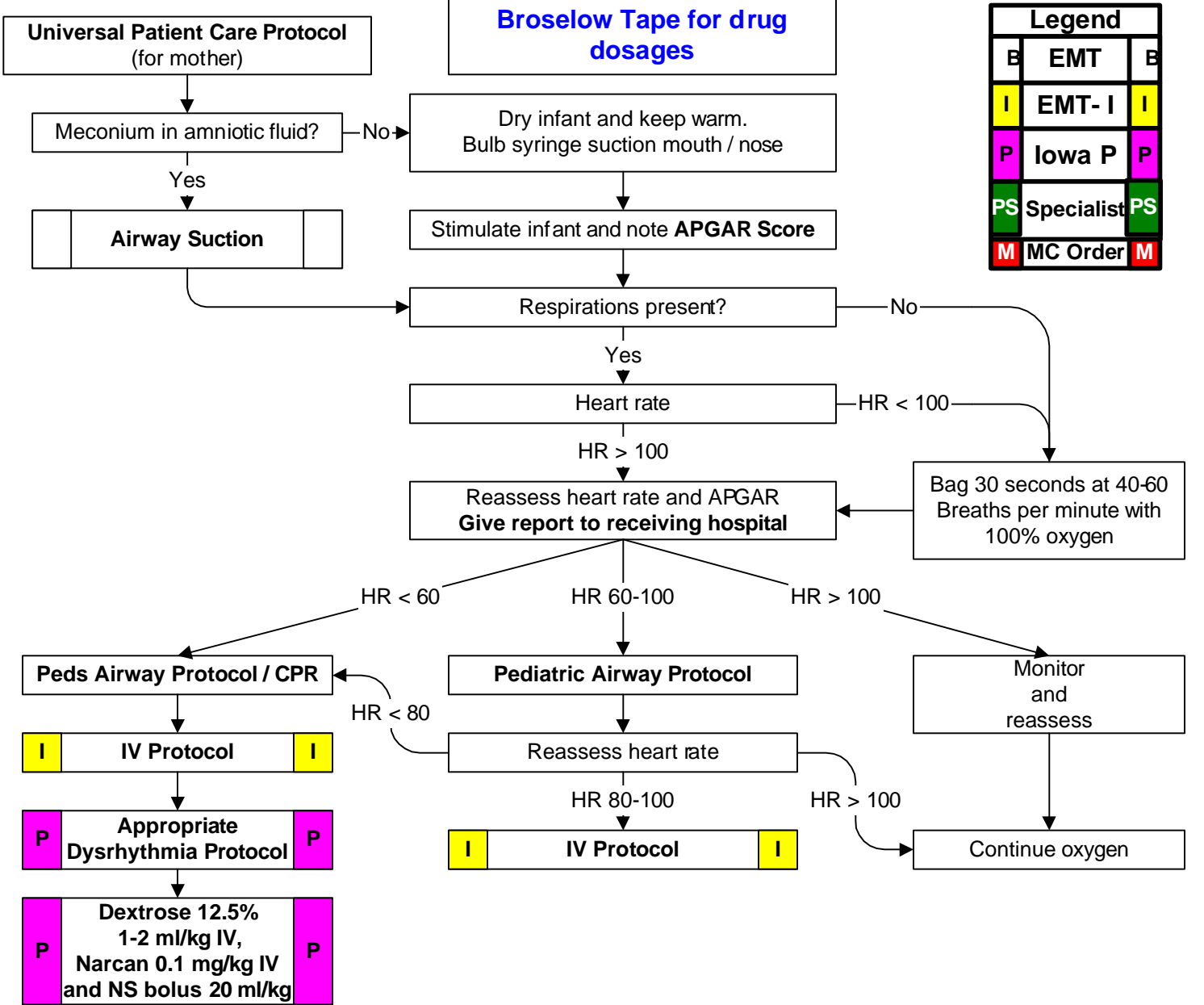




# Newly Born



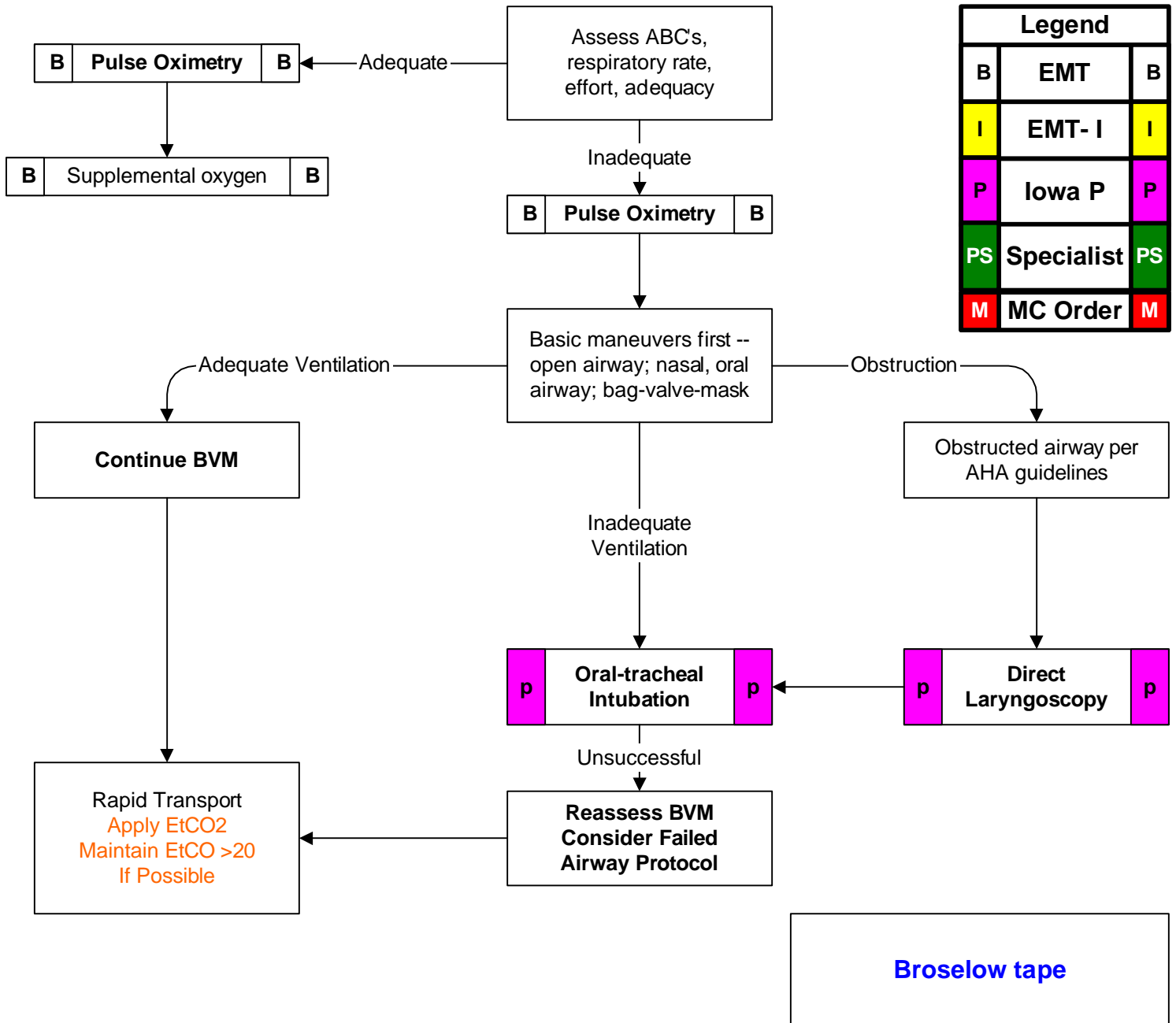
<b>History:</b> <ul style="list-style-type: none"> <li>• Due date and gestational age</li> <li>• Multiple gestation (twins etc.)</li> <li>• Meconium</li> <li>• Delivery difficulties</li> <li>• Congenital disease</li> <li>• Medications (maternal)</li> <li>• Maternal risk factors           <ul style="list-style-type: none"> <li>• substance abuse</li> <li>• smoking</li> </ul> </li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Respiratory distress</li> <li>• Peripheral cyanosis or mottling (normal)</li> <li>• Central cyanosis (abnormal)</li> <li>• Altered level of responsiveness</li> <li>• Bradycardia</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• <b>Airway failure</b></li> <li>• <b>Secretions</b></li> <li>• <b>Respiratory drive</b></li> <li>• <b>Infection</b></li> <li>• <b>Maternal medication effect</b></li> <li>• <b>Hypovolemia</b></li> <li>• <b>Hypoglycemia</b></li> <li>• <b>Congenital heart disease</b></li> <li>• <b>Hypothermia</b></li> </ul>
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<b>Pearls:</b> <ul style="list-style-type: none"> <li>• <b>Exam: Mental Status, Skin, HEENT, Neck, Chest, Heart, Abdomen, Extremities, Neuro</b></li> <li>• Maternal sedation or narcotics will sedate infant (Narcan effective but may precipitate seizures).</li> <li>• Consider hypoglycemia in infant.</li> <li>• Document 1 and 5 minute APGAR scores.</li> </ul>
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# Airway, Pediatric



### Pearls:

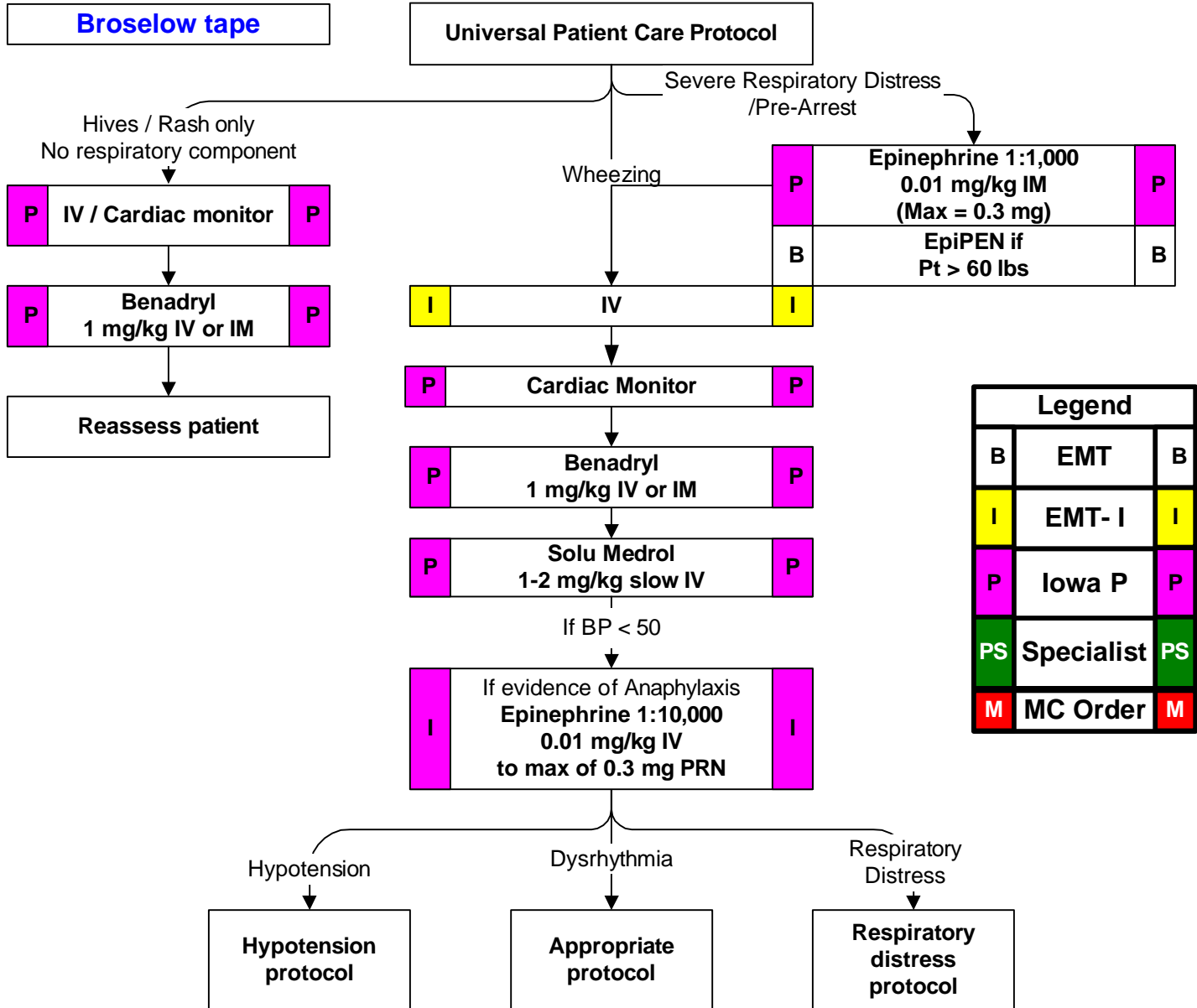
- For this protocol, pediatric is defined as less than 12 years.
- Capnometry, Esophageal Bulb, or capnography is mandatory with all methods of intubation. Document results.
- Limit intubation attempts to 3 per patient. Limit each attempt to 30 seconds to prevent hypoxia.
- If unable to intubate, continue BVM ventilations, transport rapidly, and **notify receiving hospital early**.
- Maintain C-spine immobilization for patients with suspected spinal injury.
- Do not assume hyperventilation is psychogenic -- use oxygen, not a paper bag.
- Sellick's maneuver should be used to assist with difficult intubations.
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.
- Consider c-collar to maintain ETT placement for all intubated patients (REMOVE COLLAR upon patient TRANSFER).



# Pediatric Allergic Reaction



<b>History</b> <ul style="list-style-type: none"> <li>Onset and location</li> <li>Insect sting or bite</li> <li>Food allergy / exposure</li> <li>Medication allergy / exposure</li> <li>New clothing, soap, detergent</li> <li>Past history of reactions</li> <li>Past medical history</li> <li>Medication history</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Itching or hives</li> <li>Coughing / wheezing or respiratory distress</li> <li>Chest or throat constriction</li> <li>Difficulty swallowing</li> <li>Hypotension or shock</li> <li>Edema</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>Urticaria (rash only)</li> <li>Anaphylaxis (systemic effect)</li> <li>Shock (vascular effect)</li> <li>Angioedema (drug induced)</li> <li>Aspiration / Airway obstruction</li> <li>Vasovagal event</li> <li>Asthma or COPD</li> <li>CHF</li> </ul>
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**Pearls:**

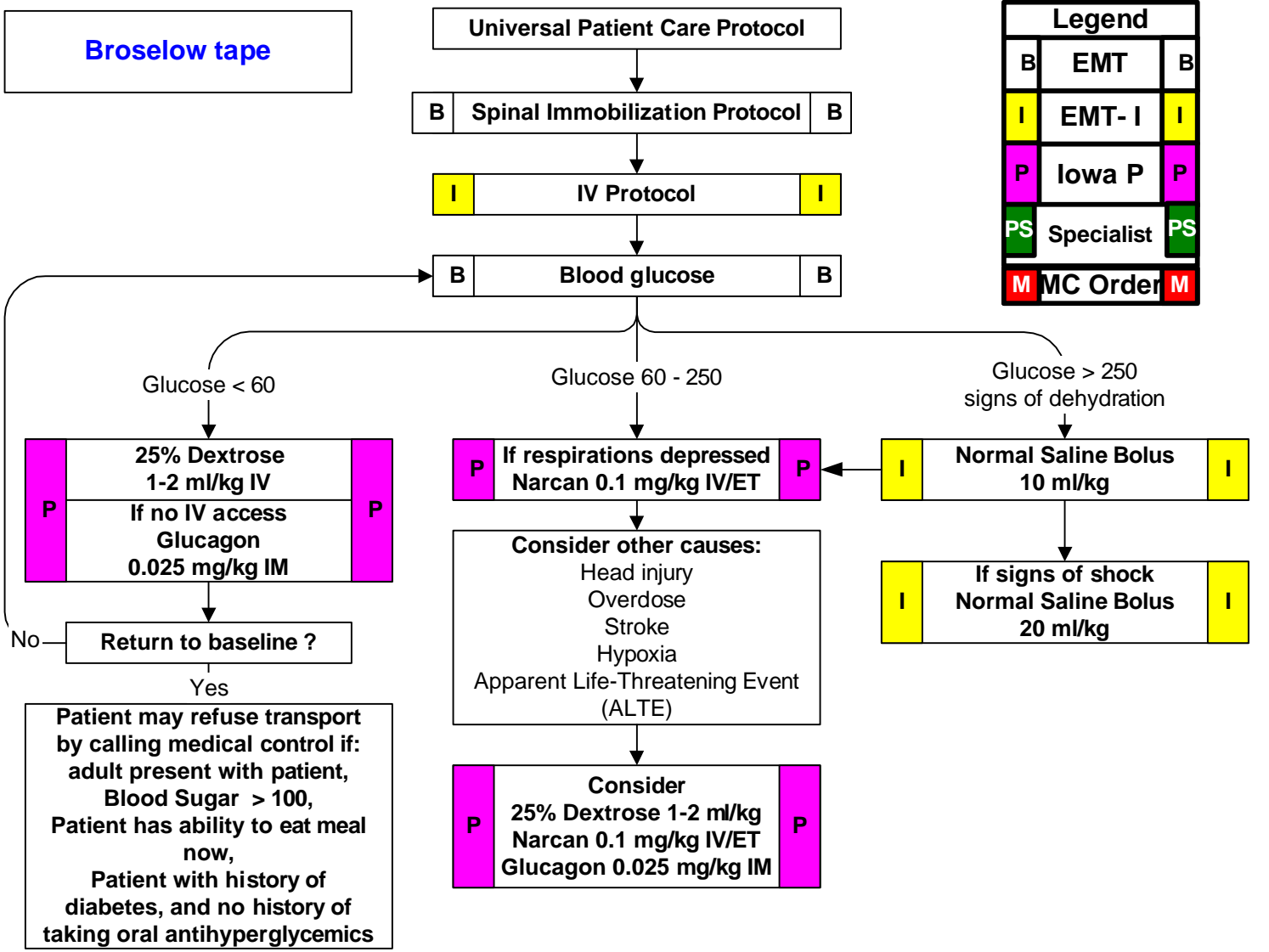
- Exam: Mental Status, Skin, Heart, Lungs**
- Any patient with respiratory symptoms or extensive reaction should receive IV or IM Benadryl.
- The shorter the onset from symptoms to contact, the more severe the reaction.
- Maximum Benadryl (diphenhydramine) 50mg.



# Pediatric Altered Mental Status



<b>History:</b> <ul style="list-style-type: none"> <li>• Known diabetic, medic alert tag</li> <li>• Drugs, drug paraphernalia</li> <li>• Report of illicit drug use or toxic ingestion</li> <li>• Past medical history</li> <li>• Medications</li> <li>• History of trauma</li> </ul>	<b>Signs/Symptoms:</b> <ul style="list-style-type: none"> <li>• Decreased mental status</li> <li>• Change in baseline mental status</li> <li>• Bizarre behavior</li> <li>• Hypoglycemia (cool, diaphoretic skin)</li> <li>• Hyperglycemia (warm, dry skin; fruity breath; Kussmal resps; signs of dehydration)</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• Head trauma</li> <li>• CNS (stroke, tumor, seizure, infection)</li> <li>• Cardiac (MI, CHF)</li> <li>• Infection</li> <li>• Thyroid (hyper / hypo)</li> <li>• Shock (septic, metabolic, traumatic)</li> <li>• Diabetes (hyper / hypoglycemia)</li> <li>• Toxicologic</li> <li>• Acidosis / Alkalosis</li> <li>• Environmental exposure</li> <li>• Pulmonary (Hypoxia)</li> <li>• Electrolyte abnormality</li> <li>• Psychiatric disorder</li> </ul>
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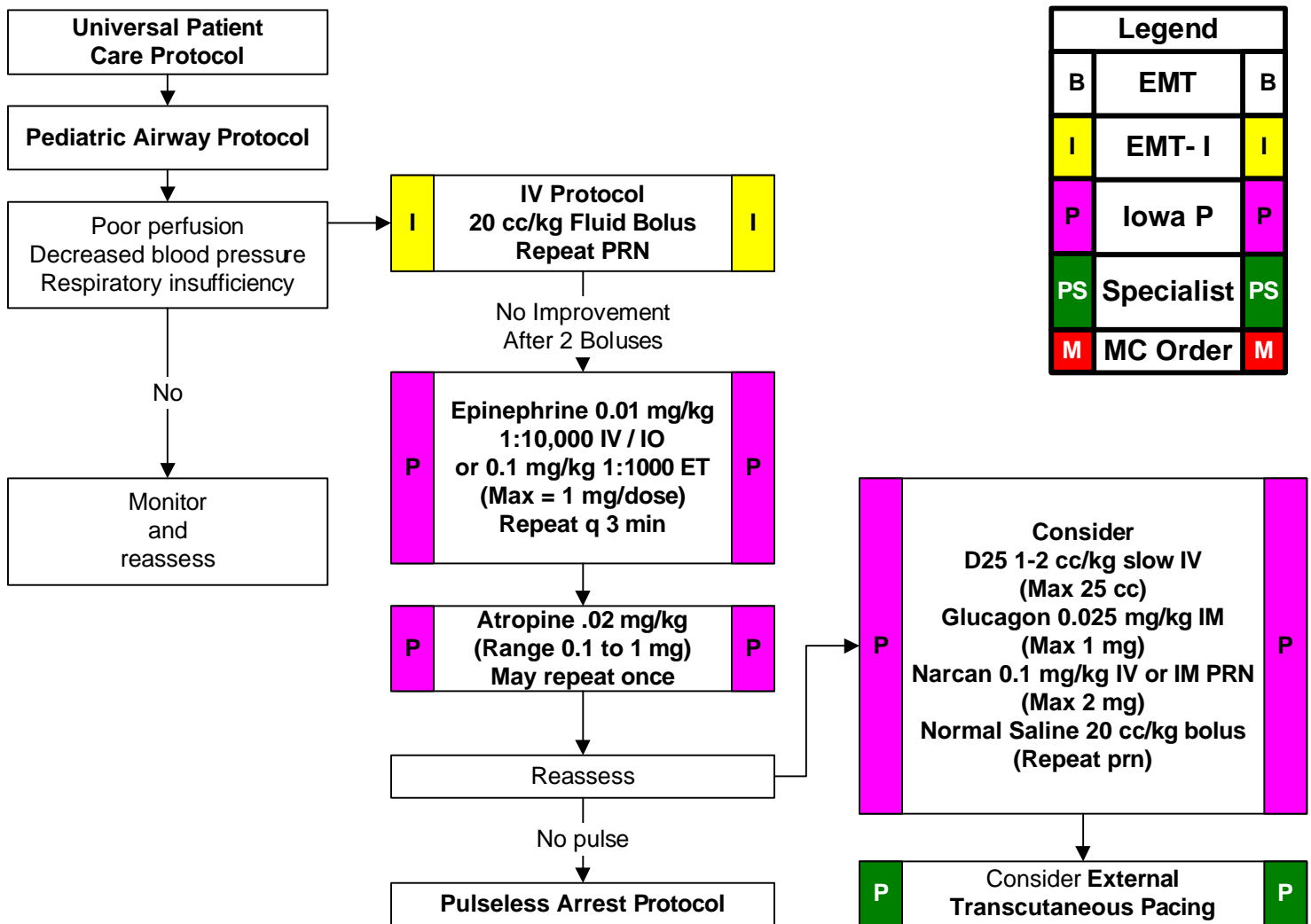
- Pearls:**
- Exam: Mental Status, HEENT, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro
  - Be aware of AMS as presenting sign of an environmental toxin or Haz-Mat exposure and protect personal safety.
  - It is safer to assume hypoglycemia than hyperglycemia if doubt exists.
  - Low glucose (< 60), normal glucose (60 - 120), high glucose (> 250).
  - Consider Restraints if necessary for patient's and/or personnel's protection per the restraint procedure.



# Pediatric Bradycardia



<b>History:</b> <ul style="list-style-type: none"> <li>• Past medical history</li> <li>• Foreign body exposure</li> <li>• Respiratory distress or arrest</li> <li>• Apnea</li> <li>• Possible toxic or poison exposure</li> <li>• Congenital disease</li> <li>• Medication (maternal or infant)</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Decreased heart rate</li> <li>• Delayed capillary refill or cyanosis</li> <li>• Mottled, cool skin</li> <li>• Hypotension or arrest</li> <li>• Altered level of consciousness</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• <b>Respiratory effort</b></li> <li>• <b>Respiratory obstruction</b> Foreign body / Secretions Croup / Epiglottitis</li> <li>• <b>Hypovolemia</b></li> <li>• <b>Hypothermia</b></li> <li>• <b>Infection / Sepsis</b></li> <li>• <b>Medication or Toxin</b></li> <li>• <b>Hypoglycemia</b></li> <li>• <b>Trauma</b></li> </ul>
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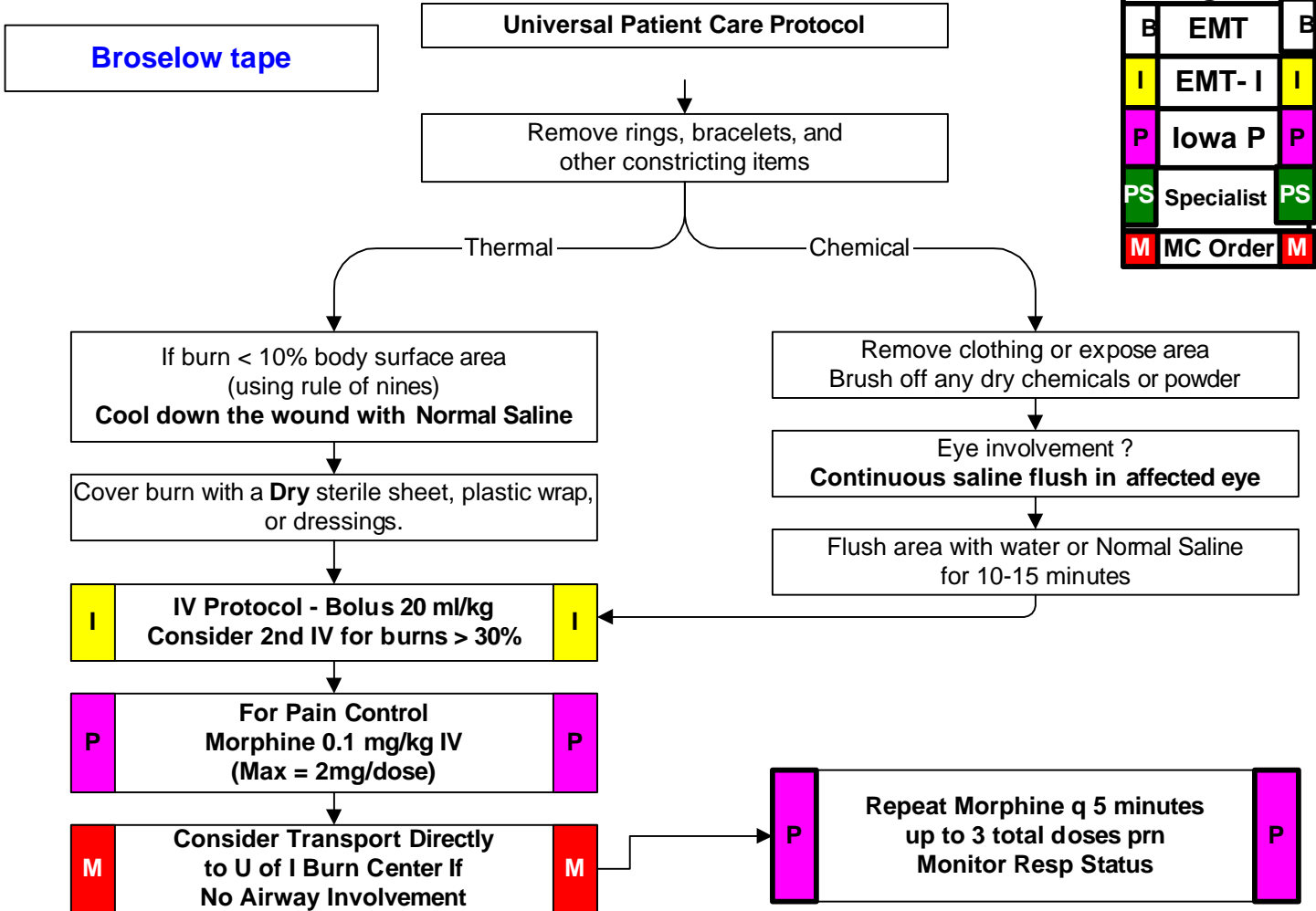
<b>Pearls:</b> <ul style="list-style-type: none"> <li>• <b>Exam: Mental Status, HEENT, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro</b></li> <li>• Infant = &lt; 1year of age</li> <li>• Most maternal medications pass through breast milk to the infant.</li> <li>• The majority of pediatric arrests are due to airway problems.</li> <li>• Hypoglycemia, severe dehydration and narcotic effects may produce bradycardia.</li> <li>• Pediatric patients requiring external transcutaneous pacing require the use of pads appropriate for pediatric patients per the manufacturers guidelines.</li> <li>• Minimum Atropine dose is 0.1 mg IV.</li> </ul>
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# Pediatric Burns



<b>History:</b> <ul style="list-style-type: none"> <li>Type of exposure (heat, gas, chemical)</li> <li>Inhalation injury</li> <li>Time of injury</li> <li>Past medical history</li> <li>Medications</li> <li>Other trauma</li> <li>Loss of consciousness</li> <li>Tetanus/Immunization status</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Burns, pain, swelling</li> <li>Dizziness</li> <li>Loss of consciousness</li> <li>Hypotension / shock</li> <li>Airway compromise / distress</li> <li>Singed facial or nasal hair</li> <li>Hoarseness / wheezing</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li><b>Superficial (1°)</b> red and painful</li> <li><b>Partial thickness (2°)</b> blistering</li> <li><b>Full thickness (3°)</b> painless and charred or leathery skin</li> <li><b>Chemical</b></li> <li><b>Thermal</b></li> <li><b>Electrical</b></li> <li><b>Radiation</b></li> </ul>
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- Pearls:**
- If Airway Involvement, Consider Transport to Nearest Hospital**
  - Critical Burns:** >20% body surface area (BSA) age > 10; >10% BSA age < 10; 3° burns >5% BSA; 2° and 3° burns to face, eyes, hands or feet; electrical burns; respiratory burns; deep chemical burns; burns with extremes of age or chronic disease; and burns with associated major traumatic injury. These burns may require hospital admission or transfer to a burn center.
  - Early intubation is required in significant inhalation injuries.
  - Potential CO exposure should be treated with 100% oxygen.
  - Circumferential burns to extremities are dangerous due to potential vascular compromise 2° to soft tissue swelling.
  - Burn patients are prone to hypothermia - Never apply ice or cool burns that involve >10% body surface area.
  - Do not overlook the possibility of multiple system trauma.
  - Do not overlook the possibility for child abuse with children and burn injuries.

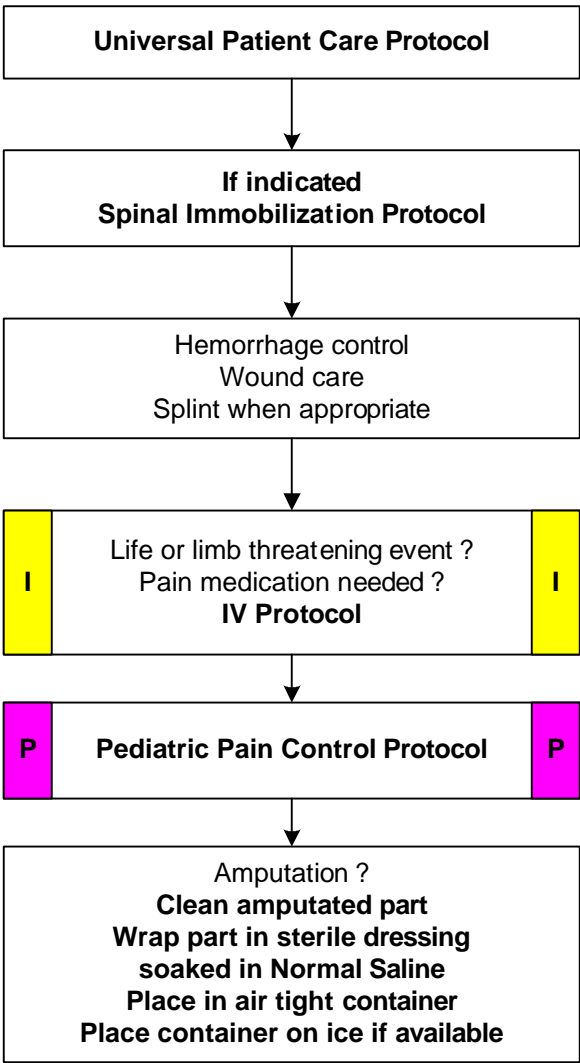


# Pediatric Extremity Trauma



<b>History:</b> <ul style="list-style-type: none"> <li>Type of injury</li> <li>Mechanism: crush / penetrating / amputation</li> <li>Time of injury</li> <li>Open vs. closed wound / fracture</li> <li>Wound contamination</li> <li>Medical history</li> <li>Medications</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Pain, swelling</li> <li>Deformity</li> <li>Altered sensation / motor function</li> <li>Diminished pulse / capillary refill</li> <li>Decreased extremity temperature</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>Abrasion</li> <li>Contusion</li> <li>Laceration</li> <li>Sprain</li> <li>Dislocation</li> <li>Fracture</li> <li>Amputation</li> </ul>
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**Broselow Tape**



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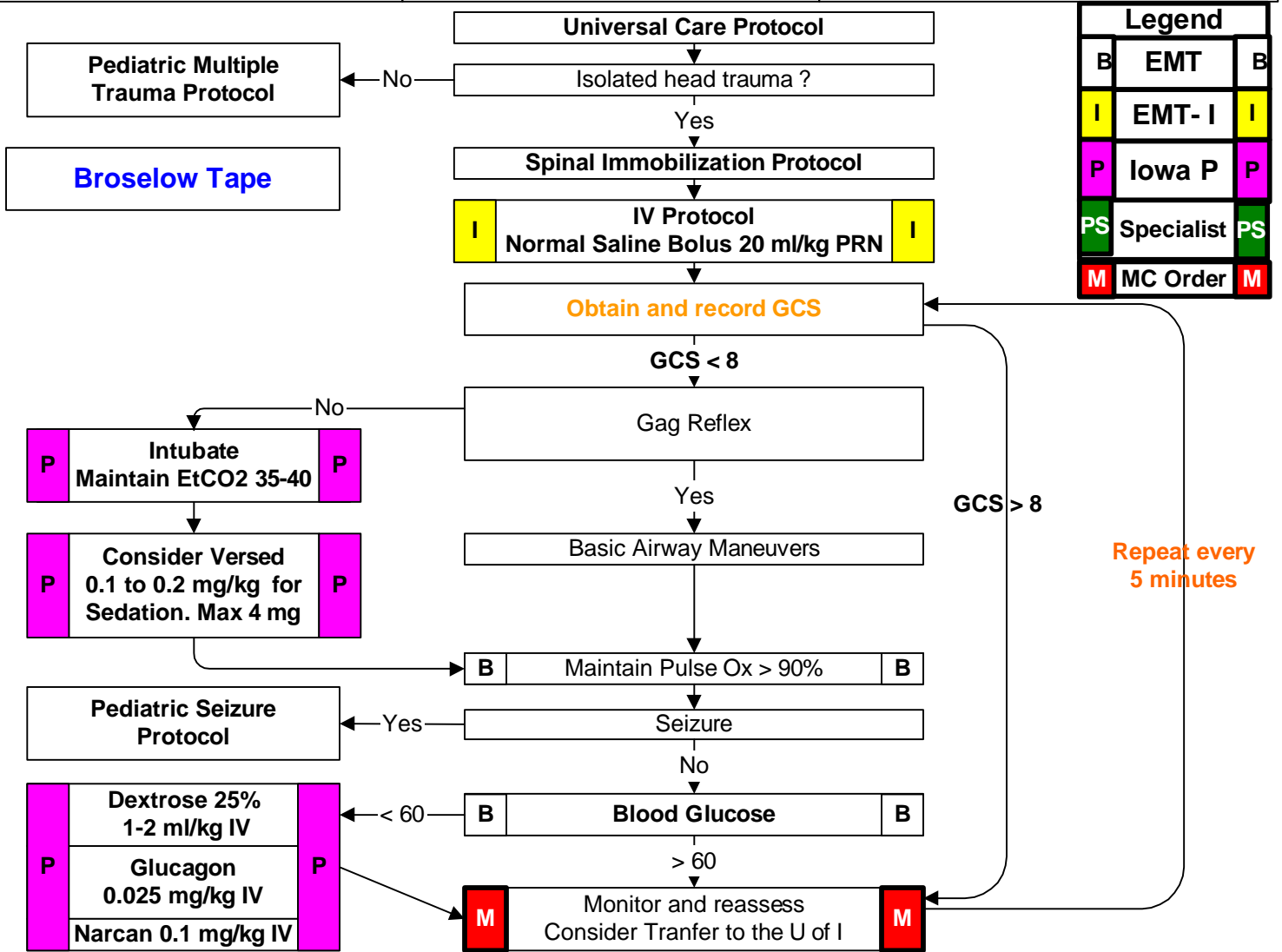
<b>Pearls:</b> <ul style="list-style-type: none"> <li><b>Exam: Mental Status, Extremity, Neuro</b></li> <li>In amputations, time is critical. Transport and notify medical control immediately, so that the appropriate destination can be determined.</li> <li>Hip dislocations and knee and elbow fracture / dislocations have a high incidence of vascular compromise.</li> <li>Urgently transport any injury with vascular compromise.</li> <li>Blood loss may be concealed or not apparent with extremity injuries.</li> <li>Lacerations must be evaluated for repair within 8 hours from the time of injury.</li> </ul>
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# Pediatric Head Trauma



<b>History:</b> <ul style="list-style-type: none"> <li>• Time of injury</li> <li>• Mechanism (blunt vs. penetrating)</li> <li>• Loss of consciousness</li> <li>• Bleeding</li> <li>• Past medical history</li> <li>• Medications</li> <li>• Evidence for multi-trauma</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Pain, swelling, bleeding</li> <li>• Altered mental status</li> <li>• Unconscious</li> <li>• Respiratory distress / failure</li> <li>• Vomiting</li> <li>• Major traumatic mechanism of injury</li> <li>• Seizure</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• Skull fracture</li> <li>• Brain injury (Concussion, Contusion, Hemorrhage or Laceration)</li> <li>• Epidural hematoma</li> <li>• Subdural hematoma</li> <li>• Subarachnoid hemorrhage</li> <li>• Spinal injury</li> <li>• Abuse</li> </ul>
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### Pearls:

- Maximum D25 dose = 25 cc, Narcan = 2mg, Glucagon = 1mg
- If GCS < 12 consider air / rapid transport and if GCS < 8 intubation should be anticipated.
- Hyperventilate the patient only if evidence of herniation (blown pupil, decorticate / decerebrate posturing, bradycardia). If hyperventilation is needed (35/minute for infants <1 year and 25/minute for children >1 year)
- Increased intracranial pressure (ICP) may cause hypertension and bradycardia (Cushing's Response).
- Hypotension usually indicates injury or shock unrelated to the head injury.
- The most important item to monitor and document is a change in the level of consciousness.
- Concussions are periods of confusion or LOC associated with trauma which may have resolved by the time EMS arrives. Any prolonged confusion or mental status abnormality which does not return to normal within 15 minutes or any documented loss of consciousness should be evaluated by a physician ASAP.



# Pediatric Hypotension Shock (Non-Trauma)



<b>History:</b> <ul style="list-style-type: none"> <li>Blood loss</li> <li>Fluid loss             <ul style="list-style-type: none"> <li>Vomiting</li> <li>Diarrhea</li> <li>Fever</li> </ul> </li> <li>Infection</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Restlessness, confusion, weakness</li> <li>Dizziness</li> <li>Increased HR, rapid pulse</li> <li>Decreased BP</li> <li>Pale, cool, clammy skin</li> <li>Delayed capillary refill</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>Trauma</li> <li>Infection</li> <li>Dehydration             <ul style="list-style-type: none"> <li>Vomiting</li> <li>Diarrhea</li> <li>Fever</li> </ul> </li> <li>Congenital heart disease</li> <li>Medication or Toxin</li> </ul>
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**Broselow Tape**

**Universal Patient Care Protocol**

**I IV Protocol I**

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**Pediatric Multiple Trauma Protocol**

Evidence or history of trauma

No

**B Blood Glucose B**

< 60

> 60

**I Normal Saline bolus 20 ml/kg (may repeat prn) I**

**P Consider Dopamine 5-20 mcg/kg/min P**

**P Dextrose 25% 1-2 ml/kg IV Glucagon 0.025 mg/kg IM (if no IV) P**

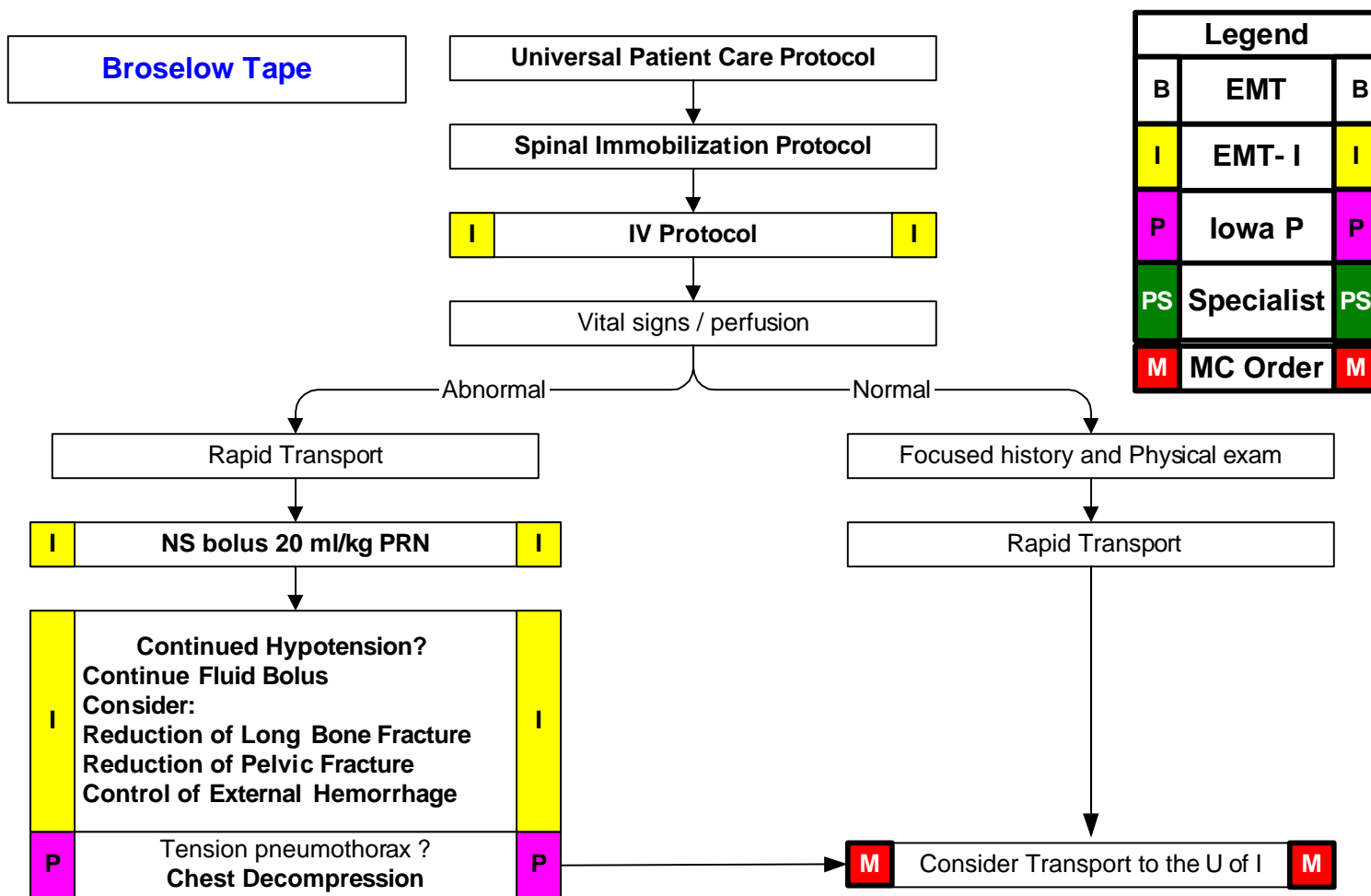
<b>Pearls:</b> <ul style="list-style-type: none"> <li>Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro</li> <li>Maximum dose of Dextrose 25% = 25 ml per dose, glucagon = 1mg</li> <li>Consider all possible causes of shock and treat per appropriate protocol.</li> <li>Decreasing heart rate is a sign of impending collapse.</li> <li>Most maternal medications pass through breast milk to the infant. Examples: Narcotics, Benzodiazepines.</li> </ul>
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# Pediatric Multiple Trauma



<b>History:</b> <ul style="list-style-type: none"> <li>• Time and mechanism of injury</li> <li>• Damage to structure or vehicle</li> <li>• Location in structure or vehicle</li> <li>• Others injured or dead</li> <li>• Speed and details of MVC</li> <li>• Restraints / Protective equipment             <ul style="list-style-type: none"> <li>• Carseat</li> <li>• Helmet</li> <li>• Pads</li> </ul> </li> <li>• Ejection</li> <li>• Past medical history</li> <li>• Medications</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Pain, swelling</li> <li>• Deformity, lesions, bleeding</li> <li>• Altered mental status</li> <li>• Unconscious</li> <li>• Hypotension or shock</li> <li>• Arrest</li> </ul>	<b>Differential (Life Threatening):</b> <ul style="list-style-type: none"> <li>• <b>Chest</b> <ul style="list-style-type: none"> <li>• Tension pneumothorax</li> <li>• Flail chest</li> <li>• Pericardial tamponade</li> <li>• Open chest wound</li> <li>• Hemothorax</li> </ul> </li> <li>• Intra-abdominal bleeding</li> <li>• Pelvis / Femur fracture</li> <li>• Spine fracture / Cord injury</li> <li>• Head injury (see Head Trauma)</li> <li>• Extremity fracture / dislocation</li> <li>• HEENT (Airway obstruction)</li> <li>• Hypothermia</li> </ul>
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**Pearls:**  
**Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro**

- Mechanism is the most reliable indicator of serious injury. Examine all restraints / protective equipment for damage.
- In prolonged extrications or serious trauma consider air transportation for transport times and the ability to give blood.
- Do not overlook the possibility for child abuse.

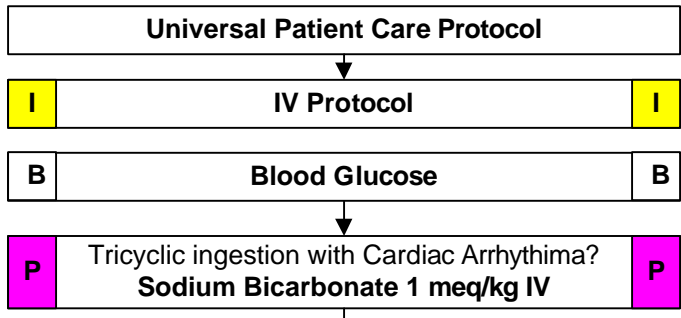


# Pediatric Overdose Toxic Ingestion

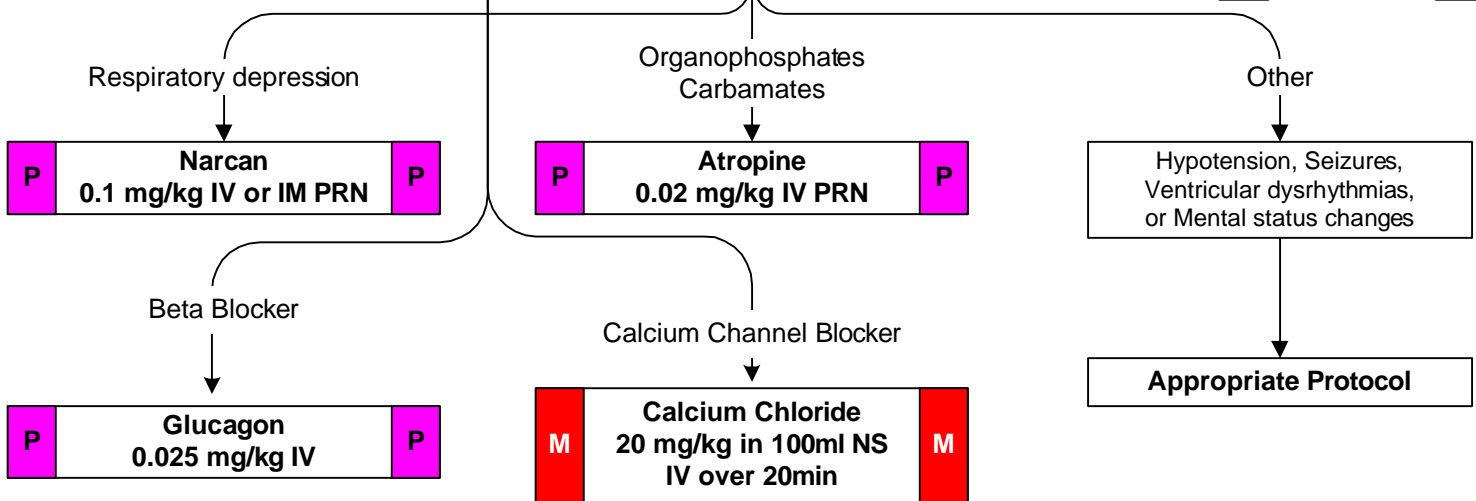


<b>History:</b> <ul style="list-style-type: none"> <li>Ingestion or suspected ingestion of a potentially toxic substance</li> <li>Substance ingested, route, quantity</li> <li>Time of ingestion</li> <li>Reason (suicidal, accidental, criminal)</li> <li>Available medications in home</li> <li>Past medical history, medications</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Mental status changes</li> <li>Hypotension / hypertension</li> <li>Decreased respiratory rate</li> <li>Tachycardia, dysrhythmias</li> <li>Seizures</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li><b>Tricyclic antidepressants (TCAs)</b></li> <li><b>Acetaminophen (tylenol)</b></li> <li><b>Depressants</b></li> <li><b>Stimulants</b></li> <li><b>Anticholinergic</b></li> <li><b>Cardiac medications</b></li> <li><b>Solvents, Alcohols, Cleaning agents</b></li> <li><b>Insecticides (organophosphates)</b></li> </ul>
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**Broselow Tape**



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**Pearls:**

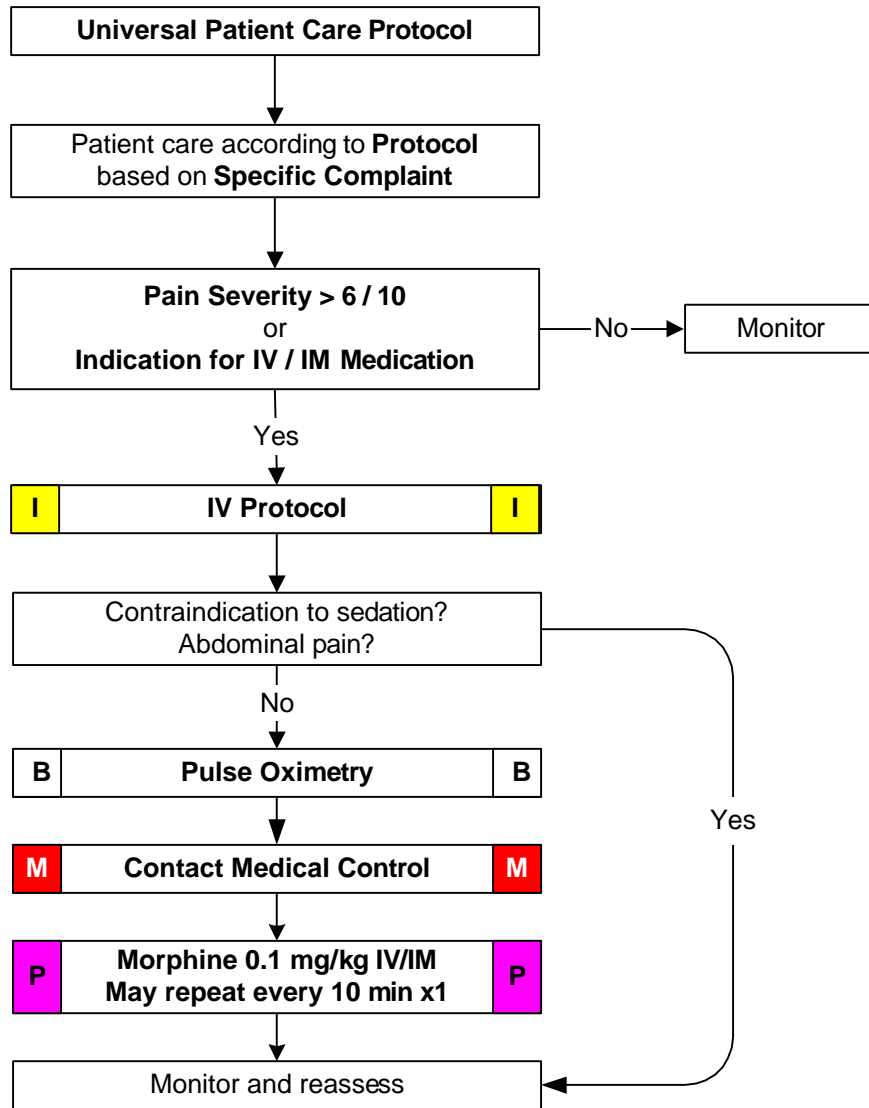
- Maximum doses:** Narcan 2 mg, glucagon 1 mg, Calcium Chloride 1 gram, Sodium Bicarbonate 50 meq, atropine 2 mg/dose ( minimum = 0.1 mg).
- Do not rely on patient history of ingestion, especially in suicide attempts.
- Bring bottles, contents, emesis to ED.
- Tricyclic:** 4 major areas of toxicity: seizures, dysrhythmias, hypotension, decreased mental status or coma; rapid progression from alert mental status to death.
- Acetaminophen:** initially normal or nausea/vomiting. If not detected and treated, causes irreversible liver failure
- Depressants:** decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils
- Stimulants:** increased HR, increased BP, increased temperature, dilated pupils, seizures
- Anticholinergic:** increased HR, increased temperature, dilated pupils, mental status changes
- Cardiac Meds:** dysrhythmias and mental status changes
- Solvents:** nausea, vomiting, and mental status changes
- Insecticides:** increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils
- Consider contacting the Poison Control Center for guidance.



# Pediatric Pain Control



<b>History:</b> <ul style="list-style-type: none"> <li>• Age</li> <li>• Location</li> <li>• Duration</li> <li>• Severity (1 - 10)</li> <li>• Past medical history</li> <li>• Medications</li> <li>• Drug allergies</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Severity (pain scale)</li> <li>• Quality (sharp, dull, etc.)</li> <li>• Radiation</li> <li>• Relation to movement, respiration</li> <li>• Increased with palpation of area</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• Per the specific protocol</li> <li>• Musculoskeletal</li> <li>• Visceral (abdominal)</li> <li>• Cardiac</li> <li>• Pleural / Respiratory</li> <li>• Neurogenic</li> <li>• Renal (colic)</li> </ul>
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<b>Pearls:</b> <ul style="list-style-type: none"> <li>• <b>Maximum dose: Morphine = 2 mg/dose.</b></li> <li>• <b>Pain severity (0-10) is a vital sign to be recorded pre and post IV or IM medication delivery and at disposition.</b></li> <li>• <b>Vital signs should be obtained pre, 15 minutes post, and at disposition with all pain medications.</b></li> <li>• Contraindications to Morphine use include hypotension, head injury, respiratory distress or severe COPD.</li> <li>• All patients should have drug allergies documented prior to administering pain medications.</li> <li>• All patients who receive IM or IV medications must be observed 15 minutes for drug reaction.</li> </ul>
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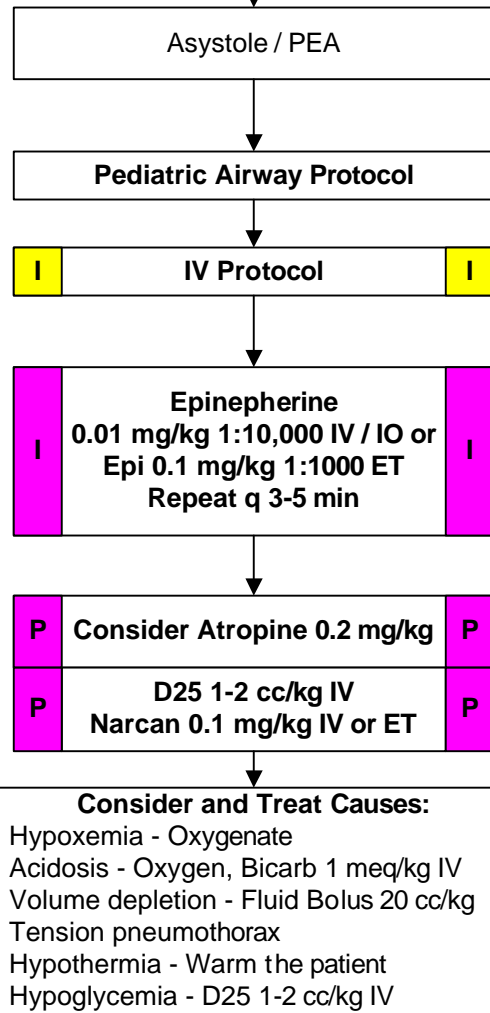
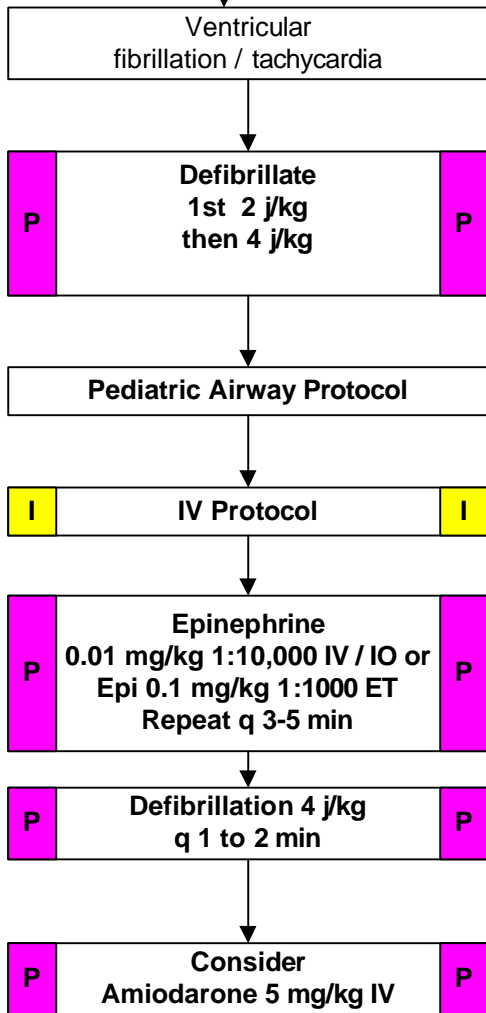
# Pediatric Pulseless Arrest



<b>History:</b> <ul style="list-style-type: none"> <li>• Time of arrest</li> <li>• Medical history</li> <li>• Medications</li> <li>• Possibility of foreign body</li> <li>• Hypothermia</li> <li>• Suspected Abuse             <ul style="list-style-type: none"> <li>Shaken Baby Syndrome</li> <li>Pattern of Injuries</li> </ul> </li> <li>• SIDS</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Unresponsive</li> <li>• Cardiac arrest</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• <b>Respiratory failure</b></li> <li>• <b>Foreign body</b></li> <li>• <b>Secretions</b></li> <li>• <b>Infection (croup, epiglottitis)</b></li> <li>• <b>Hypovolemia (dehydration)</b></li> <li>• <b>Congenital heart disease</b></li> <li>• <b>Trauma</b></li> <li>• <b>Tension pneumothorax</b></li> <li>• <b>Hypothermia</b></li> <li>• <b>Toxin or medication</b></li> <li>• <b>Hypoglycemia</b></li> <li>• <b>Acidosis</b></li> </ul>
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## Cardiac Arrest Protocol

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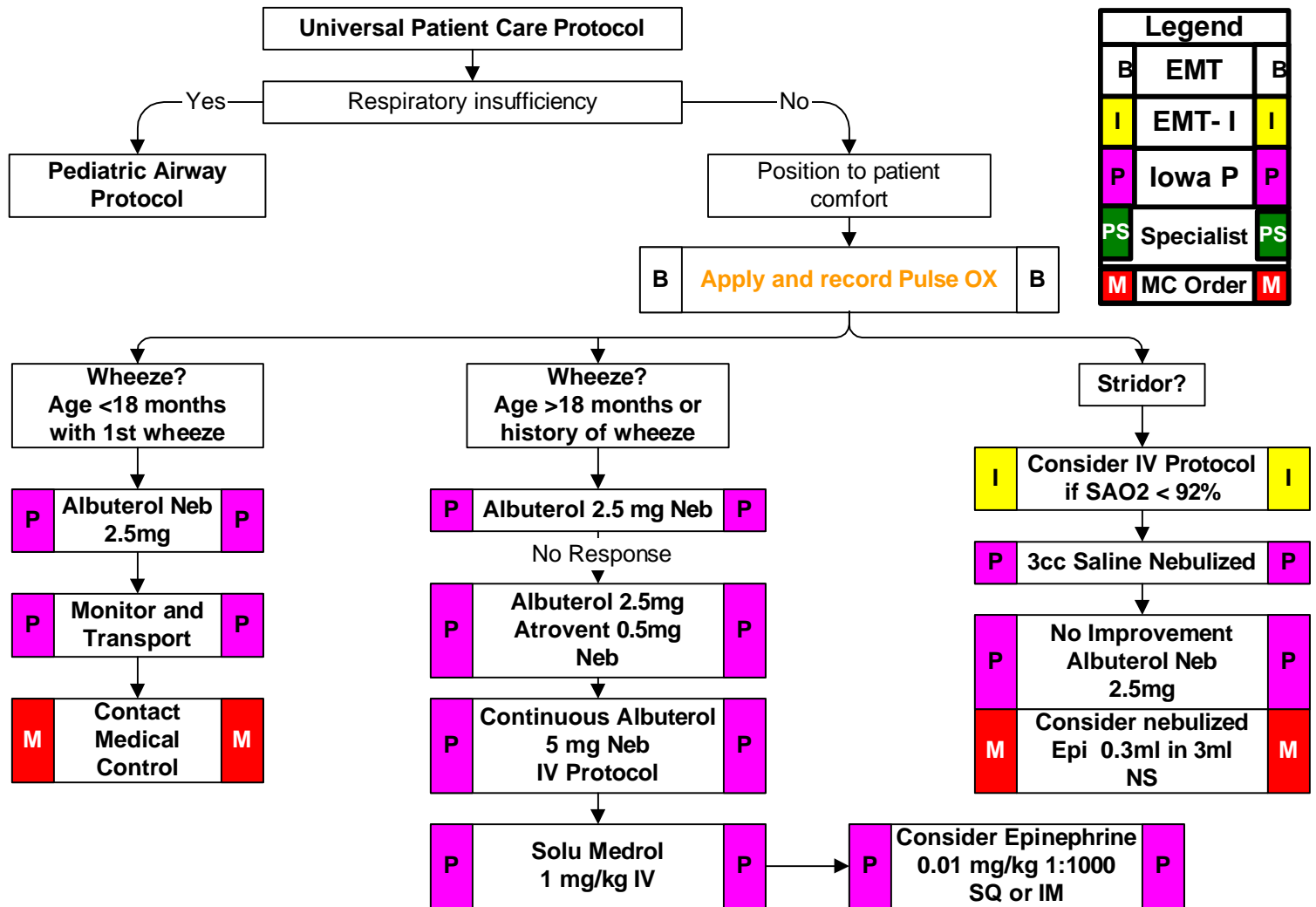
- Pearls:**
- Maximum doses: Epinephrine = 1 mg, Amiodarone = 300 mg, D25 = 25 cc, Narcan = 2 mg, Sodium Bicarbonate = 50 meq, Atropine range = 0.1 to 1 mg/dose (maximum of 3 doses).
  - In order to be successful in pediatric arrests, a cause must be identified and corrected.
  - Go to post-resuscitation protocol if return of spontaneous circulation at any point



# Pediatric Respiratory Distress



<b>History:</b> <ul style="list-style-type: none"> <li>• Time of onset</li> <li>• Possibility of foreign body</li> <li>• Medical history</li> <li>• Medications</li> <li>• Fever or respiratory infection</li> <li>• Other sick siblings</li> <li>• History of trauma</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Wheezing or stridor</li> <li>• Respiratory retractions</li> <li>• Increased heart rate</li> <li>• Altered level of consciousness</li> <li>• Anxious appearance</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• Asthma</li> <li>• Aspiration</li> <li>• Foreign body</li> <li>• Infection <ul style="list-style-type: none"> <li>• Pneumonia</li> <li>• Croup</li> <li>• Epiglottitis</li> </ul> </li> <li>• Congenital heart disease</li> <li>• Medication or Toxin</li> <li>• Trauma</li> </ul>
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**Pearls:**

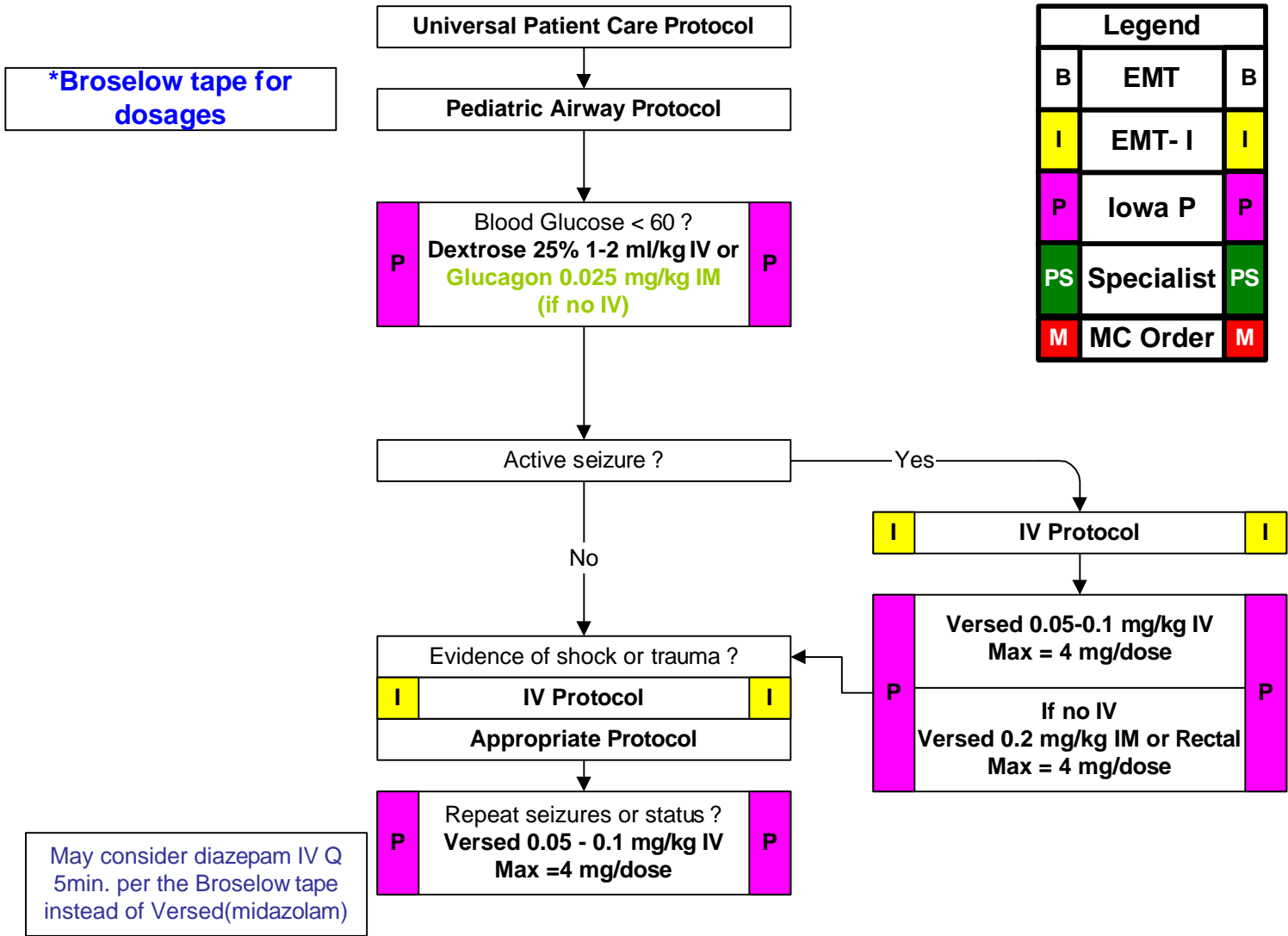
- Maximum dose of IV epinephrine = 0.3 mg/dose, Maximum dose of Solumedrol = 125 mg
- Pulse oximetry should be monitored continuously if initial saturation is  $\leq 96\%$ , or there is a decline in patient status despite normal pulse oximetry readings.
- Do not force a child into a position. They will protect their airway by their body position.
- Bronchiolitis is a viral infection typically affecting infants which results in wheezing which may not respond to albuterol
- Croup typically affects children < 2 years of age. It is viral, possible fever, gradual onset, no drooling is noted.
- Epiglottitis typically affects children > 2 years of age. It is bacterial, with fever, rapid onset, possible stridor, patient wants to sit up to keep airway open, drooling is common. Airway manipulation may worsen the condition.
- For patients using Xopenex, you may continue a treatment or initiate one treatment in place of Albuterol. Use patient meds and dosing (0.31 mg - 1.25 mg) via nebulizer.



# Pediatric Seizure



<b>History:</b> <ul style="list-style-type: none"> <li>• Fever</li> <li>• Prior history of seizures</li> <li>• Seizure medications</li> <li>• Reported seizure activity</li> <li>• History of recent head trauma</li> <li>• Congenital abnormality</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Observed seizure activity</li> <li>• Altered mental status</li> <li>• Hot, dry skin or elevated body temperature</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>• Fever</li> <li>• Infection</li> <li>• Head trauma</li> <li>• Medication or Toxin</li> <li>• Hypoxia or Respiratory failure</li> <li>• Hypoglycemia</li> <li>• Metabolic abnormality / acidosis</li> <li>• Tumor</li> </ul>
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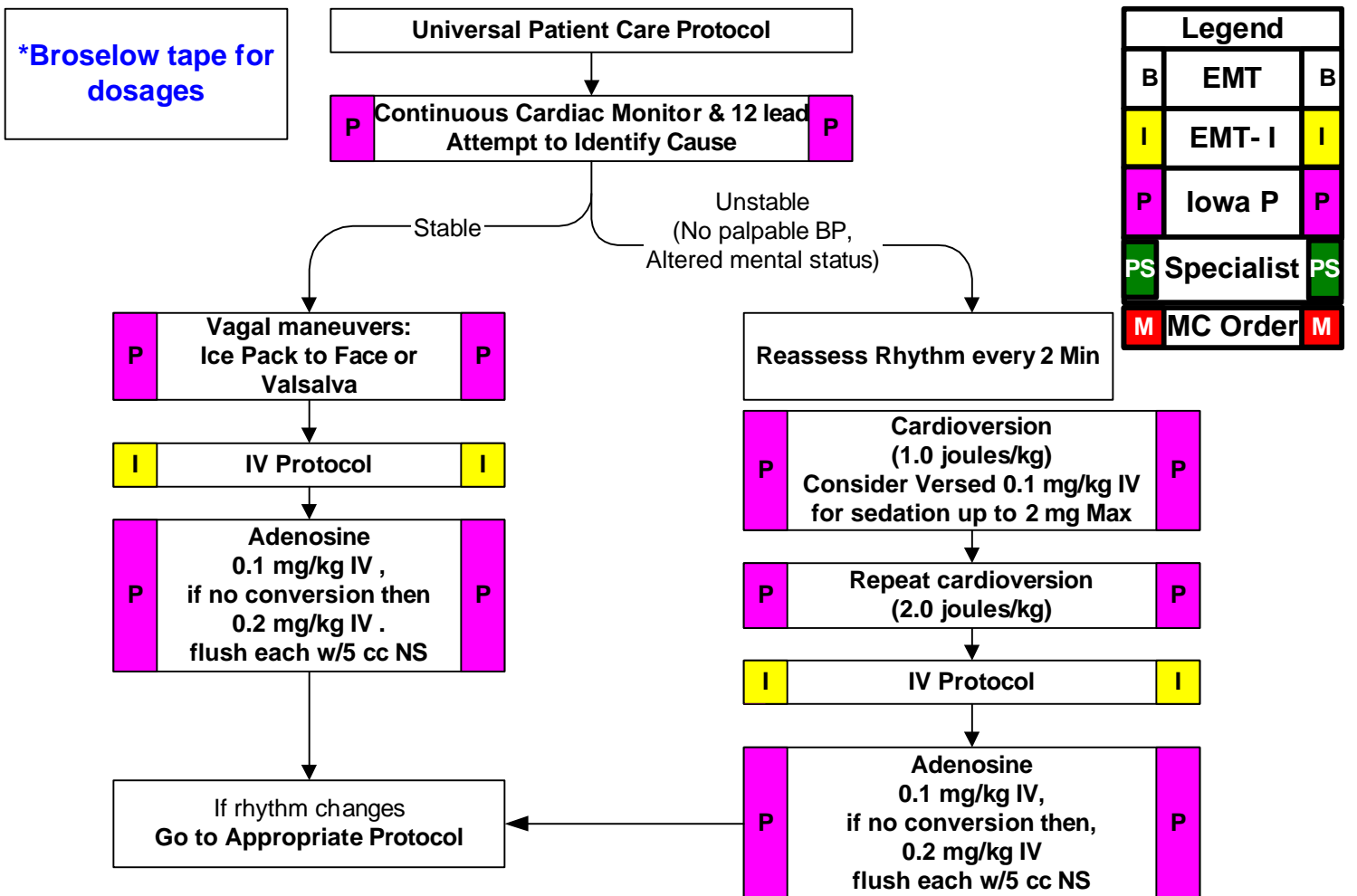
<b>Pearls:</b> <ul style="list-style-type: none"> <li>• Maximum dose of D25 = 25 cc, Maximum dose of glucagon = 1 mg</li> <li>• <b>Status Epilepticus</b> is defined as two or more successive seizures without a period of consciousness or recovery. This is a true emergency requiring rapid airway control, treatment, and transport.</li> <li>• <b>Grand mal seizures</b> (generalized) are associated with loss of consciousness, incontinence, and tongue trauma.</li> <li>• <b>Focal seizures (petit mal)</b> effect only a part of the body and are not usually associated with a loss of consciousness.</li> <li>• <b>Jacksonian seizures</b> are seizures which start as a focal seizure and become generalized.</li> <li>• Be prepared to assist ventilations especially if a benzodiazepine is used.</li> <li>• If evidence or suspicion of trauma, spine should be immobilized.</li> <li>• If febrile, remove clothing and sponge with room temperature water.</li> <li>• <b>In an infant, a seizure may be the only evidence of a closed head injury.</b></li> </ul>
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# Pediatric Tachycardia



<b>History:</b> <ul style="list-style-type: none"> <li>Past medical history</li> <li>Medications or Toxic Ingestion (Aminophylline, Diet pills, Thyroid supplements, Decongestants, Digoxin)</li> <li>Drugs (nicotine, cocaine)</li> <li>Congenital Heart Disease</li> <li>Respiratory Distress</li> <li>Syncope or Near Syncope</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Heart Rate: Child &gt; 180/bpm Infant &gt; 220/bpm</li> <li>Pale or Cyanosis</li> <li>Diaphoresis</li> <li>Tachypnea</li> <li>Vomiting</li> <li>Hypotension</li> <li>Altered Level of Consciousness</li> <li>Pulmonary Congestion</li> <li>Syncope</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>Heart disease (Congenital)</li> <li>Hypo / Hyperthermia</li> <li>Hypovolemia or Anemia</li> <li>Electrolyte imbalance</li> <li>Anxiety / Pain / Emotional stress</li> <li>Fever / Infection / Sepsis</li> <li>Hypoxia</li> <li>Hypoglycemia</li> <li>Medication / Toxin / Drugs (see HX)</li> <li>Pulmonary embolus</li> <li>Trauma</li> <li>Tension Pneumothorax</li> </ul>
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**Pearls:**

- Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- Carefully evaluate the rhythm to distinguish Sinus Tachycardia, Supraventricular Tachycardia, and Ventricular Tachycardia
- Separating the child from the caregiver may worsen the child's clinical condition.
- Pediatric paddles should be used in children < 10 kg or Broselow-Luten color Purple
- Monitor for respiratory depression and hypotension associated if Versed is used.
- Continuous pulse oximetry is required for all SVT Patients if available.
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.
- As a rule of thumb, the maximum sinus tachycardia rate is: 220 - patient age in years.**

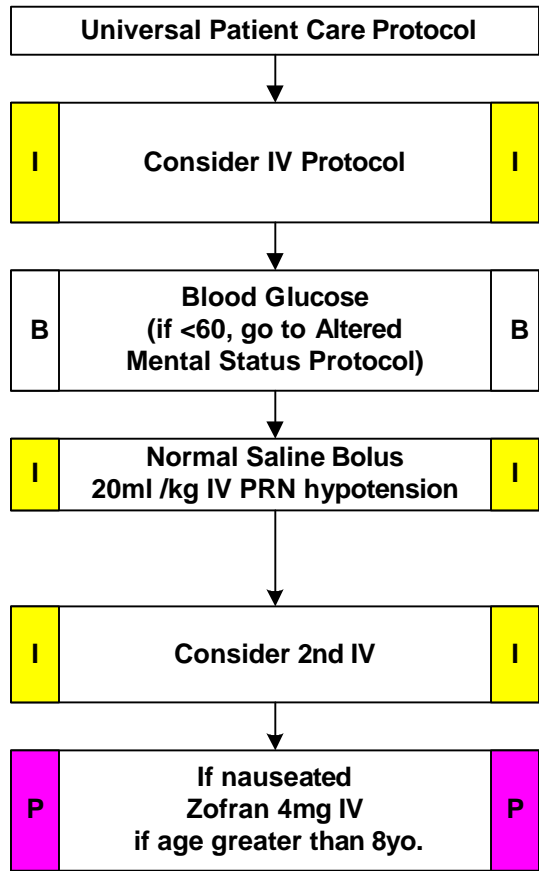


# Pediatric Vomiting and Diarrhea



<b>History:</b> <ul style="list-style-type: none"> <li>• Age</li> <li>• Time of last meal</li> <li>• Last bowel movement/ emesis</li> <li>• Improvement or worsening with food or activity</li> <li>• Duration of problem</li> <li>• Other sick contacts</li> <li>• Past medical history</li> <li>• Past surgical history</li> <li>• Medications</li> <li>• Menstrual history (pregnancy)</li> <li>• Travel history</li> <li>• Bloody emesis / diarrhea</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>• Pain</li> <li>• Character of pain (constant, intermittent, sharp, dull, etc.)</li> <li>• Distention</li> <li>• Constipation</li> <li>• Diarrhea</li> <li>• Anorexia</li> <li>• Radiation</li> </ul> <b>Associated symptoms: (Helpful to localize source)</b> Fever, headache, blurred vision, weakness, malaise, myalgias, cough, headache, dysuria, mental status changes, rash	<b>Differential:</b> <ul style="list-style-type: none"> <li>• CNS (increased pressure, headache, stroke, CNS lesions, trauma or hemorrhage, vestibular)</li> <li>• Myocardial infarction</li> <li>• Drugs (NSAID's, antibiotics, narcotics, chemotherapy)</li> <li>• GI or Renal disorders</li> <li>• Diabetic ketoacidosis</li> <li>• Gynecologic disease (ovarian cyst, PID)</li> <li>• Infections (pneumonia, influenza)</li> <li>• Electrolyte abnormalities</li> <li>• Food or toxin induced</li> <li>• Medication or Substance abuse</li> <li>• Pregnancy</li> <li>• Psychological</li> </ul>
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Broselow Tape



Legend		
B	EMT	B
I	EMT- I	I
P	Iowa P	P
PS	Specialist	PS
M	MC Order	M

<b>Pearls:</b> <ul style="list-style-type: none"> <li>• Exam: Mental Status, Skin, HEENT, Neck, Heart, Lungs, Abdomen, Back, Extremities, Neuro</li> <li>• Frequent re-assessments are needed to monitor vascular status.</li> </ul>
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