Congestive Heart Failure

Signs and Symptoms

- Difficulty breathing
- Positioned upright
- Unable to speak full sentences
- Pale, cyanotic, cool
- Bilateral rales, rhonchi
- Possibly wheezing
- Distended neck veins
- Tachypnea
- Tachycardia
- Hypertension

History

- Orthopnea
- Past similar episodes
- "Wet" cough without fever
- Cardiac history-previous MI
- CHF
- Hypertension

Differentials

- Respiratory infection
- Pneumonia
- Asthma
- COPD
- Toxic exposure
- Aspiration
- Myocardial infarction
- Renal failure
- Medication non-compliance

Pediatric Pearls:

- CHF is rare in children and often the result of cardiac anomalies or dysrhythmias.
- Consult Medical Control for guidance.

WARNINGS

- *Do not administer* **Nitroglycerin (Nitrostat®)** if patient has taken any sexual enhancement drugs (Viagra, Levitra, Cialis) within last 48 hours or has taken Revatio® (Sildenafil) for Pulmonary Hypertension.
- *Do not administer* **Furosemide (Lasix®)** if the patient possibly has pneumonia, for example has a fever with unilateral rales and or rhonchi.
- *Do not administer* **Aspirin** if full dose is already taken within 24 hrs., allergy or evidence of active cerebral or GI/GU bleed.
- CPAP **is contraindicated** if SBP < 90 mmHg.

Care: Adults only

B E I P

Follow General Directive #3, Orders for all Patients.

Position upright (if SBP < 90 mmHg maintain supine and follow Cardiac Emergencies Protocol #7 Hypotension).

E I P

Establish IV access.

Does Patient present with increased work of breathing, accessory muscle use, RR > 24 and/or SpO2 < 90%?

No

I P

Acquire 12 lead EKG continue 3 lead monitor.

Yes

E I P

! **CPAP** 10 cmH2O

(E) (I) (P)

If anxious, consider 2.5 mg **Midazolam** (**Versed®**) IV

E I P

! If SBP > 100 mmHg administer **Nitroglycerin** 0.4 mg SL every 5 min. (discontinue use if SBP < 100 mmHg)

(E) I P

! Reassess, if no improvement after 3 **Nitroglycerin** with SBP > 140 mmHg administer **Furosemide (Lasix®)** 40 mg IV over 1 min.

(E) I P

Reassess. If no improvement or worse administer **Morphine** 2 mg IV over 2 min. Repeat every 5 min. maximum of 10 mg or SBP is < 100 mmHg.

(E) (I) (P)

Reassess.
If no improvement or worse in 20 min.:
Second dose **Furosemide (Lasix®)** 40 mg IV over 1 min.

Pearls

- Be alert for deterioration in mental status.
- Bradycardia is an ominous sign.
- If tachypneic, coach the patient to slow their respiratory rate.
- Discontinue **Nitroglycerin** administration if the patient improves with CPAP.
- If the patient is wheezing and has a COPD history **Albuterol** 2.5 mg & **Atrovent** 0.5 mg HHN may be administered.
- If the patient improves but does not tolerate CPAP, up to 2.5 mg **Midazolam (Versed®)** may be administered with medical control orders.
- ! If patient presents with signs and/or symptoms consistent with ACS (Acute Coronary Syndrome) administer **Aspirin** 324 mg.
- If patient presents with severe respiratory distress CPAP should be initiated before IV access is obtained.
- Monitor for respiratory depression and hypotension associated with **Midazolam** (**Versed®**).

Performance Indicators

- Patient improvement noted by decrease in work of breathing, respiratory rate is between 12 and 20, and a decrease in audible rales.