Your Hospital's Logo Here

CLINICAL PATHWAY
Congestive Heart Failure
(No Renal Dialysis)
DRG NO 127

PATIENT IDENTIFICATION

Initiating UNIT:	*Initiating DATE:*	*Initiating TIME:*	*DRG NO:* 127	*Length of Stay:* 4.0

	Day 1 - ER Admit	Day 2	Day 3	Day 4
ACTIVITY	☐ Bedrest ☐ Head of Bed elevated 30°	☐ O.O.B. as tolerated ☐ Participates with activities of daily living	☐ Ambulate in hall as tolerated ☐ Independent with activities of daily living	☐ Ambulate in hall as tolerated
TEST SPECIMENS	☐ Echo (if > 6 months) / Document EF ☐ CXR ☐ 12 Lead ECG ☐ Pulse Ox **Labs:** ☐ CBC ☐ BMP ☐ U/A **If Indicated:** ☐ CK0, CK4, CK8 (if Pt presents w/ chest pain or unexplained CHF) ☐ CMP-2 ☐ ABG - (if Pulse Ox < 90%) ☐ Cholesterol ☐ BNP	☐ Electrolytes (as indicated) ☐ Pulse Ox ☐ Assess need for Ischemia evaluation on Day 3 **Labs:** ☐ Follow Abnormal Tests **If Indicated:** ☐ 12 Lead ECG ☐ CXR (PA and lateral)	**Labs:** ☐ Follow Abnormal Tests	**Labs:** ☐ Follow Abnormal Tests
NUTRITION	☐ 2 Gram Na diet **If Indicated:** ☐ Other restrictions	☐ Nutritional assessment / screen ☐ Instruction and diet principles as needed ☐ Restricted fluids as ordered	☐ Instruction and diet principles as needed ☐ Restricted fluids as ordered	☐ 2 Gram Na diet
MEDS	☐ IV Diuretic Therapy ☐ Natrecor ☐ K Supplement ☐ Ace Inhibitors ☐ Beta Blocker ☐ Nitrates ☐ Heparin Sq ☐ Digoxin ☐ **Consider Dopamine** ☐ **Consider Aspirin** ☐ **Consider Dobutamine**		☐ Medication review / adjustment ☐ Change to PO Medications **If Ambulatory:** ☐ D/C Heparin	☐ Medication review / adjustment **Consider Discharge Meds:** ☐ Ace Inhibitors

Clinical pathways are tools to facilitate and guide multi-disciplinary patient care. They do not represent a standard of care or replace physician orders or clinical judgment. Modifications are made based on documented individual patient needs.

PART OF THE MEDICAL RECORD

Your Hospital's Logo Here

CLINICAL PATHWAY
Congestive Heart Failure
(No Renal Dialysis)
DRG NO 127

PATIENT IDENTIFICATION

	Day 1	Day 2	Day 3	Day 4
TREATMENTS /CONSULTS	☐ **Adm Wt before Diuretic Therapy** ☐ Oxygen by N.C. as indicated ☐ Accurate I/O ☐ Breath sounds Q 4 hr ☐ Cardiac auscultation ☐ Peripheral adema **If Indicated** ☐ Cardiac monitoring (if Pt presents w/ chest pain or unexplained CHF) ☐ Foley catheter	☐ Weight (q AM) ☐ Breath sounds Q 4 hr ☐ Cardiac auscultation ☐ Titrate Oxygen as indicated ☐ Accurate I & O ☐ Pt assessment ☐ Continue skin assessment	☐ Weight (q AM) ☐ Breath sounds Q 4 hr ☐ Cardiac auscultation ☐ Accurate I & O ☐ PT evaluation (if indicated) ☐ Continue skin assessment **If Indicated** ☐ Discontinue supplemental O^2 if hypoxia is resolved ☐ D/C Foley	☐ Weight (q AM) ☐ Breath sounds Q 8 hr ☐ Cardiac auscultation ☐ Accurate I & O ☐ PT evaluation (if indicated) ☐ Continue skin assessment
CONSULTS	☐ Case Management ☐ ICU if indicated ☐ Cardiology if indicated ☐ Physical Therapy	☐ If no improvement, Cardiology consult	☐ If no improvement, Cardiology consult ☐ Palliative Care consult (if indicated)	☐ If no improvement, Cardiology consult
IV's	☐ Saline Lock	☐ Saline Lock	☐ Saline Lock	☐ D/C Saline Lock
VITAL SIGNS	☐ Q 4 hr or unit routine	☐ Q 8 hr or unit routine	☐ Q 8 hr or unit routine	☐ Q 8 hr or unit routine
DISCHARGE PLANNING	☐ Initiate Discharge Planning ☐ Evaluate support systems and home environment ☐ Referral made to Case Mgt ☐ Patient assessment, contact family	☐ Review D/C Plan with patient / family ☐ Meeting with patient / family re: Homecare vs. Placement	☐ Review D/C Plan with patient / family ☐ Discuss outcome with PCP	☐ Discharge to safe environment ☐ Referral to homecare agency / discharge patient
TEACHING	☐ Orient Pt to physical surroundings ☐ Assess risk factors ☐ **Initiate Health Teaching Plan** - What is CHF - CHF Management - Patient Compliance - Smoking Cessation - Fluid Restriction	☐ Review Health Teaching	**Initiate Discharge Teaching Plan** ☐ Monitoring fluid intake ☐ Recording body weight ☐ Limitations of salt intake / diet ☐ S/S of fluid overload requiring medical attention ☐ Discharge medications ☐ Daily activity / exercise ☐ Physician contact	☐ Review all patient / family teaching ☐ Follow up discharge instructions
EVALUATION	**ON TRACK** 0700 ☐ YES ☐ NO 1900 ☐ YES ☐ NO	**ON TRACK** 0700 ☐ YES ☐ NO 1900 ☐ YES ☐ NO	**ON TRACK** 0700 ☐ YES ☐ NO 1900 ☐ YES ☐ NO	**ON TRACK** 0700 ☐ YES ☐ NO 1900 ☐ YES ☐ NO

PATIENT NAME:	AGE:	ROOM #:	PHYSICIAN:

ADMISSION DATE:	ADMISSION TIME: (Military Time)	DISCHARGE DATE:	DISCHARGE TIME: (Military Time)

Clinical pathways are tools to facilitate and guide multi-disciplinary patient care. They do not represent a standard of care or replace physician orders or clinical judgment. Modifications are made based on documented individual patient needs.

PART OF THE MEDICAL RECORD

Your Hospital's Logo Here

ADDENDUM TO CHF CLINICAL PATHWAY

Guidelines for Diuretic Therapy in CHF (Congestive Heart Failure)

GOALS OF THERAPY

1. In severely congested patients, a minimum of 1000 ml / day urine output is goal.
2. If goal not met, combination therapy or increased dosing of intravenous therapy should be assessed.
3. When established weight is achieved and clinical status has improved, IV diuretics may be converted to *po.*
4. Salt restriction.
5. Fluid intake restriction of 800-1200ml / day.

LOOP DIURETICS

TYPE

1. Furosemide (Lasix)
2. Bumetanide (Bumex)

DOSING FACTORS

1. Patient's dry weight
2. Degree of volume overload
3. Blood pressure
4. Previous diuretic responses
5. Acid base disturbance

SIDE EFFECTS

1. Hypochloremic Metabolic Alkalosis
2. Ototoxicity (Furosemide)
3. May cause vasocontriction in post MI patients if no CHF is present.
4. Hypokalemia
5. Azotemia

DOSING OF BUMETANIDE

1. 0.5 mg - 2 mg IV Bolus
2. 0.5 mg - 2 mg IV BID (max of 10 mg / day)
3. All other recommendations are the same as Lasix.

DOCUMENTATION OF ASSESSMENT

Chart documentation should include:

1. Initial weight
2. Urinary output
3. Hearing status pre & post diuretic therapy
4. BMP profile
5. Magnesium levels
6. Blood pressure
7. Respiratory Therapy note
8. JVP + Lung exam
9. Peripheral edema assessment

DOSING OF FUROSOMIDE

1. 20-80 mg administered slowly by IV as a loading bolus: max of 1 gm / day.
2. Lower dose range to be utilized in elderly patients and smaller cachectic patients.
3. Desired response should be seen within 15-30 min as evidenced by improved clinical status and increased urinary output.
4. Assess urinary output quantitatively (foley/urinal).
5. The response to initial bolus should be documented for the first 2 hrs & recorded in Nurse's Notes.
6. BP responses should be noted and recorded at 15 min, 30 min & 60 min.
7. If no urine output has been noted at 30 min and SBP is > 110, the initial bolus dose should be repeated or doubled.
8. The initial dose should be repeated 1-2 hrs in moderate/severely congested Pts; if desired response not achieved, consider Natrecor.
9. Volume outputs > 1000 ml may indicate hypotension, exhibiting a slow response to IV fluid (1/2 NS or NS @ 60-75 ml / hr)

COMBINATION DIURETICS THERAPY

1. Lasix and Zaroxolyn
   Lasix 40-80 mg IVP BID with Zaroxolyn 2.5 mg - 5 mg po once a day.
2. Lasix and Aldactone
   Lasix 40 mg IVP BID combined w/ Aldactone 25 mg po TID (max of 200 mg per day).
3. Bumex and Aldactone

DIURETIC ADMINISTRATION in ICU / CCU / 2S

Recommendations are the same however

1. Lasix drips may be effective (2-5 mg / hr)
2. Renal dose dopamine may improve diuresis
3. IV Inotropes may improve diuresis
4. IV Natrecor may improve diuresis

PART OF THE MEDICAL RECORD

Your Hospital's Logo Here

ADDENDUM to CLINICAL PATHWAY
Congestive Heart Failure

GOALS OF ACE 7 INHIBITOR THERAPY

1. All patients with heart failure due to LV systolic dysfunction should receive an ace inhibitor unless there is known drug intolerance, or have contraindications to the use of this drug class.
2. Therapy should be started relatively early and continue long term to reduce the risk of disease progression.
3. Therapy is best started when patient is euvolemic.

DOSING OF ACE INHIBITORS

PH Formulary Ace Inhibitors

Benazepril (Lotensin)	5 mg ; 10 mg ; 20 mg tabs
Captopril (Capoten)	12.5 mg ; 25 mg tabs
Enalapril (Vasotec)	1.25 mg ; 2.5 mg ; 5 mg ; 10 mg tabs
Lisinopril (Zestril)	5 mg ; 10 mg ; 20 mg tabs
Quinipril (Accupril)	5 mg ; 10 mg ; 20 mg tabs
Ramipril (Altace)	2.5 mg cap

1. Dosage should start low and gradually increase as blood pressure and clinical status allow.
2. Clinical benefits may not be seen until long after discharge.
3. Patient should receive with caution if:
   - **SBP < 80 mmHg**
   - **Serum creatinine > 3**
   - **Serum potassium > 5**
   - **Serum sodium < 130 bilateral**
   - **Renal artery stenosis**

DOCUMENTATION / ASSESSMENT

1. Outcomes of initial management of signs and symptoms
2. BNP level , LVEF
3. Blood pressure
4. History of angioedema
5. Contraindications to therapy
6. Discharge plan of care

GOALS OF BETA BLOCKER THERAPY

1. All patients with stable NYHA class II or III heart failure due to LV systolic dysfunction should receive a Beta Blocker unless there is a contraindication to it's use or if the patient is unable to tolerate side effects of drug therapy.
2. Beta Blockers are generally used in conjunction with diuretics and ace inhibitors.
3. Beta Blockers may reduce the risk of disease progression even if the patients' clinical symptoms have not responded to therapy.

DOSING OF BETA BLOCKERS

PH Formulary Beta Blockers for Use in CHF

Metoprolol (Lopresor)	50 mg tab ; 1 mg injection
Carvedilol (Coreg)	3.125 mg ; 12.5 mg ; 25 mg tabs

1. Beta Blockers are not for use in acute congestive heart failure.
2. Patients should not receive Beta Blockers if they also have:
   a. **bronchospactic disease**
   b. **symptomatic bradycardia**
   c. **advanced heart block**
   d. **asymptomatic bradycardia < 55**
3. Beta Blockers may be best started just prior to discharge once the patient is ambulatory. Recommended starting treatment for in-house patients is:

   Coreg 3.125 mg BID -or- Metoprolol 25 - 50 mg BID
4. Drug therapy may also be initiated after discharge as an outpatient.

DOCUMENTATION / ASSESSMENT

1. Outcomes of initial management of signs and symptoms
2. BNP level , LVEF, systolic dysfunction
3. Response to diuretic therapy
4. Clinical stabilization of vital signs
5. Contraindications to therapy

PART OF THE MEDICAL RECORD