

HEALTHEAST MEDICAL TRANSPORTATION
MEDICAL OPERATIONS MANUAL

2L CARDIOGENIC SHOCK

PATIENT CARE GOALS

- Identify and treat causes of shock, and restore and maintain adequate oxygenation, ventilation, and perfusion.¹

EMT

- Assess the patient and provide oxygen, hemorrhage control, vascular access, and other initial care per **1A General Assessment and Care**. Consider mechanisms of shock that may be present.¹

PARAMEDIC

ADULT	PEDIATRIC (less than 60 kg)
<ol style="list-style-type: none"> If pulmonary edema is not present, administer a 500 mL IV/IO normal saline bolus, and then reassess vital signs and clinical status. Continue IV/IO fluids at a rate to maintain a MAP of 65-75 mmHg. Perform 7P Chest Decompression if signs of tension pneumothorax are present. If needed, treat severe bradycardia or tachyarrhythmias as per specific dysrhythmia treatment guidelines.³ For cardiogenic shock administer norepinephrine (Levophed) infusion starting at 0.1 mcg/kg/min. Titrate up to 0.5 mcg/kg/min to achieve MAP of 65 mmHg.⁴ For post shockable arrest ROSC administer dopamine (Intropin) infusion starting at 5 mcg/kg/min and titrating to 20 mcg/kg/min For post non-shockable arrest ROSC administer epinephrine (Adrenalin) infusion at 0.1-0.5 mcg/kg/min to maintain MAP of 65 mmHg. 	<ol style="list-style-type: none"> If pulmonary edema is not present, administer an IV/IO fluid bolus according to Handtevy Pediatric Guidelines² and then reassess vital signs and clinical status. If there is inadequate hemodynamic improvement, give a second 20 mL/kg fluid bolus. Contact Medical Control if additional fluid boluses are needed. Continue IV/IO Fluids at a rate to maintain a MAP of 65-75 mmHg. Perform 7P Chest Decompression if signs of tension pneumothorax are present. If needed, treat severe bradycardia or tachyarrhythmias as per specific dysrhythmia treatment guidelines.³ For cardiogenic shock administer norepinephrine (Levophed) infusion starting at 0.1 mcg/kg/min. Titrate up to 0.5 mcg/kg/min to achieve MAP of 65 mmHg.⁴ For post shockable arrest ROSC administer dopamine (Intropin) infusion starting at 5 mcg/kg/min and titrating to 20 mcg/kg/min For post non-shockable arrest ROSC administer epinephrine (Adrenalin) infusion at 0.1-0.5 mcg/kg/min to maintain MAP of 65 mmHg.

HEALTHEAST MEDICAL TRANSPORTATION MEDICAL OPERATIONS MANUAL

DOCUMENTATION KEY POINTS

- Rationale for treatment based on mechanism of shock.
- Initial and on-going assessments, monitoring, interventions, patient response, and complications (if any) encountered.

NOTES

- ¹ **Differential assessment:** Try to determine if the hypotension is due to poor volume (hypovolemia), cardiac rate (profound bradycardia or tachycardia), pump (cardiogenic shock), volume distribution (sepsis, anaphylaxis, neurogenic) or obstruction (P.E., tamponade) and treat accordingly.
- ² **Handtevy pediatric fluid bolus guidelines:**
 - **Patients up to 4 months old:** Administer a 10 ml/kg normal saline bolus.
 - **Patients 4 months to 11 years old:** Administer a 20 ml/kg normal saline bolus.
 - **Patients greater than 11 years old:** Administer a 1 liter normal saline bolus.
- ³ **Sinus tachycardia** is a common compensatory mechanism. Treat the underlying cause, not the rhythm itself.
- ⁴ **Norepinephrine (Levophed) infusion:** Mix 8 mg of **norepinephrine (Levophed)** in a 250 ml bag of normal saline (concentration of 32 mcg/ml). Administer using 60gtt/ml tubing. Monitor carefully for infiltration at the IV/IO site. Continuous cardiac monitoring is required.