San Mateo County Emergency Medical Services

Shock

For patients with poor perfusion not rapidly responsive to IV fluids

**History**
- Blood loss (amount?)
- Fluid loss (vomiting, diarrhea or fever)
- Infection (e.g., UTI, cellulitis, etc.)
- Cardiac ischemia (MI or CHF)
- Medications
- Allergic reaction
- Pregnancy
- History of poor oral intake

**Signs and Symptoms**
- Restlessness or confusion
- Weakness or dizziness
- Weak, rapid pulse
- Pale, cool, clammy skin signs
- Delayed capillary refill
- Hypotension
- Coffee-ground emesis
- Tarry stools

**Differential**
- Shock (hypovolemic, cardiogenic, septic, neurogenic or anaphylaxis)
- Ectopic pregnancy
- Cardiac dysrhythmias
- Pulmonary embolus
- Tension pneumothorax
- Medication effect or overdose
- Vasovagal effect
- Physiologic (pregnancy)

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**Flowchart**

1. **History, exam and circumstances often suggest (type of shock)**
   - **WAS TRAUMA INVOLVED?**
     - Yes
       - Trauma
     - No
       - **Consider hypovolemic (dehydration or GI bleed), cardiogenic (STEMI or CHF), distributive (sepsis or anaphylaxis), and obstructive (PE or cardiac tamponade) shock**

2. **If systolic BP < 90**
   - **Normal Saline bolus 500ml IV/IO**
   - **Maximum 2L**
   - If unresponsive to IV fluids, **Dopamine**

3. **Notify receiving facility. Consider Base Hospital for medical direction**

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**Effective November 2018**

Treatment Protocol A33

Effective October 2019
Pearls

- Hypotension can be defined as a systolic blood pressure of less than 90mmHg. This is not always reliable and should be interpreted in context with the patient’s typical BP, if known. Shock may be present with a seemingly normal blood pressure initially.
- Shock is often present with normal vital signs and may develop insidiously. Tachycardia may be the only manifestation.
- Beta blockers and other blood pressure medications can mask tachycardia and skin signs.
- For patients with suspected cardiogenic shock who are not responsive to an initial fluid bolus, limit additional IV fluids and avoid Dopamine. Contact Base Hospital for medical direction.
- Consider all causes of shock and treat per appropriate Treatment Protocol.
- Hypovolemic shock:
  - Hemorrhage, trauma, GI bleeding, ruptured abdominal aortic aneurysm (AAA), or pregnancy-related bleeding. For suspected AAA, consider immediate transport to the closest trauma center.
- Cardiogenic shock:
  - Heart failure, MI, cardiomyopathy, myocardial contusion, ruptured ventricle/septum/valve or toxins.
- Distributive shock:
  - Sepsis, anaphylactic, neurogenic, or toxins.
  - Neurogenic shock generally presents with warm, dry, and pink skin with normal capillary refill time; patient typically alert.
- Obstructive shock:
  - Pericardial tamponade, pulmonary embolus (PE), or tension pneumothorax.
  - Signs may include hypotension with distended neck veins, tachycardia, unilateral decreased breath sounds or muffled heart tones.