EMERGENCY ACTION CHART

CECA TN
CHILDREN'S EMERGENCY CARE ALLIANCE
This wall chart provided by:
SERHC TENNESSEE

Pediatric Burn Guidelines

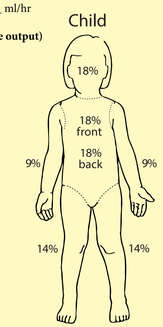
Total Body Surface Area Chart

Fluid resuscitation applicable only for 2nd/3rd degree burns:
>10% TBSA - Pediatrics

Child: Ages 14 & under

Wt(kg)____ x TBSA% ____ x3 ml LR ____ /16 = ____ ml/hr

Bolus IVF for hypotension ONLY. (not for low urine output)



Resuscitation Goal
Child urine output 1ml/kg/hr

Referral Criteria

- Any partial thickness burns >10% TBSA
- Burns that involve face, hands, feet, genitalia, perineum, or major joints
- Third degree burns in any size or age group
- Electrical burns including lightning injury
- Chemical burns
- Inhalation injury
- Burn injury in patients with preexisting medical conditions
- Any patient with burns occurring with trauma

Pediatric Antibiotic Therapy

DRUG	DOSE	COMMENTS
Ampicillin (Neonatal)	100 mg/kg/dose	≤ 7 days every 8 hours > 7 days every 6 hours
Gentamicin (Neonatal)	4 mg/kg/dose	every 24 hours
Ceftriaxone (Rocephin)	50–100 mg/kg/dose Max dose 100mg/kg/dose up to 4 grams Contraindicated in <1 month in age	Every 12-24 hours
Cefotaxime (Claforan)	50-100 mg/kg/dose	≤ 7 days, every 12 hours 8-28 days, every 8 hours > 28 days, every 6 hours
Cefazolin (Ancef)	20 mg/kg/dose	≤ 7 days every 12 hours > 7 days every 8 hours
Vancomycin	15 mg/kg/dose	≤ 7 days, every 12 hours 8-28 days, every 8 hours > 28 days, every 6 hours
Acyclovir	20 mg/kg/dose (< 3 months)	Every 8 hours

Pediatric Pain and Sedation

FLACC scale **Behavioral Observation Pain Rating Scale**

Categories	Scoring		
	0	1	2
Face	No particular expression or smile; disinterested	Occasional grimace or frown, withdrawn	Frequent to constant frown, clenched jaw, quivering chin
Legs	No position or relaxed	Uneasy, restless tense	Kicking, or legs drawn up
Activity	Lying quietly normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid, or jerking
Cry	No crying (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging or talking to, Distractable	Difficult to console or comfort
Each of the five categories (F) Face; (L) Legs; (A) Activity; (C) Cry; (C) Consolability is scored from 0-2, which results in a total score between 0 and 10.			

Pain Medications		Max Dose	Sedation Medications		Max Dose
Fentanyl IV / IM	1 mcg/kg IV/IM	100 mcg	Versed IV/IM	0.1 mg/kg	4 mg
Fentanyl **Intranasal**	1.5 mcg/kg	100 mcg	Versed **Intranasal**	0.5 mg/kg	10 mg
Morphine IV/IM	0.05 mg/kg	4 mg	Ketamine IV	1 mg/kg	150 mg
Ketamine **IV**	0.1 mg/kg	100 mg	Ketamine IM	2 mg/kg	150 mg
Ketamine **IM**	0.5 mg/kg	100 mg			

Pediatric Resuscitation Medications

DRUG	DOSE	COMMENTS
Adenosine	1st dose: 0.1 mg/kg/dose (max 6 mg/dose) 2nd dose: 0.2 mg/kg/dose (max 12 mg/dose)	Rapid IV bolus over 1–2 seconds
Amiodarone	Refractory pulseless VT/VF: 5 mg/kg rapid IV/IO Perfusing tachycardias: 5 mg/kg over 20-60 min. max 300 mg/dose	Can repeat x2 (max 150 mg/dose for repeat doses Causes hypotension For perfusing tachycardia, dilute to 2 mg/mL
Atropine	0.02 mg/kg IV/IO	Max. single dose: 0.5 mg – child 1 mg – adolescent
Calcium Chloride	20 mg/kg IV/IO Rapid IV push in arrest	For documented hyperkalemia, hypocalcemia or calcium channel blocker overdose, Give slowly and dilute 1:1 CaCl with NS.
Epinephrine	0.01 ml/kg of 0.1 mg/ml (1-10,000) IV/IO followed by 3-5 ml NS flush	Bradycardia / Asystole / Pulseless arrest
Glucose (dextrose)	D50W: 1-2 mL/kg D25W 2-4 mL/kg D10W 2-4 mL/kg	>8 yrs 6 months–8 yrs neonate-6 mo max rate 2 mL/kg/min
Hydrocortisone	1–2 mg/kg dose IV/IO dilute to 50mg/mL	Slow IVP over 3-5 min
Lidocaine	1 mg/kg max dose 3 mg/kg or 100 mg given over 5 min	Continuous infusion: 20-50 mcg/kg/min IV
Mannitol	0.5-1g/kg IV push over 5-10 min.	Use in-line filter and insert foley catheter
Naloxone	< 5 years 0.1 mg/kg (IV/IM/IN/IO) > 5 years 2 mg (IV/IM/IN/IO)	
3% Saline	3-5 ml/kg infused over 5-30 min.	For increased ICP and hyponatremic seizures
IV Volume Resuscitation	20 ml/kg NS or LR IV/IO may repeat up to 60 mL/kg	After 60 mL/kg, consider vasoactive drips DO NOT use glucose solutions CAUTION in Renal/Cardiac patients, use 10 ml/kg

Tube Sizes

	Neonate	6 Mos.	1–2 Yrs.	5 Yrs.	10 Yrs.
CVL	3F	4F	5F	5F	7F
Chest	12 – 18	14 – 20	14 – 24	20 – 32	28 – 38
NG	5 – 8	8	10	10 – 12	14 – 18
Foley	5 – 8	8	10	10 – 12	14 – 18
ETT (mm)	3.0	3.5	4.0	5.0	6 – 6.5

ETT Size = (Age in years + 16) / 4 Cuffed ETT Size = (Age in years + 16) / 3.5 Tube Depth = ETT size x 3

Cuffed tubes are recommended on all Pediatric Patients except neonates.
Please use 1/2 size smaller when selecting a cuffed tube

Pediatric Glasgow Coma Scale (GCS)

Eye Opening

INFANTS		CHILD/ADULT
Spontaneous	4	Spontaneous
To Speech	3	To Speech
To Pain	2	To Pain
None	1	None

Best Verbal Response

INFANTS		CHILD / ADULT
Coos, babbles	5	Oriented
Irritable, cries	4	Confused
Cries to pain	3	Inappropriate words
Moans to pain	2	Nonspecific sounds
None	1	None

Best Motor Response

INFANTS		CHILD / ADULT
Normal, spontaneous movements	6	Follows commands
Withdraws to touch	5	Localizes pain
Withdraws to pain	4	Withdraws to pain
Abnormal flexion	3	Flexion response to pain
Abnormal extension	2	Extension

Pediatric Intubation Medications

DRUG	DOSE	COMMENTS
ADJUNCT DRUGS		
Atropine	0.02 mg/kg	Use in patients < 1 year old Max. dose: 0.5 mg – child 1 mg – adolescent
SEDATIVES		
Midazolam (Versed)	0.1 mg /kg (max 5 mg/dose)	
Ketamine	2 mg/kg	Drug of choice for status asthmaticus and sepsis with hypotension Max. dose: 100 mg
Etomidate	0.3 mg/kg	For head injured hemodynamically unstable patients. May cause adrenal suppression. Max dose: 20 mg
PARALYTICS		
Succinylcholine	1-2 mg/kg	Contraindicated in patients with neuromuscular disease, glaucoma, eye injuries, severe burns or crush injuries. May increase BP. Max dose: 150 mg
Rocuronium (Zemuron)	1 mg/kg	Max dose: 2 mg/kg
Vecuronium (Norcuron)	0.1 mg/kg	Good for long term paralysis Max dose: 10 mg

Sepsis

Certain children are at higher risk for sepsis, especially those with high risk conditions, immunosuppression, central lines, asplenia, mental status abnormalities, or perfusion abnormalities.

Consider sepsis if the patient has any of the following vital sign abnormalities:

Temp > 38.5 C (101.3F) or < 36 C (96.8 F)

Tachycardia, bradycardia, or hypotension (based on age of child)

Tachycardia	
Age	HR
0mo-1yr	>180
2yr-5yr	>140
6yr-12yr	>130
13yr-18yr+	>120

Hypotension (SBP mmHg for Age)	
Term Neonates (0 to 28 days)	< 60
Infants (1 to 12 months)	< 70
Children 1 to 10 years	< 70 + (age in years x2)
Children > 10 years	< 90

INTERVENTIONS

If considering sepsis, begin the following interventions:

- Apply 100% oxygen via facemask and place on cardiac monitor.
- Obtain IV access (2 if possible).
- Draw blood culture, accucheck, CBC w/ diff, CMP, ESR/CRP, lactate, UA and urine culture.
- Document VS a minimum of every 15 minutes.
- Administer 20ml/kg NS bolus via IV push every 5 minutes until perfusion improves and vital signs normalize. After 2 of these please contact your CRPC.
- Monitor and control temperature.
- Please call your CRPC as early as possible for treatment guidelines and to initiate rapid transport

DKA

- Check VBG, BMP, UA on arrival.
- If pH <7.30 or HCO3 <15 in the setting of hyperglycemia, this is DKA.
- Every patient should have hourly neuro checks including Glasgow Coma Scale.
- Initiate a NS bolus of 10 ml/kg over 60 minutes. If there are signs of uncompensated shock despite this bolus, repeat.
- Do **NOT** bolus insulin IVP
- Do **NOT** give sodium bicarbonate without consulting with CRPC. Bicarbonate administration is associated with increased morbidity and mortality.
- Please be careful not to drop blood glucose too fast (less than or equal to 100mg/dL/hr) and provide hourly glucose checks once treatment is initiated.
- If intubated, the patient should be hyperventilated.
- If there is any decrease in mental status or other indicators for cerebral edema please contact your CRPC regarding the need for 3% saline or Mannitol.

Seizure Algorithm

Stabilize patient (airway, breathing, circulation, disability, glucose check)
Continue to reassess ABCs throughout treatment.
Consider rechecking glucose if seizure persists.

Initial Therapy: Give **one** dose of one medication.
(listed in order of preference)

Give full weight based dose. Subtherapeutic dose may require a second dose and thus higher incidence of apnea and intubation.

Proceed to next step if seizure activity persists after 5 minutes.
Wait 10 min for IM or PR medications

Give **one** repeat dose of the **same** medication selected for Initial Therapy.

Proceed to next step if seizure persists after an additional 5 minutes.

Subsequent Therapy: Give **one** dose of one medication.
(listed in order of preference)

Contact your CRPC for further recommendations.

Initial Therapy - Select one medication based on availability, options listed in order of preference

Lorazepam 0.1 mg/kg	**IV**	Max 4 mg
Midazolam 0.1 mg/kg	**IV**	Max 5 mg
Midazolam 0.2 mg/kg	**IM**	Max 6 mg
Midazolam 0.3 mg/kg	**IN**	Max 10 mg
Do NOT use in NEONATES		
Diazepam 0.1 mg/kg	**IV**	< 5 years, Max 5 mg ≥ 5 years, Max 10 mg
Diazepam 0.2 mg/kg	**IM**	
Diazepam 0.2-0.5 mg/kg	**PR**	

Round dose to nearest 2.5 mg increment

2-5 yrs	0.5 mg/kg	Max 20 mg
6-11 yrs	0.3 mg/kg	Max 20 mg
≥ 12 yrs	0.2 mg/kg	Max 20 mg

Subsequent Therapy - Select one medication based on availability, options listed in order of preference

Levetiracetam 40 mg/kg	**IV** over 10 min	Max 2500 mg
Fosphenytoin 20 mg PE/kg	**IV** over 15 min	Max 1500 mg
Valproate Sodium 40 mg/kg	**IV**	Max 3000 mg

Maximum infusion rate: 5 mg/kg/min

**Note: Do NOT use in patients < 2 years **

Phenobarbital 20 mg/kg	**IV** over 30 min	Max 1000 mg

Pediatric Status Epilepticus Drugs

DRUG	DOSE	COMMENTS
Lorazepam (Ativan)	0.1 mg/kg IV/IO SLOW IV/IO	Max. single dose 4 mg Monitor for resp. depression
Midazolam (Versed)	0.1mg/kg IV/IO 0.3mg/kg IV/IO/IM	Monitor for resp. depression Max of 10mg Intranasal
Fosphenytoin	20 mg PE/kg IV/IO	Infuse at a max of 1500 mg PE/min
Levetiracetam (Keppra IV)	40 mg/kg, max 2500mg IV/IO	Give over 5 min.
Phenytoin (Dilantin)	15-20 mg/kg IV/IO	Infuse ≤31 days old: 0.5 mg/kg/min >1 month: 1 mg/kg/min (max: 50 mg/min) Monitor for hypotension, cardiorespiratory depression
Phenobarbital	20 mg/kg IV/IO	Infuse at a max of 30 mg/min Monitor for resp. depression and hypotension
Diazepam (Valium)	0.1 mg/kg SLOW IV/IO 0.2 mg/kg IV/IO	Max. total dose 5 mg< 5 years Max. total dose 10 mg > 5 years Monitor for resp. depression IV should not be used in neonates

AAIRS Acute Asthma Severity Score

Component	Component Values			
	0	1	2	3
Retractions[a]				
SCM	No		Yes	
Intercostal	No		Yes	
Subcostal	No		Yes	
Air Entry	Normal	Decreased at bases	Widespread decrease	Absent or minimal
Wheezing	Absent	Expiratory	Inspiratory & Expiratory **or silent chest**	Audible w/out stethoscope
SpO_2	≥ 95%	92 - 94%	≤ 92%	
Expiratory phase[b]	Normal; 1:1	Prolonged; 1:2	Severely prolonged; < 1:3	
Add component values	_____	+_____	+_____	+_____
Total Score on scale of 0 to 16 = _____				

Abbreviations: AAIRS - Acute asthma intensity research score; SCM - sternocleidomastoid; SpO_2 - oxygen saturation by pulse oximetry
[a] Any visible use of accessory muscle group (Yes/No); [b] Inspiratory to expiratory ratio
Severity levels: Mild 1-6; Moderate 7-11; Severe 12-16

Asthma Treatment Guidelines

MILD Exacerbation = AAIRS 1-6
- ☐ Administer Dexamethasone 0.6 mg/kg (max 16 mg)
- ☐ Albuterol MDI 2-4 puffs
- ☐ Reassess & score AAIRS in 15-60 minutes
- ☐ If AAIRS is ≤ 2, discharge home
- ☐ If AAIRS is not ≤ 2, repeat Albuterol MDI 2-4 puffs
- ☐ Reassess & score AAIRS in 15-60 minutes
- ☐ If AAIRS is not ≤ 2, repeat Albuterol MDI 2-4 puffs
- ☐ Reassess & score AAIRS in 15-60 minutes
- ☐ If no change or worse, consult your CRPC

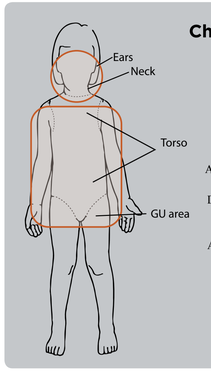
Move to moderate or severe pathway at anytime per AAIRS

MODERATE Exacerbation = AAIRS 7-11
- ☐ Administer Dexamethasone 0.6 mg/kg (max 16 mg)
- ☐ Albuterol MDI 4-8 puffs every 20 minutes x 3
  OR
  Albuterol Neb 10mg/hr + Atrovent
- ☐ Reassess & score AAIRS in 60 minutes
- ☐ If the score does not decrease by ≥ 2, continue albuterol and consider Magnesium Sulfate at 75 mg/kg IV (max 2g) over 15 minutes WITH NS bolus over 30-60 minutes
- ☐ Consult your CRPC
- ☐ If AAIRS score decreases by ≥ 2, consider continuing albuterol
- ☐ Reassess in 30-60 minutes
- ☐ If AAIRS score decreases by ≥ 2, consider trial off of albuterol
- ☐ Consult your CRPC if needed

Move to mild or severe pathway at anytime per AAIRS

SEVERE Exacerbation = AAIRS 12-16
- ☐ Administer Dexamethasone 0.6 mg/kg (max 16 mg)
- ☐ Albuterol Neb 10mg/hr AND Atrovent
- ☐ Consult your CRPC

Child Abuse



TEN-4
Torso
Ears
Neck
4 years of age or under
Or
Any bruising on a child less than **4 months** of age is a major indicator of child abuse. Please contact the Department of Children's Services if there is concern for child abuse.

Any bruising in the GU area can be a major indicator of child abuse
Please contact your CRPC for consultation

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