Pediatric Pulmonary Edema / CHF

History
- Congenital Heart Disease
- Chronic Lung Disease
- Congestive heart failure
- Past medical history

Signs/Symptoms
- Infant: Respiratory distress, poor feeding, lethargy, weight gain, +/- cyanosis
- Child/Adolescent: Respiratory distress, bilateral rales, apprehension, orthopnea, jugular vein distention (rare), pink, frothy sputum, peripheral edema, diaphoresis, chest pain
- Hypotension, shock

Differential
- Congestive heart failure
- Asthma
- Anaphylaxis
- Aspiration
- Pleural effusion
- Pneumonia
- Pulmonary embolus
- Pericardial tamponade
- Toxic Exposure

Pearls
- Recommended exam: Mental status, Respiratory, Cardiac, Skin, Neuro
- Contact Medical Control early in the care of the pediatric cardiac patient.
- Most children with CHF have a congenital heart defect, obtain a precise past medical history.
- **Congenital heart disease varies by age:**
  - < 1 month: Tetralogy of Fallot, Transposition of the great arteries, Coarctation of the aorta.
  - 2 – 6 months: Ventricular septal defects (VSD), Atrioseptal defects (ASD).
  - Any age: Myocarditis, Pericarditis, SVT, heart blocks.
- **Treatment of Congestive Heart Failure / Pulmonary edema may vary depending on the underlying cause and may include the following with consultation by Medical Control:**
  - Morphine Sulfate: 0.1 mg/kg IV / IO. Max single dose 5mg/dose
  - Fentanyl: 1 mcg/kg IV / IO. Max single dose 50 mcg.
  - Nitroglycerin: Dose determined after consultation of Medical Control.
  - Lasix 1 mg/kg IV / IO.
  - Agency specific vasopressor.
- Do not assume all wheezing is pulmonary, especially in a cardiac child: avoid albuterol unless strong history of recurrent wheezing secondary to pulmonary etiology (discuss with Medical Control)

Position child with head of bed in up-position (25-40°)
Flexing hips with support under knees so that they are bent 90°
Transport to a Pediatric Specialty Center if available
Notify Destination or Contact Medical Control

Pediatric Airway Protocol(s) 5, 6, 7 as indicated
Pediatric Allergic Reaction Anaphylaxis Protocol PM 1