STATE OF WASHINGTON

Emergency Medical Services Prehospital Pediatric Guidelines







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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

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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



Pediatric References

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

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)

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Face	No particular expression; smile	Grimace or frown; withdrawn; disinterested	Frequent quivering chin; clenched jaw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



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								
	0 Points	1 Point	2 Points					
A – Appearance (Skin Color)	Blue / Pale	Normal, except for extremities	Normal over entire body					
P – Pulse	Absent	Below 100	Above 100					
G – Grimace (Reflex Irritability)	No Response	Grimace	Sneeze, cough, pulls away					
A – Activity	Absent	Arms and Legs Flexed	Active Movement					
R – Respiration	Absent	Slow, irregular	Good, strong cry					

AVPU Infant / Child								
Response	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	Withdraws from pain						
U – Unresponsive	No response	No response						

CUPS Pedia	CUPS Pediatric						
C – Critical	Absent airway, breathing or circulation (cardiac or respiratory arrest or severe traumatic injury)						
U – Unstable	Compromised airway, breathing or circulation (unresponsive, respiratory distress, active bleeding, shock, active seizure, significant injury, shock, near-drowning, etc.)						
P – Potentially Unstable	Normal airway, breathing & circulation but significant mechanism of injury or illness (Post-seizure, minor fractures, infant <3 months with fever, etc.)						
<mark>S</mark> – Stable	Normal airway, breathing & circulation No significant mechanism of injury or illness (small lacerations or abrasions, infant <u>></u> 3 months with fever)						

Glasgo	w Coma Score		
EYE	<1 y/o	>1 y/o	
1	None	None	
2	Opens to pain	Opens to pain	
3	Opens to shout	Opens to verbal command	
4	Opens spontaneously	Opens spontaneously	
VERBAL	< 2 y/o	2-5 у/о	> 5 y/0
1	None	None	None
2	Moans to pain	Moans to pain	Incomprehensible sounds
3	Persistent cries to pain	Persistent cries to pain	Inappropriate words
4	Irritable but consoles	Inappropriate words	Confused
5	Coos, babbles	Appropriate words	Oriented
MOTOR	<1 y/o	> 1 y/o	
1	None	None	
2	Extension to pain	Extension to pain	
3	Flexion to pain	Flexion to pain	
4	Withdrawal to pain	Withdrawal to pain	
5	Withdrawal from touch	Localizes to pain	
6	Spontaneous movement	Obeys commands	

Neonatal Resuscitation



Universal Pediatric Patient Care Guideline



	Legend						
	EMR						
Α	AEMT	Α					
Ρ	РМ	Ρ					
Μ	MC Order	Μ					

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



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 manditory 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
- <u>All</u> 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.



Pediatric Rapid Sequence Intubation



M Contact Medical Control M

Weight	4 kg grey	6 kg <i>pink</i>	8 kg red	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg <i>white</i>	19 kg <i>blue</i>	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



Pediatric Bradycardia

History: Differential: Respiratory failure Medical history ٠ Toxins Foreign body obstructions Possibility of foreign body • Tamponade, cardiac Hypovolemia (dehydration) •

- Respiratory distress or arrest ٠
- Possible toxic or poison exposure •
- Congenital disease •
- Medication (maternal or infant) •
- Airway / Respiratory is most common cause •
- Hypoxia •
- Hydrogen ion (acidosis)
- Hypo-/hyperkalemia
- **H**ypoglycemia
- **H**ypothermia
- Tension pneumothorax
- Thrombosis (coronary or
- pulmonary) Trauma (hypovolemia, increased ICP)



Weight	4 kg grey	6 kg pink	8 kg red	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg <i>white</i>	19 kg <i>blu</i> e	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
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

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 EmbolismTension pneumothorax



Weight	4 kg <i>grey</i>	6 kg pink	8 kg <i>red</i>	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg white	19 kg <i>blue</i>	24 kg orange	30 kg green
Adenosine 0.1 mg/kg – 1 st dose	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
Adenosine 0.2 mg/kg – 2 nd dose	0.8 mg	1.2 mg	1.6 mg	2 mg	2.4 mg	3 mg	3.8 mg	4.8 mg	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



1 mg

1 mg

1.2 mg

1.2 mg

1.5 mg

1.5 mg

1.9 mg

1.9 mg

2 mg

2 mg

2 mg

2 mg

0.8 mg

0.8 mg

Lorazepam

Midazolam

0.4 mg

0.4 mg

0.6 mg

0.6 mg

History:

- Past Medical History
- Event / complaints

Differential:

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

- Toxins
- **T**amponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)
- Trauma (hypovolemia, increased ICP)



	Legend						
	EMR						
Α	AEMT	Α					
Ρ	PM	Ρ					
Μ	MC Order	Μ					

Weight	4 kg <i>grey</i>	6 kg pink	8 kg red	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg white	19 kg <i>blue</i>	24 kg orange	30 kg green
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
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

Pediatric Anaphylaxis



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Pediatric Apparent Life Threatening Event (ALTE)

History:

- Altered Mental Status ٠
- Cardiac •
- **Respiratory Failure** •
- Seizures .
- Syncope •
- Cyanosis •
- Change in tone •

Differential:

- Hypovolemia (dehydration) ٠
- ٠ Hypoxia
- Hydrogen ion (acidosis) •
- Hypo-hyperkalemai •
- **H**ypoglycemia ٠
- **H**ypothermia
- Toxins
- Tamponade, cardiac •
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)

Legend

EMR

AEMT

PM

MC Order

Α

Ρ

Μ

Trauma (hypovolemia, increased ICP)

Α

Ρ

Μ



Μ



Μ



Weight	4 kg <i>grey</i>	6 kg <i>pink</i>	8 kg <i>red</i>	10 kg <i>purpl</i> e	12 kg <i>yellow</i>	15 kg <i>white</i>	19 kg <i>blue</i>	24 kg orange	30 kg green	
Epinephrine 1 : 1,000		3 mL nebulized								
Atrovent		0.5 mg nebulized								
Nebulizer		Albutero	ol 2.5 mg			Α	lbuterol 5 m	g		
Decadron	2 mg	4 mg	6 mg	6 mg	8 mg	10 mg	12 mg	14 mg	16 mg	

Pediatric Diabetic Ketoacidosis / Hyperglycemia

History:

- Polyuria
- Polydipsia
- Vomiting
- Weakness
- Confusion

Clinical Signs:

- Dehydration
- Kussmaul respirations
- Smell of ketones
- Change in mental status





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



Weight	4 kg <i>grey</i>	6 kg <i>pink</i>	8 kg <i>red</i>	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg <i>white</i>	19 kg <i>blue</i>	24 kg orange	30 kg green
D 25 W	8 mL	12 mL	16 mL	20 mL	24 mL	30 mL	38 mL	48 mL	60 mL
Glucagon	0.4 mg	0.6 mg	0.8 mg	1 mg	1 mg	1 mg	1 mg	1 mg	1 mg

Newborn Resuscitation

History:	Differential:						
Prenatal care and history	Airway obstruction						
Due date/LMP	Respiratory effort						
Expected multiple births	Infection						
Meconium	Hypovolemia						
Congenital disease	Hypoglycemia						
Medications	Congenital heart disease						
Maternal risk factors	Hypothermia						



Weight	2 kg <i>grey</i>	3 kg <i>grey</i>	4 kg grey	5 kg <i>red</i>
Epinephrine 1 : 10,000 0.01 mg/kg IV / IO	0.02 mg	0.03 mg	0.04 mg	0.05 mg
Epinephrine 1 : 1,000 0.1 mg/kg ET	0.2 mg	0.3 mg	0.4 mg	0.5 mg

Known Pediatric Toxic Exposure





Weight	4 kg <i>grey</i>	6 kg <i>pink</i>	8 kg red	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg <i>whit</i> e	19 kg <i>blue</i>	24 kg orange	30 kg green	
Morphine	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	
Fentanyl	4 mcg	6 mcg	8 mcg	10 mcg	12 mcg	15 mcg	19 mcg	24 mcg	30 mcg	
Lorazapem	.04 mg	.06 mg	.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	
Ondansetron IV/IM		0	-	1 mg	1 mg	1 mg	2 mg	2 mg	3 mg	
Ondansetron PO		0		4 mg ODT						

Pediatric Fever

History:

- Fever not associated with heat injury
- Does not require rapid temperature reduction

Differential:

- Infections/Sepsis
- Medication or drug reaction

Fever less than 107° is not dangerous



Weight	4 kg	6 kg	8 kg	10 kg	12 kg	15 kg	19 kg	24 kg	30 kg
	grey	pink	<i>red</i>	<i>purple</i>	<i>yellow</i>	white	<i>blue</i>	orange	green
Acetaminophen	60 mg	90 mg	120 mg	150 mg	180 mg	225 mg	285 mg	360 mg	450 mg

Pediatric Shock Non-traumatic

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History:

- Medical history •
- Respiratory distress or arrest ٠
- Possible toxic or poison exposure ٠
- Congenital disease •
- Medication (maternal or infant) ٠
- Non accidental trauma •

Differential:

- Respiratory effort •
- Hypovolemia (dehydration) • •
 - Hypoxia
 - Hydrogen ion (acidosis)
- Hypo-hyperkalemia •
- Hypoglycemia .
- **H**ypothermia



Toxins

pulmonary)

Tamponade, cardiac

Tension pneumothorax

Thrombosis (coronary or



Epineprine Drip 1 mg Epinephrine 1:1,000 i					n <mark>250</mark> r	nl = 4 mcg/	/ml		Use 60 g	tt tubing		
Mcg/min	2	4			6		8			10		
Administer	30 gtts/m	in	60 gtts/min			90 gtts/min			120 gtts/min		150 gtts/min	
Run gtts/sec	1 every 2 sec	onds	1 e	every secon	nd	1.5 every second		2 every second		2.5 eve	y second	
Epinephrine	0.04 mg	0.06 m	ng	ng 0.08 mg 0.1		1 mg 0.12 mg 0		0.	.15 mg	0.19 mg	0.24 mg	0.3 mg

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



Weight	4 kg <i>grey</i>	6 kg <i>pink</i>	8 kg <i>red</i>	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg <i>white</i>	19 kg <i>blue</i>	24 kg orange	30 kg green
D 25 W	8 mL	12 mL	16 mL	20 mL	24 mL	30 mL	38 mL	48 mL	60 mL
Glucagon	0.4 mg	0.6 mg	0.8 mg	1 mg	1 mg	1 mg	1 mg	1 mg	1 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

Unknown Pediatric Toxic Exposure / Ingestion Guideline

Smells:	Potential exposures:
Almond = Cyanide	Burning overstuffed furniture = cyanide
Fruit = Alcohol	 Old burning buildings = Lead fumes and Carbon
 Garlic = Arsenic, parathion, DMSO 	monoxide
Mothballs = Camphor	 Pepto-BismolTM like products = Aspirin
Natural gas = Carbon monoxide	 Pesticides = Organophosphates and Carbamates
Rotten eggs = Hydrogen sulfide	 Common Plants = Treat symptoms and bring plant/flower
Silver polish = Cyanide	to ED
 Wintergreen = Methyl salicylate 	



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

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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



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

Hypovolemia

Hypoglycemia

Hypothermia

Hydrogen ion (acidosis)

Hypo-hyperkalemia

Hypoxia

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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





Notes:

Patients may have delayed respiratory symptoms. Transfer all patients for evaluation.

Pediatric Burns



Body Part	0 yr	1 yr	5 yr	10 yr	15 yr
a = 1/2 of head	9 1/2	8 1/2	6 1/2	5 1/2	4 1/2
b = 1/2 of 1 thigh	2 3/4	3 1/4	4	4 1/4	4 1/2
c = 1/2 of 1 lower leg	2 1/2	2 1/2	2 3/4	3	3 1/4

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Pediatric Heat Related Emergency



Weight	4 kg <i>grey</i>	6 kg <i>pink</i>	8 kg <i>red</i>	10 kg <i>purple</i>	12 kg <i>yellow</i>	15 kg <i>white</i>	19 kg <i>blue</i>	24 kg orange	30 kg <i>green</i>
Lorazepam	0.04 mg	0.06 mg	0.08 mg	1 mg	1.2 mg	1.5 mg	1.9 mg	2.4 mg	3 mg
Midazolam	0.04 mg	0.06 mg	0.08 mg	1 mg	1.2 mg	1.5 mg	1.9 mg	2.4 mg	3 mg

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 < 35° C

Differential:

- Medications
- CNS dysfunction
- Environmental exposure
- Poisoning/overdose





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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



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 extremitie• Feeling sluggish, hazy, foggy, or grog• Concentration or memory problems• Confusion• DOES NOT "FEEL RIGHT"	s s
Universal Patie	nt Care Guideline	Legend



Trauma / Head Injury •

Notes:

- Headaches •
- Dizziness •
- Fatigue •

Neurological deterioration over time •

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Confusion

Pediatric START/JumpSTART Triage



AVPU Infant / Child			
Response	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	

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Suspected Child Abuse

Physical findings:

- Unexplained bruises
- Numerous/mulitple 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



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

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



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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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