STATE OF WASHINGTON

Emergency Medical Services
Prehospital Pediatric Guidelines

Washington State Department of Health

DOH 530-137  December 2011
Emergency Medical Services Prehospital Pediatric Guidelines

On Behalf of the Washington State Department of Health, the State Pediatric Technical Advisory Committee (TAC) was charged with drafting pediatric guidelines that the EMS agencies in Washington States’ thirty-nine counties could use in setting a standard for emergency medical care and treatment to the children of Washington State.

The Department of Health does not mandate the use of these protocol guidelines by Washington State EMS agencies. The protocol guidelines are meant to assist in the development of local or regional protocols. It is the committee’s hope that county or regional EMS agencies will review these guidelines with their respective Medical Program Directors and legal counsel when drafting their own individualized protocols.
Washington State Pediatric TAC

February 15, 2011

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Pediatric General Assessment

A child’s psychosocial and communication skills are constantly changing. Therefore, a child may be unable to convey key information to assist the emergency personnel in their assessment. These differences, as well as numerous others, are why emergency personnel must develop assessment skills that address the unique aspects and needs of the child. The Prehospital pediatric initial assessment teaching tool provides a systematic and comprehensive approach to the initial assessment of the child.

General Approach to a Stable Pediatric Patient

Assessment and interventions must be tailored to each child in terms of age, size, development and metabolic status. The following information may be useful in communicating with a pediatric patient:

- Smile if appropriate to the situation.
- Keep voice at an even quiet tone, don’t yell.
- Speak slowly; use simple age appropriate terms.
- Use toys or penlights as distracters; make game of assessment.
- Keep children with their caregiver(s); encourage assessment while caregiver is holding the child when appropriate.
- Whenever appropriate, transport the child with the caregiver.
- Kneel down to the level of the child if possible.
- Make as many observations as possible before touching the child.

Initial inspections while walking up to the child, observe/inspect the following:

- General appearance
- Age appropriate behavior and level of consciousness
- Obvious respiratory distress or extreme pain
- Position of patient
- Unusual/significant odor
- Muscle tone: good or limp
- Movement: spontaneous, purposeful, symmetrical
- Color: pink, pale, flushed, cyanotic, mottled
- Obvious injuries
Pediatric Assessment

**Appearance**
- Tone
- Interactiveness
- Consolability
- Look/Gaze
- Speech/Cry

**Breathing**
- Abnormal Sounds
- Abnormal Position
- Flaring
- Retracting

**Circulation**
- Pallor
- Mottling
- Cyanosis

**Decision Point**
Any abnormalities above OR concerning life-threatening complaint?
Consider life saving interventions
Contact ALS if not enroute

**Primary and Ongoing Assessment**

**Airway**
- Clear?
- Maintainable?

**Breathing**
- Rate
- Effort / Volume
- Sounds
- Pulse ox

**Exposure**
- Remove clothing
- Prevent hypothermia

**Circulation**
- Skin color / temp
- Heart rate / rhythm
- BP
- Pulses / CRT
- End organ function

**Disability**
- Alert-Voice-Pain-Unresponsive
- GCS
- Pupils

**Decision Point**
Any abnormalities above OR concerning life-threatening complaint?
Consider life saving interventions
Contact ALS if not enroute
## Pediatric References

<table>
<thead>
<tr>
<th>Weight</th>
<th>4 kg grey</th>
<th>6 kg pink</th>
<th>8 kg red</th>
<th>10 kg purple</th>
<th>12 kg yellow</th>
<th>15 kg white</th>
<th>19 kg blue</th>
<th>24 kg orange</th>
<th>30 kg green</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td>Newborn – 3 mos</td>
<td>6 mos</td>
<td>9 mos</td>
<td>1 yr</td>
<td>2 yrs</td>
<td>3 yrs</td>
<td>5 yrs</td>
<td>7 yrs</td>
<td>10 yrs</td>
</tr>
<tr>
<td>Pulse</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>90</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>30-60</td>
<td>30-60</td>
<td>30-60</td>
<td>24-40</td>
<td>24-40</td>
<td>22-34</td>
<td>18-30</td>
<td>18-30</td>
<td>18-30</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>60 mmHg</td>
<td>60 mmHg</td>
<td>60 mmHg</td>
<td>70 mmHg</td>
<td>70 mmHg</td>
<td>80 mmHg</td>
<td>80 mmHg</td>
<td>80 mmHg</td>
<td>90 mmHg</td>
</tr>
<tr>
<td>Endotracheal uncuffed</td>
<td>3.0</td>
<td>3.5</td>
<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
<td>6.0</td>
<td>6.5</td>
</tr>
<tr>
<td>Endotracheal cuffed</td>
<td>2.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
<td>6.0</td>
</tr>
<tr>
<td>Nasogastric Tube</td>
<td>5 Fr</td>
<td>5 Fr</td>
<td>8 Fr</td>
<td>8-10 Fr</td>
<td>10 Fr</td>
<td>10 Fr</td>
<td>12 Fr</td>
<td>14 Fr</td>
<td>16 Fr</td>
</tr>
<tr>
<td>Defibrillation</td>
<td>8 J</td>
<td>12 J</td>
<td>16 J</td>
<td>20 J</td>
<td>24 J</td>
<td>30 J</td>
<td>38 J</td>
<td>48 J</td>
<td>60 J</td>
</tr>
<tr>
<td>BP cuff</td>
<td>Infant</td>
<td>Infant</td>
<td>Infant Child</td>
<td>Child</td>
<td>Child</td>
<td>Child</td>
<td>Child</td>
<td>Small Adult</td>
<td></td>
</tr>
<tr>
<td>Fluid Challenge</td>
<td>80 mL</td>
<td>120 mL</td>
<td>160 mL</td>
<td>200 mL</td>
<td>240 mL</td>
<td>300 mL</td>
<td>380 mL</td>
<td>480 mL</td>
<td>600 mL</td>
</tr>
<tr>
<td>BMV</td>
<td>Infant</td>
<td>Child</td>
<td>Child</td>
<td>Child</td>
<td>Child</td>
<td>Child</td>
<td>Child</td>
<td>Adult</td>
<td></td>
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<tr>
<td>Cardioversion</td>
<td>2-4 J</td>
<td>3-6 J</td>
<td>4-8 J</td>
<td>5-10 J</td>
<td>6-12 J</td>
<td>8-15 J</td>
<td>10-20 J</td>
<td>12-24 J</td>
<td>15-30 J</td>
</tr>
<tr>
<td>Suction Catheter</td>
<td>6 Fr</td>
<td>8Fr</td>
<td>8Fr</td>
<td>10Fr</td>
<td>10Fr</td>
<td>10Fr</td>
<td>10Fr</td>
<td>10Fr</td>
<td>12Fr</td>
</tr>
</tbody>
</table>
Pediatric Pain Assessment

(1) Children must have appropriate control of pain and anxiety.

All children need:
- **Background pain control.** Scheduled, not prn.
- **Breakthrough pain control.** PCA is an option for ≥ 10 y/o.
- **Procedural pain control.** If wound care or a procedure cannot be accomplished with meds you are comfortable prescribing, consider an anesthesia assisted procedure or booking the procedure in the OR.

Use pediatric pain scales: **FLACC** (0-2 yrs) or **Oucher** (3-7 yrs)

<table>
<thead>
<tr>
<th>FLACC Category</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No particular expression; smile</td>
</tr>
<tr>
<td></td>
<td>Grimace or frown; withdrawn; disinterested</td>
</tr>
<tr>
<td></td>
<td>Frequent quivering chin; clenched jaw</td>
</tr>
<tr>
<td>Legs</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Normal position; relaxed</td>
</tr>
<tr>
<td></td>
<td>Uneasy; restless; tense</td>
</tr>
<tr>
<td></td>
<td>Kicking; legs drawn up</td>
</tr>
<tr>
<td>Activity</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lying quietly; moves easily</td>
</tr>
<tr>
<td></td>
<td>Squirming; shifting back &amp; forth; tense</td>
</tr>
<tr>
<td></td>
<td>Arched; rigid or jerking</td>
</tr>
<tr>
<td></td>
<td>Crying steadily; screams, sobs; frequent complaint</td>
</tr>
<tr>
<td></td>
<td>Reassured by touching, hugging or talk; distractible</td>
</tr>
<tr>
<td></td>
<td>Difficult to console or comfort</td>
</tr>
<tr>
<td>Cry</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No cry</td>
</tr>
<tr>
<td></td>
<td>Moans / whimpers; occasional complaint</td>
</tr>
<tr>
<td>Consolability</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Content, relaxed</td>
</tr>
<tr>
<td></td>
<td>Reassured by touching, hugging or talk; distractible</td>
</tr>
<tr>
<td></td>
<td>Difficult to console or comfort</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

(2) Children deserve care with respect for developmental status.

Children need basic information about their care communicated to them in a developmentally appropriate manner. Always be honest about what is happening and how it may feel. Answer questions. Respect their needs for sleep, privacy, autonomy and play.

(3) Children should receive care that is family-centered.

Families are an important part of the pediatric care team. Keep them informed and involved in decision-making. Make sure a family member can stay comfortably with the child and has his/her basic needs met. Talk to the family daily. Family members can be your best ally in working with a child – but they need to understand the plan.

(4) Children need a safe place

The child’s room and bed are a safe haven. Whenever possible, no painful or frightening procedures should happen there.
### APGAR Scale

<table>
<thead>
<tr>
<th></th>
<th>0 Points</th>
<th>1 Point</th>
<th>2 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Appearance</td>
<td>Blue / Pale</td>
<td>Normal, except for extremities</td>
<td>Normal over entire body</td>
</tr>
<tr>
<td>P – Pulse</td>
<td>Absent</td>
<td>Below 100</td>
<td>Above 100</td>
</tr>
<tr>
<td>G – Grimace</td>
<td>No Response</td>
<td>Grimace</td>
<td>Sneeze, cough, pulls away</td>
</tr>
<tr>
<td>A – Activity</td>
<td>Absent</td>
<td>Arms and Legs Flexed</td>
<td>Active Movement</td>
</tr>
<tr>
<td>R – Respiration</td>
<td>Absent</td>
<td>Slow, irregular</td>
<td>Good, strong cry</td>
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</table>

### AVPU Infant / Child

<table>
<thead>
<tr>
<th>Response</th>
<th>Infant</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Alert</td>
<td>Curious / Recognizes parents</td>
<td>Alert / Aware of surroundings</td>
</tr>
<tr>
<td>V – Responds to Voice</td>
<td>Irritable / Cries</td>
<td>Opens eyes</td>
</tr>
<tr>
<td>P – Responds to Pain</td>
<td>Cries in response to pain</td>
<td>Withdraws from pain</td>
</tr>
<tr>
<td>U – Unresponsive</td>
<td>No response</td>
<td>No response</td>
</tr>
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</table>

### CUPS Pediatric

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>C – Critical</td>
<td>Absent airway, breathing or circulation (cardiac or respiratory arrest or severe traumatic injury)</td>
<td></td>
</tr>
<tr>
<td>U – Unstable</td>
<td>Compromised airway, breathing or circulation (unresponsive, respiratory distress, active bleeding, shock, active seizure, significant injury, shock, near-drowning, etc.)</td>
<td></td>
</tr>
<tr>
<td>P – Potentially Unstable</td>
<td>Normal airway, breathing &amp; circulation but significant mechanism of injury or illness (Post-seizure, minor fractures, infant &lt;3 months with fever, etc.)</td>
<td></td>
</tr>
<tr>
<td>S – Stable</td>
<td>Normal airway, breathing &amp; circulation No significant mechanism of injury or illness (small lacerations or abrasions, infant &gt;3 months with fever)</td>
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</table>
### Glasgow Coma Score

<table>
<thead>
<tr>
<th></th>
<th>&lt;1 y/o</th>
<th>&gt;1 y/o</th>
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<tbody>
<tr>
<td><strong>EYE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Opens to pain</td>
<td>Opens to pain</td>
</tr>
<tr>
<td>3</td>
<td>Opens to shout</td>
<td>Opens to verbal command</td>
</tr>
<tr>
<td>4</td>
<td>Opens spontaneously</td>
<td>Opens spontaneously</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>VERBAL</strong></th>
<th>&lt; 2 y/o</th>
<th>2-5 y/o</th>
<th>&gt; 5 y/o</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Moans to pain</td>
<td>Moans to pain</td>
<td>Incomprehensible sounds</td>
</tr>
<tr>
<td>3</td>
<td>Persistent cries to pain</td>
<td>Persistent cries to pain</td>
<td>Inappropriate words</td>
</tr>
<tr>
<td>4</td>
<td>Irritable but consoles</td>
<td>Inappropriate words</td>
<td>Confused</td>
</tr>
<tr>
<td>5</td>
<td>Coos, babbles</td>
<td>Appropriate words</td>
<td>Oriented</td>
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<table>
<thead>
<tr>
<th><strong>MOTOR</strong></th>
<th>&lt;1 y/o</th>
<th>&gt; 1 y/o</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Extension to pain</td>
<td>Extension to pain</td>
</tr>
<tr>
<td>3</td>
<td>Flexion to pain</td>
<td>Flexion to pain</td>
</tr>
<tr>
<td>4</td>
<td>Withdrawal to pain</td>
<td>Withdrawal to pain</td>
</tr>
<tr>
<td>5</td>
<td>Withdrawal from touch</td>
<td>Localizes to pain</td>
</tr>
<tr>
<td>6</td>
<td>Spontaneous movement</td>
<td>Obeys commands</td>
</tr>
</tbody>
</table>
Neonatal Resuscitation

Dry, Warm, Position, Tactile stimulation. Suction mouth then nose.

Administer O₂ as needed.

Apnea/Gasping, HR <100 or central cyanosis

Ventilate with BVM

HR <60 after 30 sec BVM

Chest Compressions

ALS - HR<60

Intubate

Meds
**Universal Pediatric Patient Care Guideline**

- **Scene Safety**
- **Primary Assessment**
  - **Pediatric Assessment Procedure Pg. 4**
  - Assess ABC’s
  - Temperature control
  - Consider glucose assessment
- **Oxygen** PRN
- **Consider Pulse Oximetry**
- **Consider Cardiac Monitor 12 Lead / ECG**
- **Appropriate Guideline**
- **Doesn’t fit guideline?**
  - **Contact Medical Control**

**Notes:**
- Early notification to receiving hospital when appropriate.
- Required vital signs on every patient include blood pressure, pulse, respirations and saturations.
- Any patient contact which does not result in an EMS transport should be documented.
- Exam: Minimal exam if not noted on the specific guideline is vital signs, mental status, and location of injury or complaint.
- Pulse oximetry and temperature documentation is dependent on the specific complaint.
- A pediatric patient is defined by the Length based tape. If the patient does not fit on the tape, they are considered adult.
- Timing of transport should be based on patient’s clinical condition and the Washington State Trauma Triage Tool.
Pediatric Airway

### History:
- Onset of symptoms
- Past Medical history

### Differential:
- Foreign body
- Asthma
- Croup
- Epiglottis
- Pneumonia

### Notes:
- For this Guideline, child is defined as less than 12 years old.
- EMT’s must have multi-lumen airway training to use Combitubes or LMAs.
- Limit intubation attempts to 3 per patient.
- If unable to intubate, continue BVM ventilations, transport rapidly, and notify receiving hospital early.
- Capnometry, or capnography is mandatory with all methods of intubation. Document results.
- Maintain C-spine immobilization for patients with suspected spinal injury.
- Reconfirm ETT placement each time patient is moved.
- All choking victims need to be transported to the hospital. Children who have possibly aspirated anything may not be transported POV, but can be transported BLS if stable.

---

**Supplemental Oxygen**

- **PRN**

**Pulse Oximetry**

**Contact Medical Control**

**Assess ABC’s, respiratory rate, effort, adequacy**

**Basic Maneuvers**

- First-- open airway; nasal/oral airway; bag-valve mask

**Obstruction**

** Attempt to remove obstruction per AHA guidelines**

**Unsuccessful?**

- Yes
- No

**Pediatric Cricothyrotomy**

- Procedure Pg.____

**Rapid Transport**

**Successful**

- Oral-tracheal Intubation

**Unsuccessful?**

- Yes
- No

**Capnography**

**Continuous Pulse Oximetry**

**Contact Medical Control**

---

**Legend**

- **EMR**
- **AEMT**
- **PM**
- **MC Order**

---

**History:**
- Onset of symptoms
- Past Medical history

**Differential:**
- Foreign body
- Asthma
- Croup
- Epiglottis
- Pneumonia
Pediatric Difficult Airway

**History:**
- Known difficult Airway
- Neck or head trauma
- Trisomy 21
- Congenital malformations

**Differential:**
- Physical Examination
  - Small jaw or limited jaw opening
  - Limited cervical spine movement; swollen tongue, oropharynx, or neck; midface hypoplasia

**Universal Patient Care Guideline**
- Oxygen PRN
- Advanced Airway Management
- Basic Maneuvers; Open airway, nasal/oral airway, bag-valve mask

**Pediatric Rapid Sequence Intubation (RSI) Pg. 14**
- RSI successful?

  **Airway Secured?**
  - Yes
  - No
    - Repeat RSI

  **Repeat RSI**
  - RSI successful?
    - Yes
      - Maximum head extension
      - Maximum jaw thrust
      - C-Spine in-line
    - No
      - Patient oxygenation and ventilation adequately with bag/mask ventilation?

  **Patient oxygenation and ventilation adequately with bag/mask ventilation?**
  - Yes
    - Yes
      - Contact Medical Control
    - No
      - Needle Cricothyrotomy
  - No

**Legend**
- EMR
- AEMT
- PM
- MC Order
Pediatric Rapid Sequence Intubation

Universal Patient Care Guideline

Preoxygenate with 100% FiO2 for 5 min. if possible
Avoid bag mask ventilation if possible

Obtain IV/IO access

If Child < 1 year consider premed with Atropine 0.02 mg/kg IV/IO

Shock?

Consider
Lidocaine 1 mg/kg IV/IO

Etomidate 0.3 mg/kg IV/IO

**If septic consider
Fentanyl 2 mcg/kg IV/IO/IM And Midazolam 0.1 mg/kg IV/IO/IM

Any personal family history of malignant hyperthermia, known or suspected mitochondrial disease or skeletal myopathy, glaucoma, penetrating eye injury?

Yes

Vecuronium 0.1 mg/kg IV/IO OR Rocuronium 1 mg/kg IV/IO

No

Etomidate 0.3 mg/kg IV/IO OR Fentanyl 2 mcg/kg IV/IO/IM And Midazolam 0.1 mg/kg IV/IO/IM

Suspected intracranial hypertension?

Yes

Lidocaine 1 mg/kg IV/IO

No

Etomidate 0.3 mg/kg IV/IO

Perform intubation, confirm placement, inflate cuff if necessary until resistance, continue sedation and paralysis

Contact Medical Control

Legend

EMR

AEMT

PM

MC Order

A

P

M

Weight

4 kg grey

6 kg pink

8 kg red

10 kg purple

12 kg yellow

15 kg white

19 kg blue

24 kg orange

30 kg green

Atropine

0.8 mg

0.12 mg

0.16 mg

0.2 mg

0.24 mg

0.30 mg

0.38 mg

0.48 mg

0.60 mg

Etomidate

1.2 mg

1.8 mg

2.4 mg

3 mg

3.6 mg

4.5 mg

5.7 mg

7.2 mg

9 mg

Lidocaine

4 mg

6 mg

8 mg

10 mg

12 mg

15 mg

19 mg

24 mg

30 mg

Fentanyl

8 mcg

12 mcg

16 mcg

20 mcg

24 mcg

30 mcg

38 mcg

48 mcg

60 mcg

Midazolam

0.4 mg

0.6 mg

0.8 mg

1 mg

1.2 mg

1.5 mg

1.9 mg

2 mg

2 mg

Succinylcholine

8 mg

12 mg

16 mg

20 mg

24 mg

30 mg

38 mg

48 mg

60 mg

Vecuronium

0.4 mg

0.6 mg

0.8 mg

1 mg

1.2 mg

1.5 mg

1.9 mg

2.4 mg

3 mg

Rocuronium

4 mg

6 mg

8 mg

10 mg

12 mg

15 mg

19 mg

24 mg

30 mg
# Pediatric Pulseless Arrest

## Differential:
- Respiratory effort
- Foreign body obstructions
- Hypovolemia (dehydration)
- Hypoxia
- Hypoxia
- Hypovolemia
- Hypoglycemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)
- Trauma (hypovolemia, increased ICP)

## History:
- Medical history
- Possibility of foreign body
- Respiratory distress or arrest
- Possible toxic or poison exposure
- Congenital disease
- Medication (maternal or infant)
- Time of arrest
- Hypothermia
- Non-accidental trauma
- SIDS

## Universal Patient Care Guideline

1. **Begin CPR**
2. Oxygen PRN
3. **Advanced Airway Management**
4. Obtain IV/IO access A
5. Apply AED / ECG monitor / Defibrillator
   - Assess rhythm, shock as advised

### VF / VT

- **Yes**
  - Give 1 shock
    - Manual: 2-4 J/kg
  - Resume CPR Immediately

- **No**
  - Shockable rhythm?
    - **Yes**
      - Give 1 shock
        - Manual: 2-4 J/kg
      - Resume CPR Immediately
    - **No**
      - Asystole / PEA
        - Resume CPR Immediately

## Epinephrine

### 1: 10,000
- 0.01 mg/kg IV / IO
- 0.04 mg
- 0.06 mg
- 0.08 mg
- 0.1 mg
- 0.12 mg
- 0.15 mg
- 0.19 mg
- 0.24 mg
- 0.3 mg

### 1: 1,000
- 0.1 mg/kg ET
- 0.4 mg
- 0.6 mg
- 0.8 mg
- 1 mg
- 1.2 mg
- 1.5 mg
- 1.9 mg
- 2.4 mg
- 3 mg

## Defibrillation
- 8 J
- 12 J
- 16 J
- 20 J
- 24 J
- 30 J
- 38 J
- 48 J
- 60 J

## Legend
- EMR
- AEMT
- PM
- MC Order

## Weight

4 kg grey 6 kg pink 8 kg red 10 kg purple 12 kg yellow 15 kg white 19 kg blue 24 kg orange 30 kg green

**Epinephrine 1: 10,000**
- 0.01 mg/kg IV / IO
- 0.04 mg
- 0.06 mg
- 0.08 mg
- 0.1 mg
- 0.12 mg
- 0.15 mg
- 0.19 mg
- 0.24 mg
- 0.3 mg

**Epinephrine 1: 1,000**
- 0.1 mg/kg ET
- 0.4 mg
- 0.6 mg
- 0.8 mg
- 1 mg
- 1.2 mg
- 1.5 mg
- 1.9 mg
- 2.4 mg
- 3 mg

## Contact Medical Control
- M

## Return Of Spontaneous Circulation (ROSC)?
- 2 minutes of CPR 100/min
  - **Yes**
    - Assess rhythm
    - Ongoing assessment
  - **No**
    - Post Resuscitation Guideline Pg. 19

## Post Resuscitation Guideline Pg. 19

---

**Washington State Department of Health - Office of Community Health Systems**
**DOH 530-137 December 2011**
Pediatric Bradycardia

**History:**
- Medical history
- Possibility of foreign body
- Respiratory distress or arrest
- Possible toxic or poison exposure
- Congenital disease
- Medication (maternal or infant)
- Airway / Respiratory is most common cause

**Differential:**
- Respiratory failure
- Foreign body obstructions
- Hypovolemia (dehydration)
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-hyperkalemia
- Hypoglycemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)
- Trauma (hypovolemia, increased ICP)

---

### Universal Patient Care Guideline

1. **Oxygen**
   - Advanced Airway Management
   - **P** 12 lead / ECG

2. Perform CPR if despite oxygenation and ventilation HR<60/min with poor perfusion
   - **A** Obtain IV/IO access

3. Support ABC’s; give oxygen if needed
   - **M** Contact Medical Control
   - **P** Observe

4. If vagal tone or primary AV block consider
   - **P** Atropine

5. Persistent symptomatic bradycardia?
   - **A** Epinephrine 1 : 10,000
     - 0.01 mg/kg IV / IO OR
     - 0.1 mg/kg ET
     - Repeat every 3-5 min. PRN

6. If toxic or primary AV block consider
   - **A** Atropine
     - 0.02 mg/kg IV/IO

7. Perform CPR if despite oxygenation and ventilation HR<60/min with poor perfusion

---

### Weight and Dosage Table

<table>
<thead>
<tr>
<th>Weight</th>
<th>4 kg grey</th>
<th>6 kg pink</th>
<th>8 kg red</th>
<th>10 kg purple</th>
<th>12 kg yellow</th>
<th>15 kg white</th>
<th>19 kg blue</th>
<th>24 kg orange</th>
<th>30 kg green</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epinephrine 1 : 10,000</strong></td>
<td>0.04 mg</td>
<td>0.06 mg</td>
<td>0.08 mg</td>
<td>0.1 mg</td>
<td>0.12 mg</td>
<td>0.15 mg</td>
<td>0.19 mg</td>
<td>0.24 mg</td>
<td>0.3 mg</td>
</tr>
<tr>
<td><strong>0.01 mg/kg IV / IO</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Epinephrine 1 : 1,000</strong></td>
<td>0.4 mg</td>
<td>0.6 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2.4 mg</td>
<td>3 mg</td>
</tr>
<tr>
<td><strong>0.1 mg/kg ET</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Atropine</strong></td>
<td>0.1 mg</td>
<td>0.12 mg</td>
<td>0.16 mg</td>
<td>0.2 mg</td>
<td>0.24 mg</td>
<td>0.3 mg</td>
<td>0.38 mg</td>
<td>0.48 mg</td>
<td>0.6 mg</td>
</tr>
</tbody>
</table>

---

### Legend

- EMR
- AEMT
- PM
- MC Order

**A** = Active
**P** = Passive
**M** = Medical
Pediatric Narrow Complex Tachycardia

**History:**
- Medications or toxins
- Congenital heart disease
- Respiratory distress
- Syncope
- Volume loss (diarrhea / vomiting)
- Trauma?

**Differential:**
- **Sinus Tachycardia vs. SVT**
  - Heart disease (congenital)
  - Electrolyte imbalance
  - Hypotension
  - Fever / infection / sepsis
  - Medication / toxin / drugs
  - Pulmonary Embolism
  - Tension pneumothorax

---

**Universal Patient Care Guideline**

1. **Oxygen**
   - PRN

2. **Advanced Airway Management**
   - PRN

3. **Obtain IV/IO access**
   - PRN

---

**Probable Sinus Tachycardia**
- Infant rate < 220 bpm
- Children <180 bpm

**Probable SVT**
- Infant rate ≥ 220 bpm
- Children ≥ 180 bpm

---

**Search and treat causes**
- Consider Vagal Maneuvers if uncompensated (no delays)

---

**Adequately perfused?**

**Probable SVT**

- Infant rate ≥ 220 bpm
- Children ≥ 180 bpm

---

**Borderline?**

**Attempt Valsalva maneuver**

---

**Adenosine**
- 0.1 mg/kg IV/IO
- PRN Repeat dose X 2
- 0.2 mg/kg IV/IO

---

**Sedation should not delay cardioversion**

**Lorazepam**
- 0.1 mg/kg IV / IO
  - Or
  - Midazolam
- 0.1 mg/kg IV / IO

---

**Synchronized Cardioversion**
- 0.5-1 joules/kg

---

**Weight**

<table>
<thead>
<tr>
<th></th>
<th>4 kg grey</th>
<th>6 kg pink</th>
<th>8 kg red</th>
<th>10 kg purple</th>
<th>12 kg yellow</th>
<th>15 kg white</th>
<th>19 kg blue</th>
<th>24 kg orange</th>
<th>30 kg green</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adenosine</strong> 0.1 mg/kg – 1st dose</td>
<td>0.4 mg</td>
<td>0.6 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2.4 mg</td>
<td>3 mg</td>
</tr>
<tr>
<td><strong>Adenosine</strong> 0.2 mg/kg – 2nd dose</td>
<td>0.8 mg</td>
<td>1.2 mg</td>
<td>1.6 mg</td>
<td>2 mg</td>
<td>2.4 mg</td>
<td>3 mg</td>
<td>3.8 mg</td>
<td>4.8 mg</td>
<td>6 mg</td>
</tr>
<tr>
<td><strong>Lorazepam</strong></td>
<td>0.4 mg</td>
<td>0.6 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2 mg</td>
<td>2 mg</td>
</tr>
<tr>
<td><strong>Midazolam</strong></td>
<td>0.4 mg</td>
<td>0.6 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2 mg</td>
<td>2 mg</td>
</tr>
</tbody>
</table>
Pediatric Wide Complex Tachycardia

**History:**
- Medications or toxins
- Congenital heart disease
- Respiratory distress
- Syncope
- Drugs (cocaine)

**Differential:**
- Heart disease (congenital)
- Hypovolemia (dehydration) or anemia
- Electrolyte imbalance
- Anxiety
- Hypotension
- Medication / toxin / drugs

---

**Universal Patient Care Guideline**

1. **Oxygen** PRN
2. **Advanced Airway Management**
3. **12 lead / ECG** PRN
4. **Obtain IV/IO access**

**Is rhythm regular?**

- **Regular**
  - **Wide Complex Tachycardia**
  - **Amiodarone** 5 mg/kg IV/IO
  - **Unable to convert or unstable?**
    - **No**
      - **Lorazepam** 0.1 mg/kg IV / IO
      - **Or**
        - **Midazolam** 0.1 mg/kg IV / IO
    - **Yes**
      - **Synchronized Cardioversion** 0.5-1 joules/kg

- **Irregular**
  - **Atrial Fibrillation**
  - **Monitor patient and transport. (Atrial Fibrillation very rare)**

**Contact Medical Control**

---

**Weight** | **4 kg** grey | **6 kg** pink | **8 kg** red | **10 kg** purple | **12 kg** yellow | **15 kg** white | **19 kg** blue | **24 kg** orange | **30 kg** green
---|---|---|---|---|---|---|---|---|---
**Amiodarone** | 20 mg | 30 mg | 40 mg | 50 mg | 60 mg | 75 mg | 95 mg | 120 mg | 150 mg
**Lorazepam** | 0.4 mg | 0.6 mg | 0.8 mg | 1 mg | 1.2 mg | 1.5 mg | 1.9 mg | 2 mg | 2 mg
**Midazolam** | 0.4 mg | 0.6 mg | 0.8 mg | 1 mg | 1.2 mg | 1.5 mg | 1.9 mg | 2 mg | 2 mg

---

Legend:
- **EMR**
- **AEMT**
- **PM**
- **MC Order**
- **A**
- **P**
- **M**

---

Washington State Department of Health - Office of Community Health Systems
DOH 530-137 December 2011
Pediatric Post Resuscitation Management

**History:**
- Past Medical History
- Event / complaints

**Differential:**
- Hypovolemia (dehydration)
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-hyperkalemia
- Hypoglycemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)
- Trauma (hypovolemia, increased ICP)

---

**Universal Patient Care Guideline**

- **Oxygen PRN**
  - Advanced Airway Management

- **A**
  - Obtain IV/IO access

- **A**
  - Fluid bolus 20 ml/kg IV/IO PRN
  - May repeat up to 60 ml/kg

- **P**
  - 12 lead / ECG PRN

- **P**
  - Monitor ECG / ETCO2 if available

- **P**
  - Sedation Post Intubation

- **Consider Pain Management Guideline Pg. 27**

- **P**
  - Midazolam PRN
  - 0.1 mg/kg IV / IO
  - Or
  - Lorazepam PRN
  - 0.1 mg/kg IV / IO

- **Treat other associated signs and symptoms per guideline**
- **Consider temperature control (avoid Hypothermia)**

- **M**
  - Contact Medical Control

---

**Legend**

- **EMR**
- **AEMT**
- **PM**
- **MC Order**

---

<table>
<thead>
<tr>
<th>Weight</th>
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<th>24 kg orange</th>
<th>30 kg green</th>
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<tbody>
<tr>
<td>Midazolam</td>
<td>0.4 mg</td>
<td>0.6 mg</td>
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<td>1.5 mg</td>
<td>1.9 mg</td>
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<tr>
<td>Lorazepam</td>
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<td>0.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2 mg</td>
<td>2 mg</td>
</tr>
</tbody>
</table>
Pediatric Anaphylaxis

**History:**
- Allergies
- Medications
- Past Medical history
- Last oral ingestion
- Event preceding

**Differential:**
- Acute respiratory failure
- Anxiety
- Aspiration
- Asthma
- Drug reaction
- Shock

---

**Universal Patient Care Guideline**

**Evidence of impending Respiratory distress or shock?**

- Yes
  - Epinephrine 1:1,000 0.1 mg/kg IM
  - May repeat Q 5 minutes max 0.3 mg
  - Reassess patient

- No
  - Oxygen PRN
  - Advanced Airway Management

**Obtain IV/IO access**

**Fluid Bolus NS PRN**
- 20 mg/kg IV/IO
- May repeat up to 60 ml/kg

**Albuterol**
- 5 mg Nebulized single dose

**Diphenhydramine**
- 1mg/kg IV/IO

**Solumedrol**
- 2 mg/kg IV/IO

**Evidence of impending Respiratory distress or shock?**

- Yes
  - Epinephrine Drip 0.1-1.5 mcg/kg/min IV/IO

- No
  - Reassess patient

**Contact Medical Control**

---

**Legend**

- EMR
- AEMT
- A
- PM
- P
- M
- MC Order

---

**Evidence of impending Respiratory distress or shock?**

- Yes
  - Epinephrine Drip 0.1-1.5 mcg/kg/min IV/IO

- No
  - Reassess patient

---

**Nebulizer**

- Albuterol 2.5 mg
- Albuterol 5 mg

---

**Epinephrine Drip**

- 1 mg Epinephrine 1:1,000 in 250 ml = 4 mcg/ml
- Use 60 gtt tubing

<table>
<thead>
<tr>
<th>Mcg/min</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
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<tbody>
<tr>
<td>Administer</td>
<td>30 gtt/min</td>
<td>60 gtt/min</td>
<td>90 gtt/min</td>
<td>120 gtt/min</td>
<td>150 gtt/min</td>
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<tr>
<td>Run gtt/sec</td>
<td>1 every 2 seconds</td>
<td>1 every second</td>
<td>1.5 every second</td>
<td>2 every second</td>
<td>2.5 every second</td>
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</table>

---

**Weight**

<table>
<thead>
<tr>
<th>Weight</th>
<th>4 kg</th>
<th>6 kg</th>
<th>8 kg</th>
<th>10 kg</th>
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<td>160 mg</td>
<td>200 mg</td>
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<tr>
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<td>4 mg</td>
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<td>8 mg</td>
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<tr>
<td>yellow</td>
<td>0.04 mg</td>
<td>0.06 mg</td>
<td>0.08 mg</td>
<td>0.1 mg</td>
<td>0.12 mg</td>
<td>0.15 mg</td>
<td>0.19 mg</td>
<td>0.24 mg</td>
<td>0.3 mg</td>
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<tr>
<td>white</td>
<td>0.04 mg</td>
<td>0.06 mg</td>
<td>0.08 mg</td>
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<td>0.12 mg</td>
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<td>0.3 mg</td>
</tr>
<tr>
<td>blue</td>
<td>0.04 mg</td>
<td>0.06 mg</td>
<td>0.08 mg</td>
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<td>0.12 mg</td>
<td>0.15 mg</td>
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</tr>
<tr>
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<td>0.1 mg</td>
<td>0.12 mg</td>
<td>0.15 mg</td>
<td>0.19 mg</td>
<td>0.24 mg</td>
<td>0.3 mg</td>
</tr>
<tr>
<td>green</td>
<td>0.04 mg</td>
<td>0.06 mg</td>
<td>0.08 mg</td>
<td>0.1 mg</td>
<td>0.12 mg</td>
<td>0.15 mg</td>
<td>0.19 mg</td>
<td>0.24 mg</td>
<td>0.3 mg</td>
</tr>
</tbody>
</table>

---

**Fluid Bolus**

- 80 mg
- 120 mg
- 160 mg
- 200 mg
- 240 mg
- 300 mg
- 380 mg
- 480 mg
- 600 mg

---

**Diphenhydramine**

- 4 mg
- 6 mg
- 8 mg
- 10 mg
- 12 mg
- 15 mg
- 19 mg
- 24 mg
- 30 mg

---

**Solumedrol**

- 2 mg
- 4 mg
- 6 mg
- 6 mg
- 8 mg
- 10 mg
- 12 mg
- 14 mg
- 16 mg

---

**Decadron**

- 2 mg
- 4 mg
- 6 mg
- 6 mg
- 8 mg
- 10 mg
- 12 mg
- 14 mg
- 16 mg

---

**Epinephrine**

- 0.04 mg
- 0.06 mg
- 0.08 mg
- 0.1 mg
- 0.12 mg
- 0.15 mg
- 0.19 mg
- 0.24 mg
- 0.3 mg

---

**Universal Patient Care Guideline**

- Evidence of impending Respiratory distress or shock?
  - Yes
    - Epinephrine 1:1,000 0.1 mg/kg IM
    - May repeat Q 5 minutes max 0.3 mg
    - Reassess patient
  - No
    - Oxygen PRN
    - Advanced Airway Management

- Obtain IV/IO access

- Fluid Bolus NS PRN
  - 20 mg/kg IV/IO
  - May repeat up to 60 ml/kg

- Albuterol PRN
  - 5 mg Nebulized single dose

- Diphenhydramine
  - 1mg/kg IV/IO

- Solumedrol
  - 2 mg/kg IV/IO

- Decadron
  - 0.6 mg/kg PO

---

**Contact Medical Control**

- Reassess patient
Pediatric Apparent Life Threatening Event (ALTE)

**History:**
- Altered Mental Status
- Cardiac
- Respiratory Failure
- Seizures
- Syncope
- Cyanosis
- Change in tone

<table>
<thead>
<tr>
<th>Differential:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Hypovolemia (dehydration)</td>
</tr>
<tr>
<td>- Hypoxia</td>
</tr>
<tr>
<td>- Hydrogen ion (acidosis)</td>
</tr>
<tr>
<td>- Hypo-hypokalemia</td>
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<tr>
<td>- Hypoglycemia</td>
</tr>
<tr>
<td>- Hypothermia</td>
</tr>
<tr>
<td>- Toxins</td>
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<tr>
<td>- Tamponade, cardiac</td>
</tr>
<tr>
<td>- Tension pneumothorax</td>
</tr>
<tr>
<td>- Thrombosis (coronary or pulmonary)</td>
</tr>
<tr>
<td>- Trauma (hypovolemia, increased ICP)</td>
</tr>
</tbody>
</table>

**Universal Patient Care Guideline**

- **Oxygen**
- **Advanced Airway Management**

- **12 lead / ECG**

- **Obtain IV/IO access**

- **Fluid bolus 20 ml/kg IV/IO**
  - May repeat up to 60 ml/kg

- **Consider other treatment guidelines as necessary**
  - Obtain full history and features of event
  - Explore medication ingestion/toxin risk

- **Complete thorough history**
  - Specifically assess for history of apnea (>15 seconds?), increased or decreased tone?, change of color?, pallor or cyanosis?

- **Meets criteria for an ALTE**

  Patient **must be transported** for evaluation even if well appearing
  Consider contacting medical control if caregiver refusing transport

- **Contact Medical Control**
Pediatric Breathing Difficulty

History:
- Possibility of foreign body
- Cardiac/Respiratory history
- Respiratory infection

Differential:
- Asthma
- Aspiration
- Foreign body
- Pneumonia (aspiration)
- Croup
- Epiglottitis (Rare)
- Congenital heart disease
- Medication or Toxin
- Trauma

Universal Patient Care Guideline

High flow Oxygen Airway Management

Pediatric Advanced Airway Management

Yes

Severe Distress Respiratory Failure

No

Transport in position of minimal agitation

Lower Airway

Wheeze?

Yes

Albuterol Nebulized

P

Albuterol

5 mg Nebulized

Single dose

Repeat appropriate nebulizer Treatment as indicated for continued symptoms

M Contact Medical Control

Transport greater than 30 mins?

Age > 1 year

Consider Decadron

0.6 mg/kg PO or IM Crush tabs

Upper Airway

Stridor and/or Retractions?

Yes

Epinephrine

3 mL

1:1,000 nebulized

No saline needed

Legend

EMR

A

AEMT

A

P

PM

P

M

MC Order

M

Weight

4 kg grey

6 kg pink

8 kg red

10 kg purple

12 kg yellow

15 kg white

19 kg blue

24 kg orange

30 kg green

Epinephrine

1 : 1,000

3 mL nebulized

Atrovent

0.5 mg nebulized

Nebulizer

Albuterol 2.5 mg

Albuterol 5 mg

Decadron

2 mg

4 mg

6 mg

8 mg

10 mg

12 mg

14 mg

16 mg

Contact Medical Control
Pediatric Diabetic Ketoacidosis / Hyperglycemia

History:
- Polyuria
- Polydipsia
- Vomiting
- Weakness
- Confusion

Clinical Signs:
- Dehydration
- Kussmaul respirations
- Smell of ketones
- Change in mental status

Universal Patient Care Guideline

- Oxygen \(\text{PRN}\)
- Advanced Airway Management

Check Glucose
- P
- P

12 Lead / ECG

Obtain IV/IO access
- A
- A

Clinical Signs of Intracranial Hypertension?
- P
- P

Consider Rapid Sequence Intubation for GCS <8
Pg. 13

Elevate head of bed to 45°

Ventilate patient to maintain 30-35 mm/Hg ETCO2

Clinical Signs of Dehydration or Hyperglycemia > 250?
- No

Slow Fluid bolus
10 ml/kg IV/IO
No repeat unless shock
- A
- A

Contact Medical Control
- M
- M

Legend
- EMR
- AEMT
- PM
- MC Order

Clinical Signs:
- Dehydration
- Kussmaul respirations
- Smell of ketones
- Change in mental status

Universal Patient Care Guideline

- Oxygen \(\text{PRN}\)
- Advanced Airway Management

Check Glucose
- P
- P

12 Lead / ECG

Obtain IV/IO access
- A
- A

Clinical Signs of Intracranial Hypertension?
- P
- P

Consider Rapid Sequence Intubation for GCS <8
Pg. 13

Elevate head of bed to 45°

Ventilate patient to maintain 30-35 mm/Hg ETCO2

Clinical Signs of Dehydration or Hyperglycemia > 250?
- No

Slow Fluid bolus
10 ml/kg IV/IO
No repeat unless shock
- A
- A

Contact Medical Control
- M
- M
Pediatric Hypoglycemia

**History:**
- Known diabetic, medic alert tag
- Past medical history
- Medications
- History of trauma
- Ingestion
- Syncope

**Differential:**
- Head trauma
- CNS (stroke, tumor, seizure, infection)
- Infection
- Thyroid (hyper / hypo)
- Diabetes (hyper / hypoglycemia)
- Toxicologic
- Acidosis / Alkalosis
- Electrolyte abnormatility

**Universal Patient Care Procedure**

- **Blood Glucose check**
- **< 60 mg/dL**
  - **Yes**
    - **Administer Oral Glucose**
  - **No**
    - **Alert and stable airway?**
      - **Yes**
        - **Obtain IV/IO access**
      - **No**
        - **Blood Glucose < 60**
          - **D 25 W**
            - **2 mL/kg**
          - **OR**
            - **Glucagon**
              - **0.1 mg/kg IM to 1 mg max**
        - **12 lead / ECG**
          - **PRN**
    - **Contact Medical Control**

**Legend**
- EMR
- AEMT
- PM
- MC Order

**Weight**

<table>
<thead>
<tr>
<th></th>
<th>4 kg grey</th>
<th>6 kg pink</th>
<th>8 kg red</th>
<th>10 kg purple</th>
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</thead>
<tbody>
<tr>
<td>D 25 W</td>
<td>8 mL</td>
<td>12 mL</td>
<td>16 mL</td>
<td>20 mL</td>
<td>24 mL</td>
<td>30 mL</td>
<td>38 mL</td>
<td>48 mL</td>
<td>60 mL</td>
</tr>
<tr>
<td>Glucagon</td>
<td>0.4 mg</td>
<td>0.6 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1 mg</td>
<td>1 mg</td>
<td>1 mg</td>
<td>1 mg</td>
<td>1 mg</td>
</tr>
</tbody>
</table>
Newborn Resuscitation

**History:**
- Prenatal care and history
- Due date/LMP
- Expected multiple births
- Meconium
- Congenital disease
- Medications
- Maternal risk factors

**Differential:**
- Airway obstruction
- Respiratory effort
- Infection
- Hypovolemia
- Hypoglycemia
- Congenital heart disease
- Hypothermia

---

**Universal Patient Care Guideline**

- Dry infant and keep warm
  - Heart rate > 100?
    - Continue ongoing assessment
  - Heart rate < 60? Or inadequate respirations
    - Assist ventilations BVM Intubation PRN
    - No improvement after 30 seconds? Begin chest compressions
      - Obtain IV/IO access
      - Fluid bolus 20 ml/kg IV/IO/NS May repeat up to 60 ml/kg
      - 12 Lead / ECG
      - Epinephrine 1:10,000 0.01 mg/kg IV / IO OR Epinephrine 1:1,000 0.1 mg/kg ET Repeat every 3-5 min. PRN

**Legend**
- EMR
- AEMT
- PM
- MC Order

---

<table>
<thead>
<tr>
<th>Weight</th>
<th>2 kg grey</th>
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<th>4 kg grey</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Epinephrine 1:10,000 0.01 mg/kg IV / IO</td>
<td>0.02 mg</td>
<td>0.03 mg</td>
<td>0.04 mg</td>
<td>0.05 mg</td>
</tr>
<tr>
<td>Epinephrine 1:1,000 0.1 mg/kg ET</td>
<td>0.2 mg</td>
<td>0.3 mg</td>
<td>0.4 mg</td>
<td>0.5 mg</td>
</tr>
</tbody>
</table>
Known Pediatric Toxic Exposure

**History:**
- Ingestion or suspected ingestion of a potentially toxic substance
- Substance ingested, route, quantity
- Time of ingestion
- Reason (suicidal, accidental, criminal)
- Available medications in home

**Differential:**
- Tricyclic antidepressants (TCAs)
- Acetaminophen (tylenol)
- Depressants
- Stimulants
- Anticholinergic
- Cardiac medications
- Solvents, Alcohols, Cleaning agents
- Insecticides (organophosphates)

**Universal Patient Care Guideline**

1. **Oxygen**
   - PRN
   - Advanced Airway Management

2. **BLS Provider?**
   - Yes
   - Consider Activated Charcoal
     - 1 gm/kg PO
   - Obtain IV access

3. **Respiratory depression, Opiate O.D.**
   - Naloxone
     - 0.1 mg/kg (max 2 mg) IV/IO/IM
     - PRN

4. **Sodium Bicarbonate**
   - 1 – 2 mEq/kg IV/IO

5. **Calcium Chloride**
   - 20 mg/kg IV/IO
   - Consider Transcutaneous Pacing

6. **Epinephrine**
   - PRN
   - See Pediatric Shock Non-Traumatic Pg. 28

7. **Glucagon**
   - 0.1 mg/kg IM (max does 1 mg)

8. **Contact Medical Control**
   - with nature of toxic exposure

**Legend**

- EMR
- AEMT
- EMR
- PM
- MC Order

**Contact Medical Control**

- with nature of toxic exposure

**Poison Control 800-222-1222**

---

**Weight**

<table>
<thead>
<tr>
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<th>4 kg</th>
<th>6 kg</th>
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<th>10 kg</th>
<th>12 kg</th>
<th>15 kg</th>
<th>19 kg</th>
<th>24 kg</th>
<th>30 kg</th>
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<td>red</td>
<td>purple</td>
<td>yellow</td>
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<td>24 kg</td>
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<td>30 kg</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Activated Charcoal**
  - 4 gm 6 gm 8 gm 10 gm 12 gm 15 gm 19 gm 24 gm 30 gm
- **Naloxone**
  - 0.4 mg 0.6 mg 0.8 mg 1 mg 1.2 mg 1.5 mg 1.9 mg 2 mg 2 mg
- **Sodium Bicarbonate**
  - 4 mEq 6 mEq 8 mEq 10 mEq 12 mEq 15 mEq 19 mEq 24 mEq 30 mEq
- **Calcium Chloride**
  - 80 mg 120 mg 160 mg 200 mg 240 mg 300 mg 380 mg 480 mg 600 mg
- **Glucagon**
  - 0.4 mg 0.6 mg 0.8 mg 1 mg 1 mg 1 mg 1 mg 1 mg 1 mg
- **Atropine**
  - 0.1 mg 0.12 mg 0.16 mg 0.2 mg 0.24 mg 0.3 mg 0.38 mg 0.48 mg 0.6 mg
- **Lorazepam**
  - 0.4 mg 0.6 mg 0.8 mg 1 mg 1.2 mg 1.5 mg 1.9 mg 2 mg 2 mg
- **Midazolam**
  - 0.4 mg 0.6 mg 0.8 mg 1 mg 1.2 mg 1.5 mg 1.9 mg 2 mg 2 mg

---

**Washington State Department of Health - Office of Community Health Systems**

DOH 530-137 December 2011
Pediatric Pain Management

History:
- Age
- Location
- Duration
- Severity (1 - 10)
- Past medical history
- Medications – especially pain med
- Drug allergies
- Aggravating factors
- Alleviating factors

Differential:
- Musculoskeletal
- Visceral (abdominal)
- Cardiac
- Pleural / Respiratory
- Neurogenic
- Renal (colic)
- Sickle cell

Universal Patient Care Guideline

Nitrous Oxide PRN if available

Morphine PRN
0.1 mg/kg IV/IO/IM
Or
Fentanyl
1 mcg/kg IV/IO/IM

Ondansetron PRN
IV/IM
Or
4 mg PO if patient weight > 10kg

M Contact Medical Control

Weight

<table>
<thead>
<tr>
<th>4 kg grey</th>
<th>6 kg pink</th>
<th>8 kg red</th>
<th>10 kg purple</th>
<th>12 kg yellow</th>
<th>15 kg white</th>
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</tr>
</thead>
<tbody>
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<td>Morphine</td>
<td>0.4 mg</td>
<td>0.6 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2.4 mg</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>4 mcg</td>
<td>6 mcg</td>
<td>8 mcg</td>
<td>10 mcg</td>
<td>12 mcg</td>
<td>15 mcg</td>
<td>19 mcg</td>
<td>24 mcg</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>.04 mg</td>
<td>.06 mg</td>
<td>.8 mg</td>
<td>1 mg</td>
<td>1.2 mg</td>
<td>1.5 mg</td>
<td>1.9 mg</td>
<td>2 mg</td>
</tr>
<tr>
<td>Midazolam</td>
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<td>0.8 mg</td>
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<td>1.2 mg</td>
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<td>1.9 mg</td>
<td>2 mg</td>
</tr>
<tr>
<td>Ondansetron IV/IM</td>
<td>0</td>
<td>1 mg</td>
<td>1 mg</td>
<td>1 mg</td>
<td>2 mg</td>
<td>2 mg</td>
<td>3 mg</td>
<td></td>
</tr>
<tr>
<td>Ondansetron PO</td>
<td>0</td>
<td>4 mg ODT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pediatric Fever

**History:**
- Fever not associated with heat injury
- Does not require rapid temperature reduction
- Fever less than 107° is not dangerous

**Differential:**
- Infections/Sepsis
- Medication or drug reaction

---

**Universal Patient Care Guideline**

**Temp ≥ 101° or ≥ 38 Celsius ?**

- Yes
  - Keep patient comfortable
  - Do Not undress
  - Do Not apply cool compress

  **Associated with needing treatment?**

  - Yes
    - See appropriate guideline
  
  - No
    - Yes
      - No vomiting, no acetaminophen in 4°
      - And Transport > 10 mins
      
    - **Consider Acetaminophen**
      - 15 mg/kg PO/PR

  - Otherwise well?

    - Yes
      - See appropriate guideline
    
    - No
      - **Contact Medical Control**

---

**Legend**

- **EMR**
- **AEMT**
- **PM**
- **MC Order**

**Acetaminophen**

<table>
<thead>
<tr>
<th>Weight</th>
<th>4 kg grey</th>
<th>6 kg pink</th>
<th>8 kg red</th>
<th>10 kg purple</th>
<th>12 kg yellow</th>
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<th>19 kg blue</th>
<th>24 kg orange</th>
<th>30 kg green</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 kg</td>
<td>60 mg</td>
<td>90 mg</td>
<td>120 mg</td>
<td>150 mg</td>
<td>180 mg</td>
<td>225 mg</td>
<td>285 mg</td>
<td>360 mg</td>
<td>450 mg</td>
</tr>
</tbody>
</table>
Pediatric Shock Non-traumatic

**History:**
- Medical history
- Respiratory distress or arrest
- Possible toxic or poison exposure
- Congenital disease
- Medication (maternal or infant)
- Non accidental trauma

**Differential:**
- Respiratory effort
- Hypovolemia (dehydration)
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-hyperkalemia
- Hypoglycemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)

**Universal Patient Care Guideline**

1. **Oxygen**
   - Advanced Airway Management

2. **Fluid bolus 20 ml/kg IV/IO**
   - May repeat up to 60 ml/kg

3. **Epinephrine Bolus**
   - 0.01 mg/kg IV/IO

4. **Epinephrine Drip**
   - 0.1-1.5 mcg/kg/min IV/IO

5. **12 lead / ECG**

6. **Obtain IV/IO access**

7. **Improved?**

---

### Epinephrine Drip

<table>
<thead>
<tr>
<th>Mcg/min</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer</td>
<td>30 gtt/min</td>
<td>60 gtt/min</td>
<td>90 gtt/min</td>
<td>120 gtt/min</td>
<td>150 gtt/min</td>
</tr>
<tr>
<td>Run gtt/sec</td>
<td>1 every 2 seconds</td>
<td>1 every second</td>
<td>1.5 every second</td>
<td>2 every second</td>
<td>2.5 every second</td>
</tr>
</tbody>
</table>

| Epinephrine | 0.04 mg | 0.06 mg | 0.08 mg | 0.1 mg | 0.12 mg | 0.15 mg | 0.19 mg | 0.24 mg | 0.3 mg |

---

Legend:
- EMR
- A
- AEMT
- P
- PM
- M
- MC Order

Contact Medical Control
Pediatric Seizure

**History:**
- Prior history of seizures
- Seizure medications
- History of VP Shunt
- Fever
- Head Trauma

**Differential:**
- Medication or Toxin
- Hypoxia or Respiratory failure
- Hypoglycemia

---

**Universal Patient Care Guideline**

**Febrile?**
- Yes
- No

**Oxygen**

**Advanced Airway Management**

**Obtain IV/IO access PRN**

**Blood Glucose < 60**
- **D 25 W** 2 mL/kg

**OR**
- **Glucagon** 0.1 mg/kg IM to 1 mg max

**Active Seizure ≥ 5 minutes?**
- Yes
- No

**Contact Medical Control**

---

**Legend**

- EMR
- AEMT
- PM
- MC Order

---

**Weight**

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</tr>
<tr>
<td>Lorazepam</td>
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<td>1 mg</td>
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</table>
### Unknown Pediatric Toxic Exposure / Ingestion Guideline

#### Smells:
- Almond = Cyanide
- Fruit = Alcohol
- Garlic = Arsenic, parathion, DMSO
- Mothballs = Camphor
- Natural gas = Carbon monoxide
- Rotten eggs = Hydrogen sulfide
- Silver polish = Cyanide
- Wintergreen = Methyl salicylate

#### Potential exposures:
- Burning overstuffed furniture = cyanide
- Old burning buildings = Lead fumes and Carbon monoxide
- Pepto-Bismol™ like products = Aspirin
- Pesticides = Organophosphates and Carbamates
- Common Plants = Treat symptoms and bring plant/flower to ED

#### Universal Patient Care Guideline

**Assess scene safety as Indicated:**
- Appropriate body substance isolation
- Refer to System/Department Haz/Mat Protocol
- Stop exposure

**Oxygen Advanced Airway Management**

**Contact Medical Control**
Initial interventions per Medical Control indicated for identified exposure

**For Altered Level of Consciousness**
- Support ABC’s
- Keep Warm
- Bring Container(s) of drug or substance to the ED

**Special Considerations:**
- Intubate for GCS<8
- Do not induce vomiting, especially in cases where caustic substance ingestion is suspected
- Poison Center Phone # 800-222-1222

**Legend**

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<td>P</td>
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</tr>
<tr>
<td>M</td>
<td>MC Order</td>
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**Naloxone**
- 0.1 mg/kg (max 2 mg)
  - IV/IO/IM

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Washington State Department of Health - Office of Community Health Systems
DOH 530-137 December 2011
Pediatric Multi-System Trauma

**History:**
- Time and Mechanism of injury
- Damage to structure or vehicle
- Others injured or death
- Restraints / protective equipment
- Ejection
- Speed and details of MVC

**Differential:**
- Abnormal neurological exam
- Tamponade, cardiac
- Tension pneumothorax
- Intracranial Hypertension
- Toxins
- Tamponade (cardiac)
- Tension pneumothorax
- Thrombosis (Pulmonary, Coronary)
- Trauma
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-hyperkalemia
- Hypoglycemia
- Hypothermia

**Universal Patient Care Guideline**

Pediatric Spinal Precautions

Oxygen
Advanced Airway Management

Obtain IV/IO access

Fluid bolus 20 ml/kg IV/IO
May repeat up to 60 ml/kg

Ongoing assessment

Consider other treatment Guideline as necessary

Contact Medical Control

**Legend**
- **EMR**
- **AEMT**
- **PM**
- **MC Order**

**Legend**
- **Hypovolemia**
- **Hypoxia**
- **Hydrogen ion (acidosis)**
- **Hypo-hyperkalemia**
- **Hypoglycemia**
- **Hypothermia**

**Legend**
- **Hypoxia**
- **Hydrogen ion (acidosis)**
- **Hypo-hyperkalemia**
- **Hypoglycemia**
- **Hypothermia**

**Legend**
- **Hypoxia**
- **Hydrogen ion (acidosis)**
- **Hypo-hyperkalemia**
- **Hypoglycemia**
- **Hypothermia**
Pediatric Submersion Injury

History:
- Submersion in water regardless of depth
- Possible history of trauma
- Duration of submersion
- Temperature of water

Differential:
- Trauma
- Pre-existing medical problems
- Barotrauma
- Decompression Sickness

Universal Patient Care Guideline

Pediatric Spinal Precautions
Pg. 37

Oxygen
Advanced Airway Management

If no pulse or Symptomatic
Bradycardia begin CPR
See Appropriate Guideline

Remove wet clothing
Cover with dry (warm) blankets
Warming Measures

Obtain IV/IO access
12 Lead / ECG

Consider other treatment Guidelines as necessary

Contact Medical Control

Notes:
- Patients may have delayed respiratory symptoms. Transfer all patients for evaluation.
Pediatric Burns

History:
- Type of exposure
- Inhalation injury
- Time of injury
- Mechanism of Injury
- Non-accidental trauma

Differential:
- Superficial (1°) red and painful
- Partial thickness (2°) blistering
- Full thickness (3°) charred or leathery skin
- Chemical
- Thermal
- Electrical

Stop the burning process:
Remove jewelry and clothing that may be burned, covered in chemicals or restricting.

Cover burn with a dry clean sheet or dressing
Keep warm

Use Rule of 9's to calculate BSA

>15% BSA then

Obtain IV/ IO access
If Hypotensive fluid bolus LR 20ml / kg (if LR unavailable use NS)
If not Hypotensive Maintenance fluid

Pain Management Guideline Pg. 27

M Contact Medical Control M

Universal Patient Care Guideline
Oxygen PRN
Advanced Airway Management

Stop the burning process:
Remove jewelry and clothing that may be burned, covered in chemicals or restricting.

Thermal / Electrical
Chemical

Differential:
- Superficial (1°) red and painful
- Partial thickness (2°) blistering
- Full thickness (3°) charred or leathery skin

History:
- Type of exposure
- Inhalation injury
- Time of injury
- Mechanism of Injury
- Non-accidental trauma

Obtain IV/ IO access PRN
If Hypotensive fluid bolus LR 20ml / kg (if LR unavailable use NS)
If not Hypotensive Maintenance fluid

Pain Management Guideline Pg. 27

M Contact Medical Control M

Legends:
A AEMT
P PM
M MC Order

Relative percentage of body surface area (% BSA) affected by growth

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<th>Body Part</th>
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<th>5 yr</th>
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<td>8 1/2</td>
<td>6 1/2</td>
<td>5 1/2</td>
<td>4 1/2</td>
</tr>
<tr>
<td>b = 1/2 of 1 thigh</td>
<td>2 3/4</td>
<td>3 1/4</td>
<td>4</td>
<td>4 1/4</td>
<td>4 1/2</td>
</tr>
<tr>
<td>c = 1/2 of 1 lower leg</td>
<td>2 1/2</td>
<td>2 1/2</td>
<td>2 3/4</td>
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<td>3 1/4</td>
</tr>
</tbody>
</table>

Washington State Department of Health - Office of Community Health Systems
DOH 530-137 December 2011
Pediatric Heat Related Emergency

### History:
- Age
- Exposure to increase temperature and/or humidity
- Extreme exertion
- Time and length of exposure
- Fatigue and/or muscle cramping
- Heat related emergency ≠ fever response to illness

### Differential:
- Infection
- Dehydration
- Medications
- Thyroid storm
- Predisposing factors

- Delirium tremors
- CNS lesions or tumors
- DKA

#### Universal Patient Care Guideline

1. Oxygen PRN
2. Advanced Airway Management
3. Remove from heat source
4. Remove clothing
5. Cool Fluid intake PO
6. 12 Lead / ECG
7. Alert and oriented, no nausea
8. Check Glucose < 60 mg/dl
   - See Hypoglycemia Guideline Pg. 24
9. Continue cooling to 39° C (103° F)
10. Shivering or seizures?
    - Yes
    - Continue Care
    - No

#### Contact Medical Control

- Lorazepam 0.1 mg/kg IV/IO
  - Or
  - Midazolam 0.1 mg/kg IV/IO/IM

### Legend
- AEMT
- A
- PM
- P
- M
- EMR

### Weight

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### Notes:
- Succinycholine not recommended for Hyperthermic patients
- Document patient's rectal temperature
- Rapid cooling to 39° C (103° F) to avoid overshooting and shivering.
- Apply room temperature water to skin and increase airflow around patient if possible.
- Ice packs to axillae and groin
Pediatric Cold Related Emergency

**History:**
- Age
- Exposure to decreased temperatures and / or humidity
- Past medical history / medications
- Time and length of exposure
- Hypothermia = core tem < 35º C

**Differential:**
- Medications
- CNS dysfunction
- Environmental exposure
- Poisoning/overdose

---

**Universal Patient Care Guideline**
Handle patient gently

- Oxygen
  - Advanced Airway Management
- 12 Lead / ECG PRN
- Obtain IV/IO access
- Warm Fluid bolus
  - 20 ml/kg IV/IO
  - May repeat up to 60 ml/kg

---

**Pulse / Breathing?**

- No
  - Begin CPR
    - Defibrillate VF/VT Once
  - Core temperature?
    - < 28º C
      - Continue CPR
        - Hold IV Meds
    - > 28º C
      - Continue CPR
        - Give IV Medication per appropriate Guideline
        - Repeat Defibrillation as core temperature rises if V-Tac or V-Fib
        - Begin active external warming
  - Support ABC’s Monitor
    - Treat other associated symptoms
    - Consider Differentials
  - Contact Medical Control

- Yes
  - Support ABC’s Monitor
  - Treat other associated symptoms
  - Consider Differentials
  - Contact Medical Control
Pediatric Spinal Precautions

**Recommended high-energy guidelines:**
- High-speed motor vehicle collision
- Rollover motor vehicle accident
- Occupant ejected from motor vehicle
- Pedestrian/bicyclist struck by motor vehicle
- Any accident involving motorized recreational vehicles
- Diving accident
- Fall from height > 5 ft or > 5 stairs
- Any other high-energy mechanism with rapid acceleration and deceleration
- High contact sports injuries

---

**Universal Patient Care Protocol**

**Patient with mechanism or exam concerning for potential spinal injury**

**Maintain manual cervical spine stabilization**

**Apply properly sized pediatric cervical collar**

1. Place padding under shoulders to maintain neutral spinal alignment
2. Place child on backboard/papoose or stabilize child in car seat
3. Properly place restraint straps
4. Place tape across forehead

**Maintain continuous monitoring throughout transport**

**M Contact Medical Control**

---

**Legend**

<table>
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Sports Concussion

**Signs observed by Others:**
- Appears dazed or stunned
- Confusion
- Forgetfulness
- Unsure
- Moves Clumsily
- Answers Questions slowly
- Loses consciousness – not needed to have concussion
- Behavior or personality Changes
- Can’t recall events prior to hit / fall
- Apparent weakness

**Symptoms Report by Athlete:**
- Headache
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Numbness or weakness in extremities
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- DOES NOT “FEEL RIGHT”

**Universal Patient Care Guideline**

1. Oxygen PRN
2. Advanced Airway Management
3. Pediatric Spinal Precautions Pg. 37 PRN
4. Obtain IV/IO access A
5. Fluid bolus 20 ml/kg IV/IO A
6. 12 Lead / ECG P
7. Evidence of increased intracranial pressure or a GSC < 8? Yes/No
   - Go to Traumatic Brain Injury Guideline Pg. 41
   - Continuous reassessment of vital signs of mental status
   - Contact Medical Control M

**Legend**
- EMR
- AEMT A
- PM P
- MC Order M
- A
- P

**Notes:**
Signs of possible sports related concussion include:
- Trauma / Head Injury
- Headaches
- Dizziness
- Fatigue

- Uneven gait
- Nausea
- Blurred vision
- Amnesia
- Confusion
- Neurological deterioration over time
Pediatric START/JumpSTART Triage

Able to walk?
   Yes → Minor → Refer to appropriate Guideline
   No → Breathing?
      No → Position upper airway → IMEDIATE
      Yes → Breaths → IMEDIATE

Breathing?
   No → 5 Rescue Breaths
   Yes → Pulse
      No → No Pulse → DECEASED
      Yes → Apneic

Respiratory Rate
   < 30 Adult
      15 - 45 Pediatric
         > 30 Adult
            < 15 or > 45 Pediatric → IMEDIATE
         < 30 Adult
            CRT > 3 sec (Adult)
               No Palpable Pulse (Pediatric) → IMEDIATE
            Mental Status
               Doesn't obey commands (Adult)
                  “P” Inappropriate posturing or “U” (Pediatric)
                     IMEDIATE
               Obeys Commands (Adult)
                  “A”, “V” or “P” Appropriate (Pediatric)
                     DELAYED

Mental Status
   AVPU Infant / Child
      A - Alert Curious / Recognizes parents Alert / Aware of surroundings
      V - Responds to Voice Irritable / Cries Opens eyes
      P - Responds to Pain Cries in response to pain Withdrawals from pain
      U - Unresponsive No Response Opens eyes

Legend
EMR
A
AEMT
P
PM
M
MC Order

Washington State Department of Health - Office of Community Health Systems
DOH 530-137 December 2011
**Suspected Child Abuse**

**Physical findings:**
- Unexplained bruises
- Numerous/multiple bruises
- Burns: Cigarette, Immersion, Rope, Infected, patterned
- Torn, stained, bloody underclothes
- Bleeding, irritation or pain of the genitals
- Poor hygiene/malnourished
- Child with repeated injuries/multiple calls to the same address
- Flat/bald spots on head (infants)
- Unexplained wet clothing/body

**Behavioral:**
- History of minor incident inconsistent with major injury
- MOI inconsistent with developmental age
- Inappropriate fear of parent
- Inconsistent explanation for injury
- Nervous disorders (rash, hives, stomachaches)
- Age-inappropriate behaviors (bedwetting)
- Lack of adult supervision
- Delay in seeking medical care
- Caregiver who refuses treatment or transport

**Contact LE/CPS should caretaker not allow transport to hospital**

**Psychological findings:**
- Inconsistently explain for injury
- Inappropriate fear of parent
- Flat/bald spots on head (infants)
- Unexplained wet clothing/body

---

**Universal Patient Care Guideline**

1. **Oxygen**
   - Advanced Airway Management

2. **12 lead / ECG**

3. **Obtain IV/IO access**

4. **Fluid bolus 20 ml/kg IV/IO**
   - May repeat up to 60 ml/kg

Consider other treatment Guideline as necessary
Have a high index of suspicion for traumatic brain injury

**Documentation:**
- Carefully document caretakers description of event
- Note environment including temperature
- Note clothing, stains, and conditions

**Contact Medical Control**

---

**Sexual abuse:**
- May be present without apparent signs of physical abuse
- Discourage patient from going to the bathroom
- Don’t allow patient to change clothes or wash
- Bring clothing to hospital
Pediatric Traumatic Brain Injury

Universal Patient Care Guideline

Mechanism or Signs / Symptoms of Head Injury

Pediatric Spinal Precautions Pg. 37

Advanced Airway Management or Focal neurologic abnormalities, or GCS < 8

Yes

Consider RSI Pg. 14

Hypotension?

Yes

Obtain IV/IO access

Fluid bolus 20 ml/kg IV/IO May repeat up to 60 ml/kg

No

Signs of Intracranial Hypertension?

Yes

Consider Rapid Sequence Intubation for GCS < 8 Pg. 14

Ventilate patient to maintain 30-35 mm/Hg ETCO2

No

Clinical signs of seizure?

Yes

Lorazepam 0.1 mg/kg IV/IO Or Midazolam 0.1 mg/kg IV/IO/IM

No

Contact Medical Control

Legend

EMR

AEMT

PM

MC Order

Support ABC’s Monitor Treat other associated symptoms Consider Differentials Including Concussion

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Needle Cricothyroidotomy

**Note:** This is an emergency rescue airway procedure, it should not be attempted in a patient that can be ventilated by other means.

**Equipment:**
- Sterile gloves
- Universal precautions
- Povidone iodine
- Sterile drape
- 10 mL syringe half-filled with sterile saline
- 16-18 gauge angiocatheter
  (12-16 g angiocatheter for large adolescent)
- 3.0 ETT connector

**Procedure:**

1. Lay patient supine with neck extended, preoxygenate
2. Prep anterior neck with povidone iodine
3. Consider 1% Lidocaine at injection site if patient is conscious
4. Hold trachea with thumb and third finger, palpate cricothyroid membrane
5. Connect 10 mL syringe to angiocatheter, insert midline to inferior margin of cricothyroid membrane at 30-45 degree angle directed caudally
6. Maintain negative pressure on syringe as you advance until you have air bubbles
7. Advance catheter until hub is against skin
8. Remove needle
9. Attach 3.0 ETT connector to BVM
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