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# CIRCULATION / SHOCK

## SHOCK GUIDELINES

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<th>TYPES OF SHOCK</th>
<th>SIGNS AND SYMPTOMS</th>
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| **ANAPHYLACTIC SHOCK** | • Warm, burning feeling  
  • Itching  
  • Rhinorrhea  
  • Hoarseness / Stridor  
  • Wheezing  
  • Shock  
  • Severe Respiratory Distress  
  • Altered LOC / Coma  
  • Cyanosis  
  • Pulmonary Edema  
  • Facial / Airway Edema  
  • Urticaria / Hives  
  • Dyspnea |
| **CARDIOGENIC SHOCK** | • Cool, clammy skin  
  • Weakness  
  • Difficulty breathing  
  • Hypotension |
| **HYPOVOLEMIC SHOCK** | • Tachycardia  
  • Weak, thready pulse  
  • Hypotension with narrow pulse pressure  
  • Hypotension or falling systolic BP  
  • Pale skin  
  • Clammy or dry skin  
  • Dyspnea  
  • Altered LOC / Coma  
  • Decreased urine output  
  • Restlessness  
  • Irritability |
| **NEUROGENIC SHOCK** | • Evidence of trauma (lacerations, bruising, swelling, deformity)  
  • Normal or Bradycardic HR  
  • Hypotension with a narrow pulse pressure  
  • Compromise in neurological function  
  • Normal or flush skin color |
| **SEPTIC SHOCK** | • Tachycardia  
  • Hypovolemia  
  • Hypotension with a narrow pulse pressure  
  • Dehydration  
  • Altered LOC / Coma  
  • Dyspnea  
  • Febrile / Hx of UTI  
  • Signs of Infection |
CIRCULATION / SHOCK

SHOCK

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<th>History</th>
<th>Signs and Symptoms</th>
<th>Differential Diagnosis</th>
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<td>• Blood loss - vaginal or gastrointestinal bleeding, AAA, ectopic</td>
<td>• Restlessness, confusion</td>
<td>• Shock / Vasovagal Syncope</td>
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<td>• Fluid loss - vomiting, diarrhea, fever</td>
<td>• Weakness, dizziness</td>
<td>• Hypovolemic</td>
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<td>• Infection</td>
<td>• Weak, rapid pulse</td>
<td>• Cardiogenic</td>
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<tr>
<td>• Cardiac ischemia (MI, CHF)</td>
<td>• Pale, cool, clammy skin</td>
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<td>• Medications</td>
<td>• Delayed capillary refill</td>
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<td>• Allergic reaction</td>
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<td>• Pregnancy</td>
<td>• Coffee-ground emesis</td>
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<td></td>
<td>• Tarry stools</td>
<td>• Dysrhythmias</td>
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<td></td>
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<td>• Pulmonary embolus</td>
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<td>• Tension pneumothorax</td>
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<tr>
<td></td>
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<td>• Medication effect / overdose</td>
</tr>
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<td></td>
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<td>• Physiologic (pregnancy)</td>
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GENERAL CONSIDERATIONS:

- Exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro
- Hypotension can be defined as a systolic blood pressure of less than 100.
- Consider all possible causes of shock and treat per appropriate protocol.

Anaphylactic Shock

- Do not confuse epinephrine 1:1000 and 1:10,000.
- Routine assessment and supportive care of the patient’s respiratory and cardiovascular systems is required.
- Treat patients with a history of anaphylaxis aggressively.
- Use caution when using epinephrine for patients over sixty-five years of age.
- Call Med. Control and use caution when using epinephrine for patients with a heart rate greater than 150 bpm.
- When possible, remove any stingers.
- Consider glucagon for elderly, pregnant and ASHD.

Cardiogenic Shock

- Circulatory failure is due to inadequate cardiac function.
- Be aware of patients with congenital defects.
- Cardiogenic shock exists in the pre-hospital setting when an MI is suspected and there is no specific indication of volume related shock.
- Pulmonary Edema or CHF may cause cardiogenic shock (pediatrics with congenital heart defects may rarely have pulmonary edema).
- Marked, symptomatic tachycardia and bradycardia will also cause cardiogenic shock.

Hypovolemic Shock

- Patients suffering from hemorrhagic shock secondary to trauma, should be treated under the Trauma Criteria, and should be rapidly transported to the nearest appropriate facility.
- Initiate a second large bore IV for all patients in hypovolemic shock.

Neurogenic Shock

- Cushings Reflex is a sign of increased ICP. Cushings Reflex is a high blood pressure, low pulse rate, and irregular respirations.

Septic Shock

- Hypotensive patients not in distress do not necessarily require aggressive intervention.
- Be alert for septic shock in the elderly.
- Start an IV and maintain systolic blood pressure greater than 90 for end organ perfusion.
ANAPHYLACTIC SHOCK

**Universal Patient Care Protocol**

**IV Protocol**

- Apply Cardiac Monitor and Assess Vitals

**Mild**

- Hives, Rash, itching, NO difficulty breathing or throat tightening, BP - normal limits

- Treatment
  - Oxygen per cannula
  - Benadryl 25-50 mg IV or IM
  - Consider Epi if history of severe reaction
  - Consider assisting with Epi pen if history of severe reaction

**Moderate**

- Rash, itching, Wheezing, Throat tightening, Swelling, face lips, BP - normal limits

- Treatment
  - Oxygen per NRB
  - Assist with Epi pen
  - Epinephrine 1:1000 0.3-0.5 mL subcut
  - Benadryl 25-50 mg IV or IM
  - Consider Albuterol aerosol tx.
  - Consider repeat Epi after 5 min. if no improvement

**Severe**

- Rash, itching, Airway compromise Wheezing, Swelling, Hypotension

- Treatment
  - Oxygen per NRB
  - Assist with Epi pen
  - Epinephrine 1:1000 0.3-0.5 mL subcut
  - Benadryl 25-50 mg IV or IM
  - Albuterol Aerosol watch airway & breathing
  - Consider repeat Epi after 5 min. if no improvement
  - Consider Dopamine if no improvement

**For patients over 65 yrs. in category mild, moderate or severe, may give Glucagon 1 mg IV/IM before EPI**

**For patients over 65 yrs. in category mild, moderate or severe, may give Glucagon 1 mg IV/IM before EPI**

**Contact Medical Control**

**Transport**
Airway Protocol
Monitor Lung Sounds for Fluid Overload
Consider Spinal Immobilization

IV / IO PROCEDURE
Apply Cardiac Monitor and Assess Vitals

Hypovolemic Shock
- IV NS BOLUS 500 mL (If BP less than 90 Systolic)
- Check Blood Glucose Level
- IV NS BOLUS 500 mL (If BP less than 90 Systolic)
- Treatment per Appropriate Trauma Protocol
- Monitor and Reassess BP

Cardiogenic Shock
- 12 Lead Procedure
- Check Blood Glucose Level
- Dopamine (Intropin) 2 - 20 mcg/kg/min IV drip
- Titrate to effect (if B/P < 90 systolic)
- Monitor and Reassess BP

Neurogenic Shock
- IV NS TKO
- Check Blood Glucose Level
- IV NS BOLUS 500 mL (If BP less than 90 Systolic)
- Dopamine (Intropin) 2 - 20 mcg/kg/min IV drip
- Titrate to effect (if B/P < 90 systolic)
- Monitor and Reassess BP

Septic Shock
- IV NS BOLUS 500 mL (If BP less than 90 Systolic)
- 12 Lead Procedure
- Check Blood Glucose Level
- IV NS BOLUS 500 mL (If BP less than 90 Systolic)
- Dopamine (Intropin) 2 - 20 mcg/kg/min IV drip
- Titrate to effect (if B/P < 90 systolic)
- Monitor and Reassess BP

CONTACT MEDICAL CONTROL

TRANSPORT