Section 2: Adult Airway/Respiratory Protocols

ADULT AIRWAY/RESPIRATORY: CONGESTIVE HEART FAILURE/PULMONARY EDEMA

UNIVERSAL PATIENT CARE PROTOCOL

12 Lead EKG Procedure
1\textsuperscript{ST} Contact to EKG and Transmission < 10 Min

IV PROCEDURE

E  EMT  E
A AEMT  A
P PARAMEDIC  P
M MED  CONTROL  M

Mild
Adequate BP
Apply OXYGEN 100%
NITROGLYCERIN (NITRO-STAT) 0.4 mg SL
May repeat up to 3 times
SBP < 110
ED Drug Within 48 Hrs
Consider CPAP Procedure
Hypotension
Untreated Vomiting
Monitor and Reassess

Moderate / Severe
Adequate BP
Apply OXYGEN 100%
CAPNOGRAPHY PROCEDURE
NITROGLYCERIN (NITRO-STAT) 0.4 mg SL
May repeat up to 3 times
SBP < 110
ED Drug Within 48 Hrs
CPAP Procedure
Hypotension
Untreated Vomiting
Treat with aerosol DUONEB
(0.5 mg Ipratropium & 2.5 mg Albuterol in 3 ml)
Oxygen as needed
Follow up pulse-ox
Repeat DUONEB aerosols as needed.

Cardiogenic Shock
Hypotensive
SBP < 90 / No Radial Pulses
Pale, cool, clammy, hypotensive, acute MI in progress, severe pulmonary edema
Do NOT Apply CPAP
Do Not Give Vasodilators

OXYGEN 100%
Bag – Valve Mask
CAPNOGRAPHY PROCEDURE
Consider Intubation
Refer To Cardiogenic Shock Protocol

Transport to appropriate facility CONTACT receiving facility CONSULT Medical Direction where indicated

Consider
FUROSEMEIDE (LASIX) 40-80 mg Slow IVP
SBP < 110
Fever
Not first line treatment Pneumonia Hx

Cleveland Clinic EMS Medical Control Protocols – Adult Airway/Respiratory Protocol Section
### Section 2: Adult Airway/Respiratory Protocols

#### ADULT AIRWAY/RESP: CONGESTIVE HEART FAILURE/PULMONARY EDEMA-CONT.

<table>
<thead>
<tr>
<th>I – MILD</th>
<th>II – MODERATE</th>
<th>III – SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heart Rate</strong></td>
<td>Normal range</td>
<td>Tachycardia</td>
</tr>
<tr>
<td><strong>Blood Pressure</strong></td>
<td>Normal or slightly elevated</td>
<td>Elevated</td>
</tr>
<tr>
<td><strong>Breath Sounds</strong></td>
<td>Bilateral rales, Rhonchi, Wheezing possible, Some difficulty breathing</td>
<td>Bilateral diffuse rales, Wheezing possible, Diminished, Working hard to breath, Frothy sputum may occur</td>
</tr>
</tbody>
</table>

#### HISTORY
- Congestive heart failure
- Past medical history
- Medications - diuretics
- Erectile dysfunction medication use
- Cardiac history - past myocardial infarction
- >75 years old on diuretic
- Absence of cough
- Severe HTN

#### SIGNS AND SYMPTOMS
- Respiratory distress, bilateral rales
- Apprehension, orthopnea
- Jugular vein distention
- Pink, frothy sputum
- Peripheral edema, diaphoresis
- Hypotension, shock
- Chest pain
- Positive hepato-jugular reflux (HJR)
- Orthopnea

#### DIFFERENTIAL DIAGNOSIS
- Myocardial infarction
- Congestive heart failure
- Asthma
- Anaphylaxis
- Aspiration
- COPD
- Pleural effusion
- Pneumonia
- Pulmonary embolus
- Pericardial tamponade

### Congestive Heart Failure Signs and Symptoms
- Afebrile
- Jugular venous distension (JVD)
- Positive hepato-jugular reflux (HJR)
- Bilateral rales
- Distal edema
- Orthopnea
- History of CHF

### Pneumonia Signs and Symptoms
- Febrile
- Cough
- History of infectious illness
- Unilateral rales
- No distal edema
- No jugular venous distension (JVD)
- No hepato-jugular reflux (HJR)

- Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro
- Obtain 12-lead EKG to evaluate for M.I.
- Differentiate and document CHF vs pneumonia.
- Monitor for hypotension after administration of Nitroglycerin (Nitro-Stat).
- Monitor for hypotension while using CPAP, specifically with Nitroglycerine (Nitro-Stat)
- DO NOT administer Nitroglycerin (Nitro-Stat) to a patient who took an erectile dysfunction medication (Viagra, Cialis, Levitra, etc.) within the last 48 hours.