

Pediatric Hypotension / Shock

History

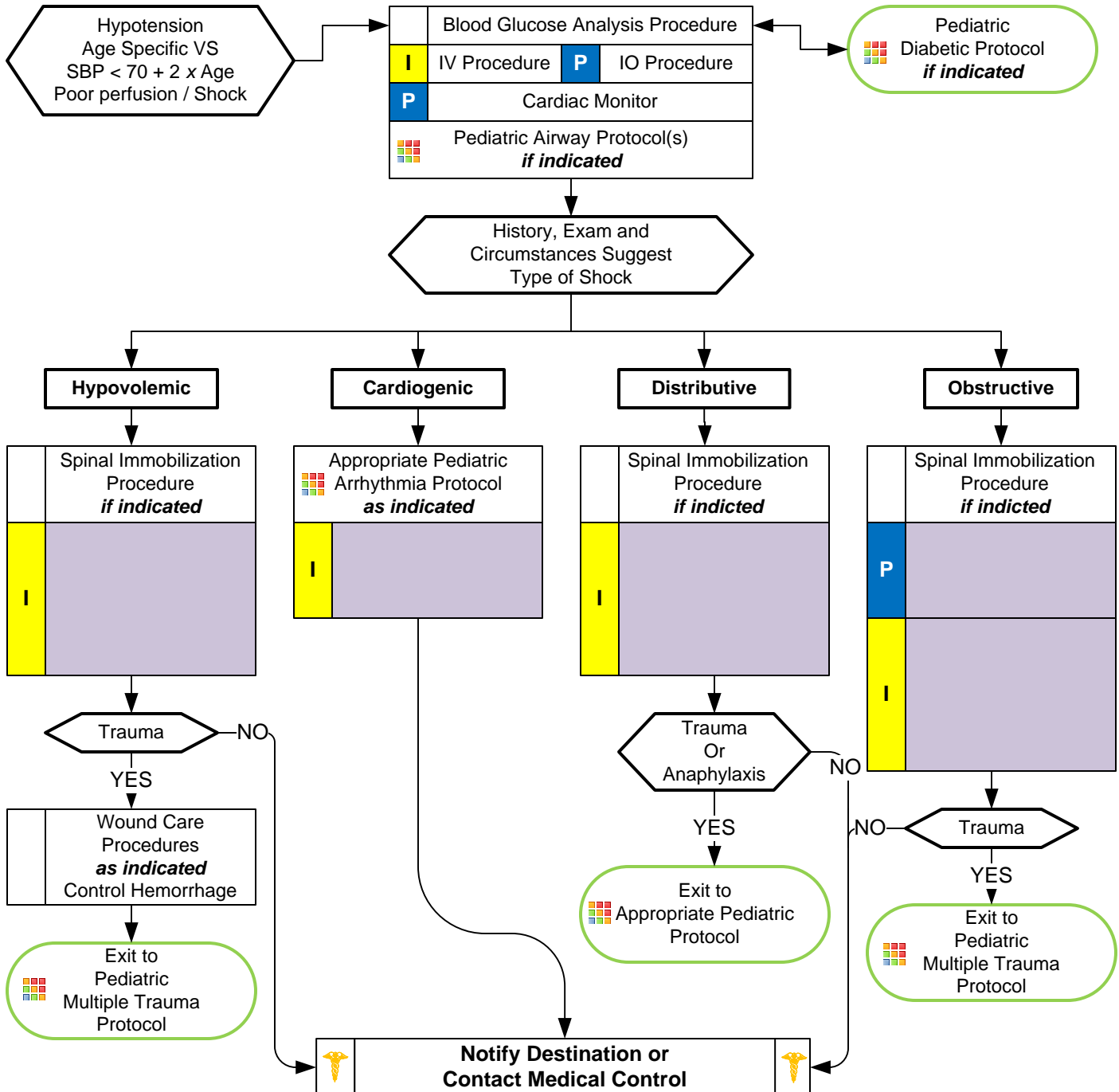
- Blood loss
- Fluid loss
- Vomiting
- Diarrhea
- Fever
- Infection

Signs and Symptoms

- Restlessness, confusion, weakness
- Dizziness
- Tachycardia
- Hypotension (Late sign)
- Pale, cool, clammy skin
- Delayed capillary refill
- Dark-tarry stools

Differential

- Shock
 - Hypovolemic
 - Cardiogenic
 - Septic
 - Neurogenic
 - Anaphylactic
- Trauma
- Infection
- Dehydration
- Congenital heart disease
- Medication or Toxin





Hypotension / Shock

Pearls

- **Recommended Exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- **Lowest blood pressure by age: < 31 days: > 60 mmHg. 31 days to 1 year: > 70 mmHg. Greater than 1 year: $70 + 2 \times \text{age in years}$.**
- **Consider all possible causes of shock and treat per appropriate protocol. Majority of decompensation in pediatrics is airway related.**
- **Decreasing heart rate and hypotension occur late in children and are signs of imminent cardiac arrest.**
- **Shock may be present with a normal blood pressure 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.**
- **Hypovolemic Shock:**
Hemorrhage, trauma, GI bleeding, ruptured aortic aneurysm or pregnancy-related bleeding.
- **Cardiogenic Shock:**
Heart failure: MI, Cardiomyopathy, Myocardial contusion, Ruptured ventricular / septum / valve / toxins.
- **Distributive Shock:**
Sepsis
Anaphylactic
Neurogenic: Hallmark is warm, dry, pink skin with normal capillary refill time and typically alert.
Toxins
- **Obstructive Shock:**
Pericardial tamponade. Pulmonary embolus. Tension pneumothorax.
Signs may include hypotension with distended neck veins, tachycardia, unilateral decreased breath sounds or muffled heart sounds.
- **Acute Adrenal Insufficiency:** State where body cannot produce enough steroids (glucocorticoids / mineralocorticoids.) May have primary adrenal disease or more commonly have stopped a steroid like prednisone. Usually hypotensive with nausea, vomiting, dehydration and / or abdominal pain. If suspected EMT-P should give **Methylprednisolone 2 mg/kg IV / IO** or **Dexamethasone 0.3 mg/kg (Maximum 10 mg) IV / IO**. Use agency-specific steroid.