

# CONGESTIVE HEART FAILURE / PULMONARY EDEMA

## UPDATED 1/2024

### ALL PROVIDERS

- Focused history and physical exam
  - Determine whether the patient (male or female) has taken erectile dysfunction medications such as Viagra, Levitra or Cialis within the last 24 hours.
  - Assess blood glucose level.
- Continuous cardiac, ETCO<sub>2</sub>, 12 lead ECG, and pulse oximetry monitoring.
- Treatment Plan**
  - Maintain airway; assist with breathing as necessary, provide oxygen as needed to target SpO<sub>2</sub> 90-94%.
- Key Considerations**
  - Do not use nitroglycerin if the patient has taken erectile dysfunction medications in the last 24 hours.
  - In pregnant patients of >20 weeks gestation: Place wedge-shaped cushion or multiple pillows under patient's right hip and manually displace the uterus.
  - Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x 2) and over 10 years = 90mmHg.

#### ADULT

#### PEDIATRIC (<15 years of Age)

**NOTE: Pediatric weight based dosing should not exceed Adult dosing.**

#### EMT

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- Assist patient with prescribed nitroglycerin SL every 5 minutes, up to 3 doses, as long as dyspnea or chest pain persist and SBP >90 mmHg
  - Do not administer nitroglycerin if the patient (male or female) has taken erectile dysfunction medications within the last 24 hours

#### AEMT

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- Supraglottic device, vascular access and fluid
    - IV access prior to nitrates is preferred if possible
    - Limit fluid bolus to 250–500 mL NS or LR
  - **Nitroglycerin 0.4 mg SL** every 5 minutes (max of 3 doses) if dyspnea or chest pain persist and SBP >90 mmHg or MAP of 65.
  - **CPAP/BiPAP** – Consider when the patient is
- Supraglottic device, vascular access and fluid
  - CPAP/BiPAP** – ONLY use when the patient is on the machine at home. Maintain home settings and bring machine with the patient. If unable to adequately ventilate, return to BVM

awake, cooperative and SBP >90 mmHg

- Explain the procedure to the patient
- **CPAP** - Provide 10 L/min oxygen and PAP at 10 cm H<sub>2</sub>O
- **BIPAP** – Provide 10 L/min oxygen and IPAP at 10 cm H<sub>2</sub>O with EPAP at 5 cm H<sub>2</sub>O

☉ Contact OLMC to discuss further settings and treatment above the initial setup.

PARAMEDIC

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- ❑ **Push Dose Epinephrine 2-10mcg** as needed to maintain a SBP >100 mmHg or MAP of 65
- ❑ **Epinephrine 2-10 mcg/min** IV/IO infusion for shock. Titrate up to 10 mcg/min to maintain a SBP >100 mmHg or MAP of 65
- ❑ **Norepinephrine 1 mcg/min** IV/IO infusion for shock. Titrate up to 30 mcg/min to maintain SBP >100 mmHg or MAP of 65.

- ❑ **Push Dose Epinephrine 1mcg/kg** as needed to maintain a SBP >70 + (age in years x 2) mmHg
- ❑ **Epinephrine 0.1-1mcg/kg/min** IV/IO infusion for shock. Titrate to maintain a SBP >70 + (age in years x 2) mmHg.