Chest Pain

Protocol

Douglas County KS EMS System **November 2022**

Reference Procedures: 12 lead

Goals for Patient Care:

- Consider life-threatening causes of chest pain (ACS, AD, PE, etc.)
- Improve patient comfort

Medications:

ADULT Medications:	PEDIATRIC Medications: Refer to HandTevy
• **Aspirin:** 324 mg P.O. chewed • **Nitroglycerin:** ○ 0.4mg SL repeat q 3-5 min (Systolic BP above 100mm Hg) (max dose, 3 sprays) ○ Paste 0.5-1.0 inch. Transdermal • **Fentanyl:** 25-100mcg IV/IO Slow Push, IM/IN (Titrate to effect, may repeat 5-10 min) (*Total Max. dose 400mcg*) • **Normal Saline:** 500mL, IV/IO for dehydration, hemodynamic instability • **Dopamine:** 400 mg / 250 cc NS infused at 5-20 mcg/kg/min (titrated to effect) IV/IO (*Refer to Dopamine formulary for drip rate*)	☎ Contact Medical Control for guidance if you have a pediatric chest pain with cardiac etiology. If not cardiac in nature refer to General Trauma or Pain/Anxiety Management • **Fentanyl:** 1 mcg/kg, up to 100mcg. IV/IO Slow Push, IM/IN (Titrate to effect, may repeat 5-10 min) (*Total Max. dose 400mcg*) • **Normal Saline:** 20 ml/kg, IV/IO for dehydration, hemodynamic instability • **Dopamine:** 400 mg / 250 cc NS infused at 5-20 mcg/kg/min (titrated to effect) IV/IO (*Refer to Dopamine formulary for drip rate*)

Background:

The etiology of chest pain can be cardiac, respiratory, gastrointestinal, musculoskeletal, etc. Acute coronary syndrome (ACS), aortic dissection (AD) and pulmonary embolism (PE) are all life-threatening causes of acute chest pain. These causes should be considered in all patients with chest pain. They should also be considered in patients with other symptoms which can be more notable than the complaint of chest pain. For example, nausea, indigestion, jaw pain, etc. in ACS; terrible back pain in AD, shortness of breath in PE. Tension pneumothorax is another cause of life-threatening chest pain that should be considered in the appropriate scenario.

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Procedures/Interventions

- Obtain 12 lead EKG as soon as possible on any patient whom you suspect to have cardiac cause for their complaint unless doing so might cause significant delay in emergent intervention.
    - 12-lead EKG should be obtained prior to administration of cardiac medications
- Perform a focused exam
- If pediatric patient presents with chest pain, contact Medical Control for further direction
- Obtain bilateral BP's in older patients complaining of "ripping" pain
    - > 20mmHg difference systolic could indicate aortic dissection and should be reported to Medical Control as may affect transport destination.
- Administer NS for hypotension
- If chest pain is thought to be respiratory in origin and NOT ACS, refer to the "Breathing Difficulty" protocol
- If chest pain is thought be of GI, musculoskeletal, etc. of origin, treat per appropriate protocol
- If acute coronary syndrome (ACS) is thought to be the cause of the chest pain, proceed with the following interventions:

ACS Interventions:

- Administer O2 if SpO2 <92%, assist ventilation as required
- Administer aspirin
- Establish IV access – in the antecubital fossa (AC) if possible
- Administer nitroglycerin (NTG) if SBP>90mmHG
    - NTG in contraindicated in patients who have taken erectile dysfunction (ED) drugs in last 24-48 hours (see Nitroglycerin Formulary)
    - Avoid NTG in inferior wall ischemia/infarction
- Nitroglycerin Paste can be used concurrently with spray
- If pain persists following nitroglycerin therapy, administer Fentanyl
- Begin transport as soon as possible
- Transmit 12 lead EKG to receiving facility and notify of results
- Triage "CODE STEMI" for patients with ST segment elevation in 2 or more contiguous leads and/or clinical presentation consistent with ACS.
- Time permitting, establish a 2nd IV, placed distal to 1st on same side

Cardiogenic Shock: If SBP<90

- Treat underlying dysrhythmia as needed (refer to Dysrhythmia Protocol)
- If pulmonary edema is not present based upon clinical , administer IV/IO Normal Saline
    - Administer dopamine to hypotension refractory to NS bolus
    - If pulmonary edema is present, consider dopamine

Transport considerations:

- Transport STEMI patients to closest facility with available Cath lab
- OPTICOM transport should be used for all ACS patients with stable vital signs, to minimize the out-of-hospital time and associated patient stress due to emergency transport
- EMERGENCY transport should be utilized for any ACS patient with unstable vital signs, or in the judgment of the paramedic, the benefits of emergency transport outweigh the risks