Discharge Criteria for a patient with CHF

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Disclosures

- CHF Solutions: Consultant

Objectives:

1. Identify the discharge criteria for patients with CHF which include:
   - Self Care of CHF: Daily Weight, Low Sodium diet, and Fluid restriction
   - Management of medications

2. Understand the reason for close follow up after hospital discharge (Within 7 days)

3. Understand the importance of the patient's bringing their medications to every Advanced Heart Failure clinic visit

4. Identify Patient Compliance Challenges for Management of Heart Failure

Exacerbating factors addressed

Why were they admitted? Are they high risk for readmission ?

- Able to obtain medications after discharge
  - Financial restraints for obtaining medication ?
  - Do they have transportation to the pharmacy to pick up the medication
  - Are they taking the medication correctly ?
  - Make sure they are not taking 2 beta blocker, diuretics, etc.
- Dietary adherence ?
  - Able to afford healthy food ?
  - Eating Processed / Fast food on a regular basis?
  - Know how to read food labels
- Following a fluid restriction ?
  - What are they drinking ?
  - Soda /Tea / Coffee ?
  - Are they drinking water or just drink soda/tea/Coffee
- Patient must have a follow up appointment within 7 days of discharge
  - Make sure they have a ride to clinic

Management of Diuresis

- Patient needs to be stable on oral diuretics for 24 hours before discharge to home
- Patient will most likely be on IV diuretics on admission
- Once patient is euvolemic will need to transition to oral diuretics
- Patient will possibly be switched to their prior home diuretic
- If the diuretic is different than the home medication, make sure they don't take 2 different diuretics at discharge

Diuretic Therapy

Agent	Initial Daily Dose (mg)	Maximum Total Daily Dose (mg)	Half-Life
Furosemide	20-40mg qd or bid	600mg	30-60 min
Bumetanide	0.5-1mg qd or bid	10mg	1-1.5 hrs
Torsemide	10-20mg qd	200mg	3.5 hrs
Metalozone (thiazide)	2.5mg qd	20mg	14 hrs

Equivalent doses: Furosemide 40 mg = bumetanide 1mg=torsemide 20mg

Pharmacological Treatment of Heart Failure

- ACE Inhibitors: Inhibit renin-angiotensin system in all HF patients with LV dysfunction
- ARB: Recommended to patients with LVEF <40% intolerant of ACE -I
- ARNI (Angiotension receptor blocker & neprilysin inhibitor) shown a 20% reduction in mortality above standard therapy
- Beta Blockers: Shown effective in patients with HF with LVEF < 40% (start when euvolemic)
- Aldosterone blockade: Recommended in patients with NYHA class III or IV, LVEF <35% while receiving standard therapy

Management of ACE/ARB/ARNI

- Stagger away from Beta Blocker dose
  - To Avoid Orthostatic Hypotension
  - Usually Lunch and Bedtime
  - **Make sure the patient understands to stagger these medications when discharging home**
- Monitor Renal function
  - Can use in mild, stable CKD (chronic kidney disease)
- Will usually start with low dose ie:
  - Lisinopril/Enalapril 2.5mg BID OR
  - Sacubitril/Valsartan 24/26mg BID
- "Stair step" the dosing when up titrating for the ACE or ARB
- Double the ARNI when BP/Lab allows

Management Beta Blockers

- Stagger away from ACE I/ARB/ARNI Usually Breakfast and Supper to avoid orthostatic hypotension
  - **Make sure the patient understands to stagger these medications when discharging home**
- Carvedilol and Metoprolol Succinate are the Beta Blockers that have an indication for Heart Failure with LVEF < 40%
- Start low dose and titirate up slowly
- Start or up titrate when the patient is euvolemic
- Can "Stair step" the dosing when up titrating
- Titrate one drug at a time.

Management of Aldosterone Blockers

- Spironolactone, Eplerenone
- Helpful in the setting of Hypertension for better BP control
- Monitor Renal function : can use in mild, stable chronic kidney disease (CKD)
- Does have mortality benefit in patients with LVEF $\leq$ 35 %.

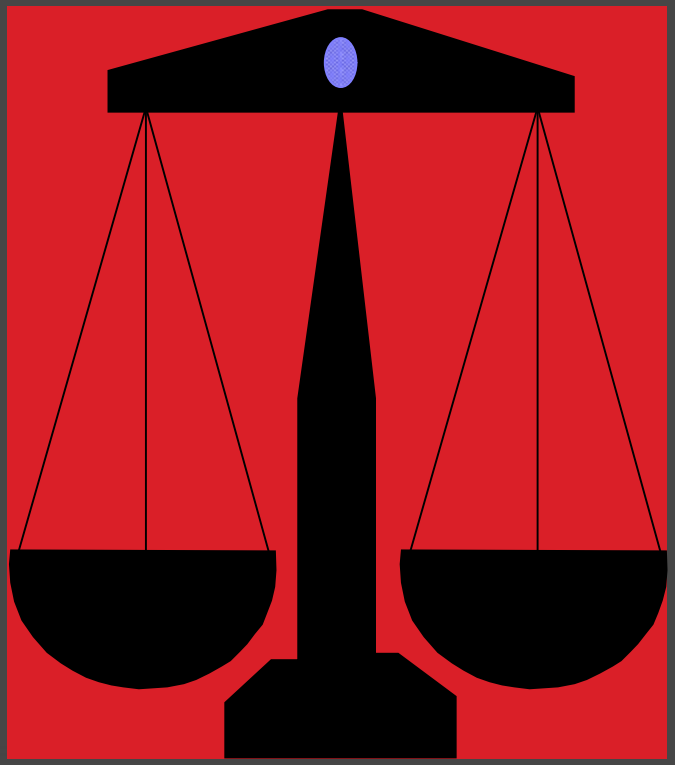
Inotrope dependent: Home Inotrope

- Patient with persistent low cardiac output and unable to wean of Inotropic support:
- Usual dose on inotropes:
  - Milrinone 0.25-0.5 mcg/kg/min
  - Dobutamine 3-5 mcg/kg/min
- Obtain a mixed venous/VBG with venous O2 saturation (draw from PICC line)
  - Ideal to have above 60% on the inotropic agent
- Dose will be adjusted to provide the best support to the patient

Prior to Discharge on an Inotrope

- Obtain discharge dose of the Inotrope
  - Determined by the dose the patient is most stable on
- Have Home Health set up to change the dressing on the PICC line
- Pick Infusion company to provide the medicine (usually determined by pts insurance coverage)
- Infusion company to provide education the patient and a family member
  - Changing medication bag
  - Changing the batteries on the pump
- On day of discharge:
  - Send the dose of the Inotrope to the infusion company
  - Send the discharge weight of the patient (obtained the day of discharge) to the infusion company

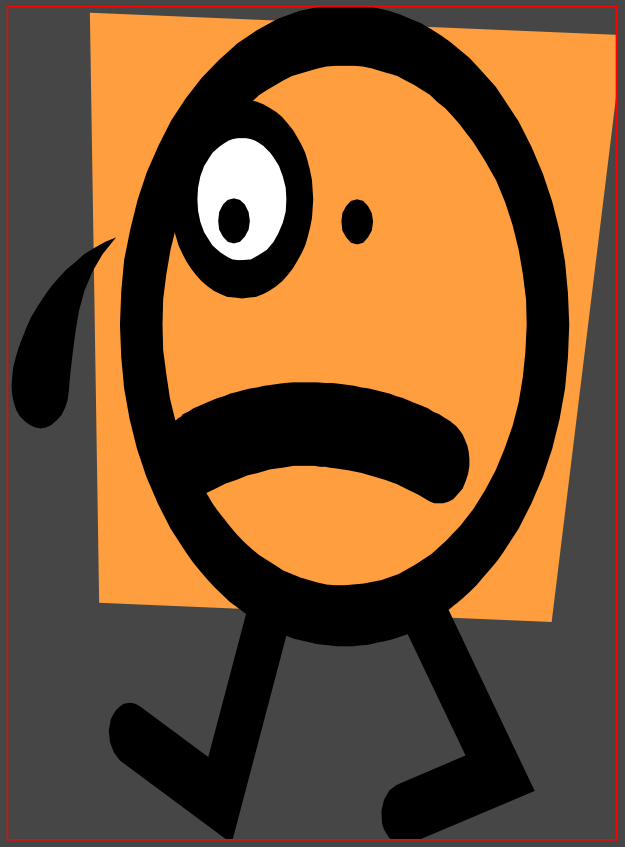
Patient Compliance



- Medication compliance
- Daily weight
  - Call for 5 pound weight gain for Diuretic adjustment
  - Make sure patient has a scale
  - We provide a scale to pts that are unable to obtain one
- Low sodium diet
  - 2 gm Na restriction
- Fluid restriction
  - < 2 liters / day

Diet and Nutrition

- 2000 mg (2 gm) per 24 hours
- Sodium restriction is recommended for patients with the clinical heart failure syndrome.



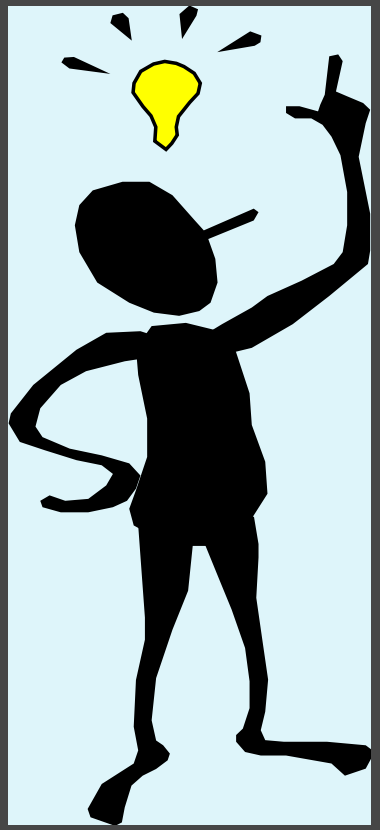
Diet and Nutrition

- Fluid restriction:
- <2 liters daily is recommended in some patients

- Should be considered for all patients demonstrating fluid retention that is difficult to control despite diuretics & sodium restriction

Staff Nurse Role in CHF Management

- Patient identification:
- Diagnosis of Heart Failure:
  - HFrEF LVEF < 40%
  - HFpEF LVEF > 45%
- Daily weights
  - Standing weights every AM
- Fluid restriction
  - Usually 2 liters/24 hours
- Sodium restriction
  - 2 gm Na,
  - No processed meat
- **Patient education on basics of CHF management prior to discharge**



Discharge Criteria for Patients with Heart Failure

- Exacerbating factors addressed
- At least near optimal volume status achieved
- Transition from IV to oral diuretic therapy completed (stable for 24 hours)
- Optimization of chronic oral HF therapy
- Follow up clinic visit scheduled
  (7 days) and/or telephone f/u within 3 days of hospital discharge.
- Plans for post discharge management (scale present in home, HF teaching completed

ACC/AHA Heart Failure Guidelines 2013. Yancy, C., Jessup, M. J Am Coll Cardiol. 2013; 62:1495-1538

Thank You !!