Pediatric Hypotension/Shock

**History**
- Blood loss
- Vomiting
- Diarrhea
- Fever
- Infection

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

**Differential**
- Shock (hypovolemic, cardiogenic, septic, neurogenic, or anaphylaxis)
- Trauma
- Infection
- Dehydration
- Congenital heart disease
- Medication or Toxin

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**Treatment Guideline P06**

**History, exam and circumstances often suggest (type of shock)** WAS TRAUMA INVOLVED?

Yes

- Consider hypovolemic (bleeding), neurogenic (spinal injury) and obstructive (pneumothorax) shock

No

- Consider hypovolemic (dehydration or GI bleed), cardiogenic (STEMI or CHF), distributive (sepsis or anaphylaxis) and obstructive (PE or cardiac tamponade) shock

**Diabetic TG if indicated**

- IV/IO procedure
- Cardiac monitor
- Blood glucose analysis
- Consider 12-Lead ECG
- Airway TGs if indicated

**Cardiac/Arrhythmia TG if indicated**

**Exit to Trauma TG if indicated**

**Notify receiving facility. Contact Base Hospital for medical direction**

**Normal Saline bolus IV/IO**

- Use Pediatape and refer to dosing guide
- Repeat to age dependent goal SBP
- Maximum 1L

**Exit to appropriate TG**

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Pearls
• Hypotension is age dependent. 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.

Hypotension is defined as:
  ◦ Neonate: < 60mmHg or weak pulses
  ◦ Infant: < 70mmHg or weak pulses
  ◦ 1-10 years: < 70mmHg + (age in years x2)
  ◦ Over 10 years: < 90mmHg

• Systemic BP goals are defined as:
  ◦ Neonate: > 60mmHg
  ◦ Infant: > 70mmHg
  ◦ 1-10 years: > 70mmHg + (age in years x2)
  ◦ Over 10 years: > 90mmHg

• Common pediatric terms used to describe children are defined as:
  ◦ Newly born are ≤ 24 hours old
  ◦ Neonates are ≤ 28 days old
  ◦ Infants are ≤ 1 year old

• Normal blood pressure, delayed capillary refill, diminished peripheral pulses, and tachycardia indicates compensated shock in children.
• Hypotension and delayed capillary refill > 4 seconds indicates impending circulatory failure.
• Systolic blood pressure in children may not drop until the patient is 25-30% volume depleted. This may occur through dehydration, blood loss, or an increase in vascular capacity (e.g. anaphylaxis).
• Decompensated shock (hypotension with capillary refill > 5 seconds) may present as PEA in children.
• Sinus tachycardia is the most common cardiac rhythm in encountered in children.
• SVT should be suspected in the heart rate is greater than 180 in children ages (1-8) or greater than 220 in infants.
• Hypoglycemia may be found in pediatric shock, especially in infants.
• Pediatric shock victims are at risk for hypothermia due to their increased body surface area, exposure, and rapid administration of IV/IO fluids.