

PEDIATRIC EMERGENCY REFERENCE

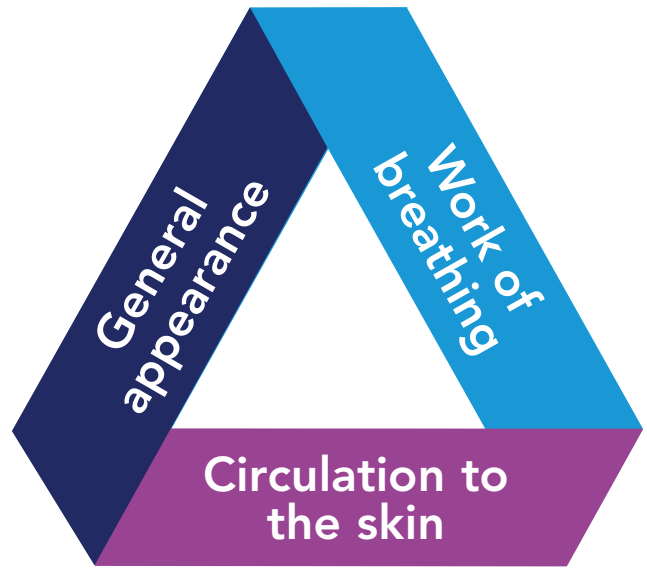
These medication dosages are recommendations for initial emergency care of patients over one month of age. They do not preclude use of alternative dosages based on provider clinical assessment.



The Kid Experts®
Level I Pediatric Trauma Center

Disclaimer: This guideline is designed for general use with most patients; each clinician should use his or her own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.

PEDIATRIC ASSESSMENT TRIANGLE



	Appearance	Breathing	Circulation
Normal	appropriate cry/speech, responds to stimuli, moves well	easy, quiet, rate consistent with age (see pediatric normals chart)	warm, dry, capillary refill time ≤ 2 seconds
Abnormal	inconsolable or absent cry/speech, decreased responsiveness, floppy/rigid body	retractions, stridor, grunting, wheezing, gasping, rate <12 or >30 breaths/minute	mottled, cyanotic, absent peripheral pulses, capillary refill time > 2 seconds

Any abnormal signs during initial assessment require prompt airway management, oxygen, warmth and more help.

AIRWAY

Rapid sequence intubation		
Have appropriate size mask, ET tubes, O2 and suction ready. Monitor with pulse oximeter and ETCO2. Use cri-coid pressure only if needed for positioning.		
Generic	Dose/Route	Notes
Premedication		
• Atropine	0.02 mg/kg IV-IO	Up to age 8 years. Max 1 mg Not routinely used if high risk of bradycardia
Sedation options		
• Etomidate	0.2–0.3 mg/kg IV-IO	} Given simultaneously
• Ketamine	1–2 mg/kg IV-IO	
• Propofol	2 mg/kg IV-IO Max 100 mg	
• Midazolam	0.1 mg/kg IV-IO Max dose 10 mg	
• Fentanyl	2 mcg/kg IV-IO Max dose 200 mcg	
Muscle relaxant options		
Induction		
• ROCuronium	1.2 mg/kg IV-IO or IM	
Maintenance Dose as needed when movement is observed.		
• ROCuronium	0.5–1 mg/kg IV-IO	

VECuronium is not recommended due to high risk of overdose.

BREATHING

Acute asthma/anaphylaxis		
Generic	Dose/Route	Notes
Albuterol	< 2 years = 2.5 mg ≥ 2 years = 5 mg	} Nebulize together as needed x3
Ipratropium	< 2 years = 0.25 mg >= 2 years = 0.5 mg	
EPIneprhine (1mg/ml)	0.01 mL/kg IM	Max dose 0.5 mL, q 20 min PRN x3
DiphenhydrAMINE	1 mg/kg IM, IV-IO, PO	Max dose 50 mg
methyIPREDNISolone,	2 mg/kg IV-IO or	Max initial load dose 125 mg
PredniSONE or PREDNISolone	1–2 mg/kg PO BID	Max 30 mg/dose; Max 60 mg/day
Dexamethasone	0.6 mg/kg IV-IO, IM, PO	Max dose 12 mg

Croup		
Generic	Dose/Route	Notes
Dexamethasone	0.6 mg/kg IV-IO, IM, PO	Max dose 12 mg
Racemic Epinephrine (2.25%)	0.25–0.5 mL Neb	Nebulize with NS

866-755-2121

CHILDREN’S MINNESOTA PHYSICIAN ACCESS

Reach us 24/7 for patient referrals, consults, admissions and neonatal transport.

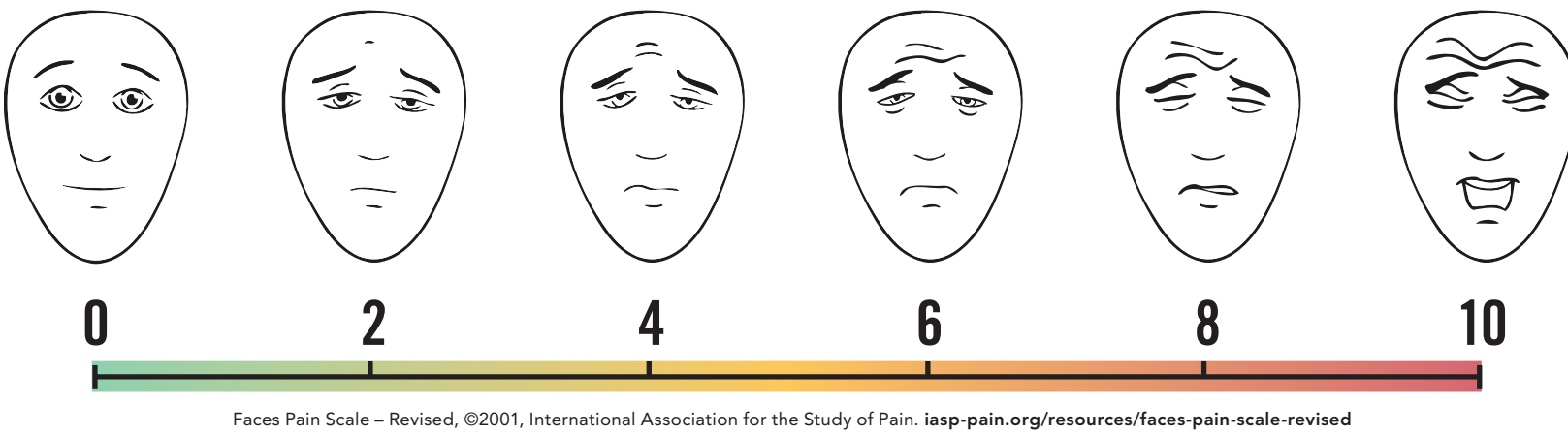
CIRCULATION

Shock		
Generic	Dose/Route	Notes
Crystalloid (NS, LR)	20 mL/kg IV-IO repeat PRN up to 3 times.	Give in 10 mL/kg IV-IO increments for heart history or cardiogenic shock
Vasoactive infusions (use pump)		
Generic	Dose/Route	Notes
Vasopressin	2–20 mcg/kg/min IV-IO	Start low; titrate to effect
DOPamine	2–20 mcg/kg/min IV-IO	Start low; titrate to effect
EPIneprhine	0.1–1 mcg/kg/min IV-IO	Consider higher dose if needed
NORepinephrine	0.1–1 mcg/kg/min IV-IO	
Reconstitute vasoactive infusions according to infusion guidelines.		
Cardiac arrest		
Generic	Dose/Route	Notes
EPIneprhine (1 mg/10 mL)	0.01 mg/kg IV-IO	Max single dose 1 mg
After airway and breathing are managed, rule out reversible causes (Hs and Ts):		
• Hypovolemia	• Tamponade, cardiac	
• Hypoxia	• Tension pneumothorax	
• Hypothermia	• Thrombosis: lungs	
• Hypo-/Hyperkalemia	• Thrombosis: heart	
• Hydrogen ion (acidosis)	• Toxins: drug overdose	
• Hypomagnesia		
• Hypoglycemia		

Electrical therapy		
Type of therapy	Dose	Notes
Cardioversion (synchronized)	0.5–2 j/kg	0.5 to 1 j/kg 1st dose 2 j/kg for 2nd and subsequent doses
Defibrillation	2–4 or more j/kg	2 j/kg 1st dose, 4 j/kg 2nd dose. May increase subsequent doses to max of 10j/kg

FACES PAIN SCALE (FPS–R)

For use in children ages for 4–16 years. Child points to the face that shows/corresponds to the amount of pain they are experiencing.



Pediatric normals						
Age	Wt (kg)	HR	RR	Sys BP	Hypotension	ET ID mm
1 month	4	85–205	30–60		<60	3.5 (cuffed)
6 months	7	100–190	30–60		<60	3.5 (cuffed)
1 year	10–11	100–190	30–60		<70	3.5 (cuffed)
2–3 years	12–14	60–140	24–40		<74–76	4.0 (cuffed)

GLASGOW COMA SCALE (GCS)

EYE OPENING RESPONSE

Adults, children over 2 years	Under 2 years	
Spontaneous — opens with blinking at baseline	4	Eye opening spontaneously
Opens to verbal command, speech or shout	3	Eye opening to speech
Opens to pain	2	Eye opening to pain
No eye opening	1	No eye opening

VERBAL RESPONSE

Adults, children over 2 years	Under 2 years	
Oriented and converses	5	Coos or babbles (developmentally appropriate activity)
Confused, but able to answer questions	4	Is irritable and continually cries
Inappropriate responses, words are discernible	3	Cries to pain
Incomprehensible speech/sounds	2	Moans to pain
No verbal response	1	No verbal response

MOTOR RESPONSE

Adults, children over 2 years	Under 2 years	
Obeys commands for movement	6	Moves spontaneously or purposefully
Purposeful movement to painful stimulus	5	Withdraws from touch
Withdraws from pain	4	Withdraws from pain
Abnormal (spastic) flexion; decorticate posture	3	Abnormal flexion to pain for an infant; decorticate posture
Extensor (rigid) response; decerebrate posture	2	Extension to pain; decerebrate posture
No motor response	1	No motor response

FLACC PAIN SCALE

	No particular expression or smile
Face	Occasional grimace or frown, withdrawn, disinterested Frequent to constant frown, clenched jaw, quivering chin
Legs	Normal position or relaxed Uneasy, restless, tense, occasional tremors Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily Squirming, shifting back and forth, tense Arched, rigid or jerking
Cry	No cry (awake or asleep) Moans or whimpers, occasional complaint Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed Reassured by touching, distractable Difficult to console or comfort

Merkel S, Voepel-Lewis T, Shayevitz JR, et al:The FLACC: A behavioural scale for scoring postoperative pain in young children.

Pediatric normals						
Age	Wt (kg)	HR	RR	Sys BP	Hypotension	ET ID mm
4–5 years	15–18	60–140	22–34		<78–80	4.5–5.0 (cuffed)
6–8 years	20–25	60–140	18–30		<82–86	5.0–5.5 (cuffed)
9–13 years	30–40	60–100	18–30		<90	6.0–6.5 (cuffed)
14 and over	50	60–100	12–16		<90	7.0 (cuffed)

DISABILITY

Seizures		
Generic	Dose/Route	Notes
Levetiracetam	60mg/kg loading dose; infuse over 15 min.	Max dose 4500 mg May give IV push if required. Levetiracetam dosing 20 mg/kg if patient is already taking this medication.
Midazolam	0.1 mg/kg IV-IO	Max dose 10 mg
Diazepam	0.5 mg/kg PR PR preferred. May use IV product for PR administration. Buccal	2-5 years: 0.5mg/kg (max 20kg) 6-11 years: 0.3mg/kg (max 20kg) ≥ 12 years: 0.2mg/kg (max 20kg) Max dose 20 mg
LoraZEPAM	0.1 mg/kg IV-IO IV/IO preferred	Max dose 4 mg*
Midazolam	0.2 mg/kg IM, IN IM/IN preferred	Max dose 10 mg* May premedicate with IN lidocaine to minimize burning sensation.
FOSphenytoin	20 mgPE/kg load IV-IO or IM	If IV-IO, infuse over 10 min, monitor for ↓HR and ↓BP for 30 min*
PHENObarbital	15–20 mg/kg load IV-IO	Infuse over 30 min, monitor for ↓HR and ↓BP*

*Monitor respiratory status with administration of all anticonvulsants

Ingestions Poison control 1-800-222-1222		
Generic	Dose/Route	Notes
Activated Charcoal	<12 years of age: 0.5–1 g/kg PO Adolescents/adults: 25–100 g PO	Dilute in water if needed
Naloxone	0.1 mg/kg IM, IN, IV-IO, ET	Max dose 2 mg

Sepsis/Meningitis		
Generic	Dose/Route	Notes
Ampicillin	50–75 mg/kg IV-IO	Give q 6 hrs; Max dose 3 g/dose, 12 g/day
Ceftazidime	50 mg/kg IV-IO	Every 8 hrs; Max dose 2 g/dose
CefTRIAXone	50 mg/kg IV-IO, IM	Give q 12–24 hours. Max 2 g/dose. For IM doses, reconstitute with 1% Lidocaine
Vancomycin	15 mg/kg IV-IO	Infuse over 1 hr, Give q 6 hrs
Adjunct Dexamethasone	0.15 mg/kg IV	Max dose 10 mg Not routinely used for meningitis. Best given before antibiotics.

Increased intracranial pressure (IICP)		
Fluid resuscitation to maintain cerebral perfusion pressure		
Generic	Dose/Route	Notes
3% Sodium Chloride	5 mL/kg over 10-20 min	Max dose 300 mL
Mannitol	0.5 g/kg IV-IO over 20–30 min	Administer via ≤5 micron filter. Use only if perfusion adequate.
Furosemide	1 mg/kg IV-IO	Use only if perfusion adequate
Dexamethasone	1 mg/kg IV-IO as a single dose	Max dose 10 mg
Keppra	20 mg/kg IV-IO	