

POLICY: 554.10
TITLE: Acute Pulmonary Edema

EFFECTIVE: 02/01/25
REVIEW: 02/2028
SUPERCEDES:

APPROVAL SIGNATURES ON FILE IN EMS OFFICE

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ACUTE PULMONARY EDEMA

- I. AUTHORITY
Health and Safety Code, Division 2.5, California Code of Regulations, Title 22, Division 9
- II. PURPOSE
To serve as a patient treatment standard for EMRs, EMTs, and Paramedics within their scope of practice.
- III. PROTOCOL
History may include: elderly patient, heart problems (hypertension, congestive heart failure), dyspnea worse when lying down (orthopnea), symptoms of acute MI, takes "water pills," sudden weight gain, cough with pink frothy sputum.
- Medications may include: digoxin, lanoxin, digitoxin, chlorothiazide, furosemide, hydrochlorothiazide, bumetanide.
- Physical findings may include: rales, distended neck veins, pedal or presacral edema.

Provider Key: F = First Responder/EMR E = EMT O = EMT Local Optional SOP
P = Paramedic D = Base Hospital Physician Order Required

| | F | E | O | P | D |
|---|---|---|---|---|---|
| ASSESSMENT | X | X | X | X | |
| PULSE OXIMETRY: apply and monitor. | | X | X | X | |
| CAPNOGRAPHY: apply and monitor. | | | | X | |
| OXYGEN: if pulse oximetry < 94% or signs of respiratory distress or hypoperfusion. | X | X | X | X | |
| ECG MONITOR: lead placement may be delegated. Treat as indicated. | | | | X | |
| POSITION: sitting (as tolerated). | X | X | X | X | |
| VASCULAR ACCESS: IV/IO, rate as indicated. | | | | X | |

| | F | E | O | P | D |
|---|---|---|---|---|---|
| <p>*NITROGLYCERIN:</p> <ul style="list-style-type: none"> • 0.4 mg sublingual, (1 tablet/spray) for systolic BP 100-120 mmHg. • 0.8 mg sublingual, (2 tablets/sprays) for systolic BP 120-200 mmHg. • 1.2 mg sublingual, (3 tablets/sprays) for systolic BP > 200 mmHg. <p>May repeat every 3-5 minutes, maximum of 9 tablets/sprays. Hold when respiratory distress is alleviated, severe headache develops, or systolic BP drops below 100mmHg.</p> <p style="text-align: center;">AND</p> <p>*NITROGLYCERIN PASTE 1" (If systolic BP < 100 mmHg, NTG should be withheld or discontinued by wiping off with a clean towel).</p> | | | | X | |
| BASE CONTACT: for additional NTG orders. | | | | | X |
| CPAP or POSITIVE PRESSURE VENTILATION: as indicated. | | X | X | X | |
| MORPHINE: 2–5 mg increments IV/IO. May repeat as needed not to exceed 20 mg per 30 minutes. Hold for systolic BP < 90. | | | | X | |
| <p>PUSH DOSE EPINEPHRINE: for hypotension – titrate to SBP ≥ 90</p> <ul style="list-style-type: none"> • Mix 1 mL of Epi 1:10,000 (0.1 mg/mL) with 9 mL of NS = concentration of 1:100,000 (0.01 mg/mL) • Label syringe “epinephrine 10 mcg/mL” • 0.5 – 1 mL (5-10 mcg) IVP every 1-5 minutes <p>If SBP does not stabilize ≥ 90 after two doses, consider epinephrine drip. Refer to 554.88 RX GUIDELINES.</p> | | | | X | |

***Nitroglycerin shall not be given to pts who have taken PDE-5 inhibitors (sildenafil, Cialis, Viagra or similar) within the last 48 hours; instead, start with Morphine**