CARDIAC-ADMISSION ORDERS: CONGESTIVE HEART FAILURE

RN Noting Orders	Date/ Time	PHYSICIAN'S ORDERS MUST BE SIGNED BY PHYSICIAN

Allergies/Reactions: ____

Admission HT: ______________________ WT. ______________________

Admit with telemetry as: □ IP □ OP

Primary Diagnosis: Acute Decompensated Heart Failure

- □ Systolic Dysfunction - EF less than or equal; to 40%
- □ Diastolic Dysfunction
- □ New Onset

Co-morbid Conditions: ____

Consults: Primary Care Physician: ____________________________________

Cardiologist: ____

1. Place CHF Discharge Orders and Discharge Instructions in chart.

2. VS q 4 hours, Accurate I & O, Weigh Daily

3. Activity:
   - □ Bed rest with bedside commode (severe decompensated heart failure)
   - □ Bed rest with bedside commode (moderate decompensated heart failure)
   - □ Up as tolerated (mild decompensated heart failure)

4. Diet: (Please select all that apply)
   - □ 2 grams salt (Recommended for heart failure)
   - □ No added salt (For patients with with poor caloric intake and under-nutrition)
   - □ Low cholesterol diet
   - □ ADA _______________ calories
   - □ Other _________________________________

5. Fluid Restriction:
   - □ 2000mL/24 hours (Recommended standard)
   - □ 1500 mL/24 hours (for patients with Na less than 131)

6. Oxygen: Titrate oxygen saturation greater than or equal to 90%

7. IV access:
   - □ Saline lock, flush per protocol
   - □ Other ____

8. Foley cath PRN x 48 hours, then DC. Initiate Bladder Protocol following removal

9. Lab tests on admission (if not done in ED)

□ CBC	□ PT/INR	□ Troponin/CK now & q 8 hours x 3	
□ BMP	□ BNP	□ Mg	□ UA
□ TSH	□ LFTs	□ Ca	□ Ferritin
□ Lipid prof.	□ Digoxin	□ Phos	□ CMP

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10. Additional Diagnostics:
    - □ EKG indication: ______________________________
    - □ CXR II indication: ______________________________
    - □ PCXR indication: ______________________________

11. Left Ventricular Assessment: (*Publicly reported indicator)*
    - Last documented EF __________ Date ____________
    - □ Complete Echocardiogram
    - □ Isotope Ventriculogram
    - □ Left ventricular assessment not clinically indicated (See H & P)

12. Standard Consults:
    - ■ Dietician for low sodium diet education
    - ■ Care Management for discharge planning, with referrals as needed

13. Other Consults:
    - □ Pharmacy consult to review medications
    - □ Smoking cessation instruction if applicable (*Publicly reported indicator)*
    - □ PT/OT for functional assessment
    - □ Cardiac Case Management as OP for □ CHF □ HTN □ Lipids
    - □ Refer for OP Cardiac Education for CHF
    - □ Other ____

14. Medications

    Loop Diuretics:
    - □ Furosemide ______________ ______________________
    - □ Bumetanide ______________ ______________________

    Thiazide Diuretics
    - □ Hydrochlorothiazide ______________________________
    - □ Metolazone ___________________________________

    Aldosterone Antagonist:
    - □ Spironolactone ___________________________

    Electrolyte Replacement
    - □ Potassium chloride _____mEq PO Q ______hr X _____ doses
    - □ Potassium chloride _____mEq IV over _______ hr X _______ doses
    - □ Magnesium sulfate ________________________________

    RAAS Blockade:

    ACEI: (*Publicly reported indicator)*
    - □ Lisinopril ______________________________________
    - □ Captopril ______________________________________
    - □ Contraindicated-No ACEI ordered due to:
        - □ Severe cough
        - □ Renal insufficiency (Cr is > 2.0 and eGFR is < 30)
        - □ Angioedema
        - □ Significant renal artery stenosis
        - □ Other: ________________________________

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ARB: ***(Publicly reported indicator if ACEI contraindicated)***

- □ Losartan ____
- □ Contraindicated _ no ARB due to:
  - □ Renal insufficiency (Cr is > 2.0 and eGFR is < 30)
  - □ Angioedema
  - □ Other: _____________________________________

Beta Blockers:

- □ Toprol XL ____________________________________
- □ Metoprolol ___________________________________
- □ Carvedilol ___________________________________
- □ Contraindicated - no beta blocker ordered due to:
  - □ Bradycardia
  - □ Significant asthma or COPD
  - □ Other ______________________________________

Digoxin:

- □ Digoxin maintenance __________________________________
- □ Digoxin load ____

Antiplatelet/Anticoagulant/DVT prophylaxis

- □ Aspirin 81 mg PO daily
- □ Clopidogrel 75 mg PO daily
- □ Warfarin ________ PO daily ______________________________
- □ Heparin 5000 Units subcutaneously BID, if patient not on warfarin
- □ Enoxaparin (Lovenox) subcut. _____mg BID or ______ mg QD

Lipid Lowering:

- □ Simvastatin ____
- □ Lovastatin ____

Analgesic:

- □ Acetaminophen 650 mg orally q 4 hours as needed for mild pain
- □ __________________________ q __ hours as needed for moderate pain
- □ __________________________ q __ hours as needed for r severe pain
- ■ **Bowel Protocol:**

Antacid:

- □ Aluminum/Magnesium Hydroxide with Simethicone 30 ml PO QID PRN dyspepsia
- □ Aluminum Hydroxide 30 ml PO QID PRN dyspepsia

Sedative/ Sleep Aid

- □ Temazepam (Restoril) _____ mg PO every night as needed for sleep
- □ Zolpidem (Ambien) 5 mg PO every night as needed for sleep

For orders written/signed by ED MD, call Dr. _________________ @ 0700 or on adm.

Physician signature: ______________________________________
Reviewed and confirmed adm. Orders with Dr. ________________________ @ ________
RN Signature: ____

Heart Failure Guidelines/Recommendations

Loop Diuretics:
Recommend administering usual oral dose IV once or twice daily. Goal is urine output of greater than 500 ml/2 hour or greater than 250 ml/hour with renal insufficiency. For new diagnosis of CHF, start with 20-40 mg IV. Continuous infusion Furosemide at 20 mg/hour is an option for refractory patients if combined loop-thiazide diuretic therapy has failed to achieve appropriate diuresis.
- Furosemide 20 mg - 160 mg daily in 1-2 divided doses
- Bumetanide 0.5 mg _ 10 mg daily in 1-2 divided doses

Thiazide Diuretics: (Optional addition for loop diuretic resistant patients)
- Hydrochlorothiazide 12.5 mg _ 50 mg given once daily 30 minutes prior to loop diuretic
- Metolazone 2.5 mg - 10 mg given once daily 30 minutes prior to loop diuretic

RAAS Blockade:
ACEI: Lisinopril is preferred unless sitting blood pressure is low and then Captopril becomes a better initial choice. Recommend doubling usual dose if sitting SBP is greater than 110. Recommend lowering usual dose if sitting SBP is less than or equal to 90 or creatinine is greater than 50% above baseline.
- Lisinopril orally 2.5 mg - 40 mg daily in 1-2 divided doses. Recommend starting dose 2.5 mg - 5 mg
- Captopril orally 6.25 - 50 mg three times daily. Recommend starting dose Captopril 6.25 mg - 12.5 mg three times daily. Consider changing from Captopril to Lisinopril when the patient is on a stable dose.

ARB: Recommended alternative if more than mild cough on ACEI. Recommended starting dose 25 mg daily. Recommend doubling usual dose if SBP is greater than 110. Recommend lowering usual dose if sitting SBP is less than or equal to 90 or creatinine is greater than 50% above baseline.
- Losartan 25 - 100 mg orally daily

Hydralazine/Ntrates: An alternative for inpatients intolerant to ACEI/ARBs or with creatine greater than 2.5. Has demonstrated benefit in African Americans with systolic heart failure in addition to standard therapy with ACEI/ARBs, Beta-blockers, and diuretics.
- Hydralazine orally 25 mg - 100 mg three times daily **along with one of the following:**
    - Isosorbide dinitrate 25 mg - 40 mg three times daily
    - Nitroglycerine patch 0.1 mg/hr - 0.4 mg/hr
    - Isosorbide mononitrate 30 mg - 240 mg orally in 1-2 divided doses daily (0700/1500)

Aldosterone antagonists; Spironolactone is recommended for patients with persistent EF less than 40% and stages III or IV heart failure. Contraindicated in those patients with K+ greater than 5.0, creatinine greater than 2.5 in men and greater than 2.0 in women. Caution should be exercised in patients on K+ retaining therapies, K+ supplementation, history of hyperkalemia or creatinine greater than 2.5 and diabetes. Starting dose is 225 mg unless cautions are present and then 12.5 mg is preferred. Eplerenone recommended only if intolerant of spironolactone such as painful gynecomastia.
- Spironolactone orally 12.5 mg - 25 mg once a day

Beta-Blockers: Recommended that all those with **systolic dysfunction and severe congestion** have their usual dose reduced by 1/2. May start low dose beta blocker (Toprol XL 12.5 mg) when euvolemic in the hospital on on ACEI/ARBs amd diuretic or at the time of hospital discharge. Generally reserve up-titration of beta-blockers to the out patient setting.
- Toprol XL orally. Preferred agent at 12.5 mg - 200 mg daily
- Metoprolol orally 12.5 mg - 200 mg daily in 2 - 3 divided doses (less expensive than Toprol XL)
- Carvedilol orally 3.125 mg - 50 mg twice daily

Heart Failure Guidelines/Recommendations

Digoxin: Recommended in all patients who are symptomatic despite optimization of above therapies. Adjust dose if amiodarone is initiated. Avoid if eGFR is less than 30, AV block, bradyarrythmia, sic sinus syndrome. Down titrate if trough serum levels greater than 1.2. Usual maintenance dose is 0.125 mg daily.

- Digoxin maintenance 0.125 mg - 0.25 mg daily
- Digoxin load: 0.25 mg orally every 6 hours x 3 doses

Strongly Recommended

- Discontinue metformin, Piogliazone, Aspirin greater than 81 mg and all NSAIDS
- Discontinue Aspirin in non-ischemic heart failure
- Discontinue calcium channel blocker (other than Felodipine or Amlodipine) in all patients with systolic dysfunction
- Discontinue 1C anti-arrythmics (i.e. Flecainide, and propafenone): HF patients may be maintained on other antiarrythmic such as Amiodarone, Dofetilide