

Protocol 2-4

SECTION: Adult Medical Emergencies

PROTOCOL TITLE: Medical – Hypotension/Shock (Non-trauma)
(Cardiogenic Shock)

REVISED: 06/2017

OVERVIEW:

Shock is often defined as a state of inadequate tissue perfusion. This may result in acidosis, derangements of cellular metabolism, potential end-organ damage, and death. Early in the shock process, patients are able to compensate for decreased perfusion by increased stimulation of the sympathetic nervous system, leading to tachycardia and tachypnea. Later, compensatory mechanisms fail, causing a decreased mental status, hypotension, and death. Early cellular injury may be reversible if definitive therapy is delivered promptly.

HPI	Signs and Symptoms	Considerations
<ul style="list-style-type: none"> Blood loss (vaginal or gastrointestinal) AAA, ectopic Fluid loss (vomiting, diarrhea) Fever Infection Cardiac ischemia (MI, HF) Medications Allergic Reaction Pregnancy 	<ul style="list-style-type: none"> Restlessness, confusion Weakness, dizziness Weak, rapid pulse Pale, cool, clammy skin Delayed capillary refill Difficulty breathing Hypotension Coffee-ground emesis Tarry stools 	<ul style="list-style-type: none"> Shock Hypovolemic Cardiogenic Septic Neurogenic Anaphylactic Ectopic pregnancy Dysrhythmia Pulmonary embolus Tension pneumothorax Medication effect, overdose Vaso-vagal Physiologic (pregnancy)

	EMR	EMT	A	I	P
1. Perform general patient management.	•	•	•	•	•
2. Assess mechanism of injury and / or nature of illness.	•	•	•	•	•
3. Administer Oxygen to maintain SPO_2 94 - 99%	•	•	•	•	•
4. If shock is present, without pulsating masses, refer to <i>Shock protocol</i> .	•	•	•	•	•
5. Obtain 12 lead ECG		•	•	•	•
a. Place patient on cardiac monitor and interpret				•	•
6. Initiate IV of Normal Saline KVO. Establish second IV if time permits.			•	•	•
7. Administer Normal Saline 20 mL / kg bolus twice. Caution should be used in patients with a history of renal failure and HF. Reassess for overload.				•	•

CARDIOGENIC SHOCK

Protocol

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Continued

CARDIOGENIC SHOCK

	EMR	EMT	A	I	P
8. If patient has not responded to boluses, contact medical control to consider the administration of <i>LEVOPHED</i> 0.1-0.5 mcg/kg/min for hypotension that remains after fluid bolus. Titrate to maintain adequate peripheral perfusion.				•	•
9. Transport promptly in position of comfort. Reassess as needed.		•	•	•	•

Classes of Shock			
Hypovolemic	Distributive	Cardiogenic	Obstructive
Caused by hemorrhage, burns, or dehydration.	Maldistribution of blood, caused by poor vasomotor tone in neurogenic shock, sepsis, anaphylaxis, severe hypoxia, or metabolic shock.	Caused by necrosis of the myocardial tissue, or by arrhythmias.	Caused by impairment of cardiac filling, found in pulmonary embolism, tension pneumothorax, or cardiac Tamponade.

PEARLS:

1. Circulatory failure is due to inadequate cardiac function.
2. Cardiogenic shock should be considered when an MI is suspected and there is no specific indication of volume related shock.
3. Pulmonary edema / HF may cause cardiogenic shock.
4. Marked, symptomatic tachycardia and bradycardia will cause cardiogenic shock.