Shock

For patients with known adrenal insufficiency, administer patient's own Solu-Cortef (hydrocortisone) as prescribed.

General Adult Assessment

Oxygen Keep SpO2 > 94%

Vascular Access

Cardiac monitor/capnography

Alternative appropriate treatment protocols as indicated

Trauma-related

Non-trauma, Non-cardiogenic

Cardiogenic

General Trauma

NS bolus 1000 ml; may repeat x 1 with no rales on lung exam

12-Lead ECG

Obtain waveform capnography

NS bolus 500 ml; if no rales on lung exam, may repeat x 1

PUSH DOSE EPINEPHRINE 1:100,000
5.0 mcg – 10.0 mcg IV/IO, may repeat q 2-5 min to maintain SBP > 90 (0.5 ml-1.0 ml of a 1:100,000 solution)
To prepare: mix cardiac epinephrine 1:10,000 1 ml PLUS 9 ml Normal Saline = 10 ml EPINEPHRINE 1:100,000 at 10 mcg/ml

Obtain waveform capnography

OR

Consider DOPAMINE 5-20 mcg/kg/min; titrate to SBP > 90 mmHg

Obtain waveform capnography

Continue General Adult Assessment
**History**
- Blood loss-vaginal bleeding, ectopic, GI bleeding or AAA
- Fluid loss-vomiting, diarrhea, fever
- Infection
- Cardiac tamponade
- Medications
- Allergic reaction
- Pregnancy
- History of poor oral intake

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

**Differential**
- Hypovolemic shock
- Cardiogenic shock
- Septic shock
- Neurogenic shock
- Anaphylactic shock
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolism
- Tension pneumothorax
- Medication effect or overdose
- Vasovagal
- Physiologic (pregnancy)

**Pearls**
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Hypotension can be defined as a systolic BP of <90. This is not always reliable and should be interpreted in context and patient’s typical BP, if known. Shock may present with a normal BP initially.
- Shock often is present with normal vital signs and may develop insidiously. Tachycardia may be the only manifestation.
- Consider all possible causes of shock and treat per appropriate protocol.
- An ETCO2 measurement of <25 mm/hg is indicative of shock.

**Hypovolemic shock**
- Hemorrhage, trauma, GI bleeding, ruptured aortic aneurysm, or pregnancy related bleeding

**Cardiogenic shock**
- Heart failure, MI, cardiomyopathy, myocardial contusion, toxins

**Distributive shock**
- Sepsis (consider telemetry of code sepsis to receiving facility), anaphylaxis, neurogenic, toxins

**Obstructive shock**
- Pericardial tamponade, pulmonary embolus, tension pneumothorax

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**Causes of Adrenal Insufficiency:**
- Addison’s Disease
- Congenital Adrenal Hyperplasia
- Long term administration of steroids
- Others
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- Others

**Pearls**
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Hypotension can be defined as a systolic < Estimated Minimum Systolic. This is not always reliable and should be interpreted in context and patient’s typical BP, if known. Shock may present with a normal BP initially.
- Shock often is present with normal vital signs and may develop insidiously. Tachycardia may be the only manifestation.
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**Hypovolemic shock**
- Hemorrhage, trauma, GI bleeding, ruptured aortic aneurysm or pregnancy-related bleeding

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Indications:
This procedure may be performed on any patient that requires the administration of a medication.

Key procedural considerations (GENERAL):
A. Inquire about allergies and previous medication reactions
B. Check and recheck medication
C. Solution clarity and expiration date
D. Right drug
   Right patient
   Right dose
   Right time
   Right route
   Right documentation
E. Dispose of syringe and other material in proper container

Intravenous and Intraosseous Bolus Medications
Key procedural considerations:
A. Identify and cleanse injection site closest to the patient
B. Administer correct dose at proper push rate
C. Turn IV on and adjust drip rate to TKO/KVO

Intramuscular and Subcutaneous Drug Administration
Key procedural considerations:
A. Needle should be 20 gauge or smaller
B. Locate administration site
   Deltoid muscle
   Vastus lateralis (lateral thigh) muscle
   Ventrogluteal or dorsogluteal muscles (buttocks)

<table>
<thead>
<tr>
<th>IM</th>
<th>SQ</th>
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<tbody>
<tr>
<td>Pull skin tight</td>
<td>Pinch to lift skin slightly</td>
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<tr>
<td>Insert needle at a 90° angle to the skin</td>
<td>Insert needle at a 45° angle to the skin</td>
</tr>
<tr>
<td>Advance into muscle layer</td>
<td>Advance into subcutaneous layer</td>
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