
- Re-synchrony, AICD: EF </=30-35%, Cardiac dysynchrony