

## CARDIOVASCULAR DRIPS

Medication	Dose Range	Comments
Dobutamine	5-20 mcg/kg/min	Cardiogenic shock requiring inotropic support.
Dopamine	5-20 mcg/kg/min	Hypotension. First-line vasopressor in neonates. At 10 mcg/kg/min, consider addition of epi and/or Hydrocortisone. <40 kg: 1600 mcg/mL >40 kg: 3200 mcg/mL
Epinephrine	0.01-1 mcg/kg/min	Hypotension, cardiac arrest, shock. Titrate to desired effect.
Lidocaine	20-50 mcg/kg/min	Pulseless ventricular arrhythmias not responsive to CPR, defibrillation, or epi. 1 mg/kg bolus initially. May repeat after 10 minutes, then start continuous infusion.
Milrinone (Primacor)	0.25-1 mcg/kg/min	Cardiogenic shock, PPHN. Loading Dose: 50 mcg/kg. Monitor for hypotension and arrhythmias.
Nicardipine (Cardene)	0.5-5 mcg/kg/min	Hypertension. Initiate at 0.5-1 mcg/kg/min and titrate by 0.5 mcg/kg/min q 15 min to achieve goal SBP.
Norepinephrine (Levophed)	0.05-2 mcg/kg/min	Acute hypotension, "warm shock". Initial: 0.05-0.1 mcg/kg/min, titrate to effect.
Prostaglandin E1 (Alprostadil)	0.03-0.1 mcg/kg/min (Maintenance Range)	Ductal-dependent CHD. Start at 0.05 mcg/kg/min and titrate to desired effect in consultation with physician. High risk for respiratory depression, monitor for apnea.

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**DISCLAIMER:** This card is intended to serve as a reference and ASTNA has made every effort to ensure information is accurate. However, it is not the final authority on treatment, nor is it a substitute for clinical decision-making. It is the responsibility of the user to adhere to program policies, determine appropriate treatment, and seek guidance from a physician as necessary. It is also the user's responsibility to practice within their licensure and in accordance with local protocols.

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## VENTILATOR GUIDELINES

Initial Ventilator Settings	
Mode	A/C or SIMV
FiO <sub>2</sub>	Maintain SpO <sub>2</sub> > 92%
PEEP	5 cm H <sub>2</sub> O, adjust as needed.
Pressure Support	5-10 (SIMV)
Pressure Control (5-10 kg)	Volume Control (>10 kg)
Initial PIP: 15-20 cm H <sub>2</sub> O above PEEP	Vt: Neonate: 4-6 mL/kg Pediatric: 4-8 mL/kg
* Maintain Vte 6-8 mL/kg	* Maintain Pplat <30 or PIP <35
Ti: Infant 0.5 / Child 0.7-0.9	Ti: Child 0.7-0.8
Rate: Infant 20-30 / Child 16-20	Rate: Child 16-20
Ventilator Management Strategy	
CO <sub>2</sub>	O <sub>2</sub>
Respiratory Rate	FI <sub>O</sub> <sub>2</sub>
Tidal Volume	PEEP
Minute Volume	Mean Airway Pressure

## NEBULIZED TREATMENTS

Albuterol & Atrovent			
Weight	Albuterol	Atrovent	Albuterol (Continuous)
<8 kg	1.25 mg	250 mcg	5 mg/hr
8-20 kg	2.5 mg	500 mcg	10 mg/hr
>20 kg	5 mg	500 mcg	15-20 mg/hr

During asthma exacerbation, administer Albuterol & Atrovent x 3 treatments via nebulizer, then reassess. May initiate a continuous Albuterol treatment after this.

Racemic Epinephrine (2.25%)	
500 mcg/0.5 mL (1 UD)	For transient relief of subglottic edema and croup, dilute in 2-3 mL NS and administer via nebulizer. Monitor for tachyarrhythmias and rebound stridor. May repeat in 30 minutes.



For digital version of card and updates, scan QR code.

## MAINTENANCE FLUID RATE

4-2-1 Rule	
Weight	Hourly IV Fluid Rate
<10 kg	4 mL/kg/hr
10-20 kg	40 mL + 2 mL/kg for every kg > 10 kg
>20 kg	60 mL + 1 mL/kg for every kg > 20 kg
Neonatal Maintenance IV Fluid	
> 1 kg: D10W 80 mL/kg/day	
< 1 kg: D10W 100 mL/kg/day	
Glucose <40 mg/dL: D10W 100 mL/kg/day (after D10 bolus)	
Open Bowel: D5 + 1/2 NS 160 mL/kg/day	
>D12.5W requires central access.	

## FLUID RESUSCITATION

Isotonic Crystalloid (NS, LR, or Plasmalyte)	
IV/IO	Give 10-20 mL/kg of isotonic crystalloid solution over 5-10 minutes to pediatric patients in shock. Reassess peripheral perfusion, vital signs, and UOP frequently. Repeat as needed to restore tissue perfusion. If >60 mL/kg, consider addition of vasopressors. Avoid LR with lactic acidosis. For hemorrhagic shock, consider blood products early after one bolus if available.
Potential or Probable Myocardial Dysfunction	
Smaller (5-10 mL/kg) and slower infusions are indicated. Assess for tachycardia, weak or absent peripheral pulses, jugular venous distention, hypotension with a narrow pulse pressure, delayed capillary refill, rales, and hepatomegaly. Monitor closely during and after bolus. Use of an inotropic agent should be considered.	
<b>Infants ≤ 2 Months of Age</b>	Infuse 10 mL/kg NS over 30 minutes. In newborns ≥35 weeks, limit one NS bolus for acidosis. LR and Plasmalyte should not be used in this population.

## BURN MANAGEMENT

Rule of Nines (TBSA%)			
Body Area	Infant	Toddler	Child
Head*	18%	18%	18%
Right Arm*	9%	9%	9%
Left Arm*	9%	9%	9%
Anterior Thorax	18%	18%	18%
Posterior Thorax	18%	18%	18%
Right Leg*	14%	14%	13.5%
Left Leg*	14%	14%	13.5%
Genital Area*	N/A	N/A	1%

\* Anterior and posterior aspects

Fluid Resuscitation Lactated Ringer's Solution		
Age	Initial Rate	
<5 Years	125 mL/hr	Burns of ≥ 20% TBSA require fluid resuscitation with LR. An adjusted fluid rate is calculated after weight, age, and TBSA% is determined. Consult with physician.
6-13 Years	250 mL/hr	
>14 Years	500 mL/hr	



Air & Surface Transport Nurses Association

# Neonatal & Pediatric Reference Card

[astna.org](http://astna.org)

Age	24 Week	32 Week	34 Week	Term	1 Mo	3 Mos	6 Mos	1 Yr	2 Yrs	4 Yrs	6 Yrs	8 Yrs	10 Yrs	12 Yrs	14 Yrs	>16 Yrs
<b>Weight</b> (kg) Pediatric IBW: 3(Age)+7=kgs	0.5 kg	1.5 kg	2 kg	3 kg	4 kg	6 kg	7 kg	10 kg	13 kg	16 kg	20 kg	25 kg	32 kg	40 kg	50 kg	60+ kg
<b>Heart Rate</b> (Beats/Minute)	140-175	120-175	120-170	110-165	110-165	105-160	100-150	100-140	90-130	80-120	70-115	65-105	65-105	60-100	60-100	50-100
<b>Respiratory Rate</b> (Breaths/Minute)	55-65	55-65	45-65	30-60	30-60	30-60	30-55	30-50	20-35	20-30	18-25	16-22	16-22	16-22	12-20	12-20
<b>Systolic Blood Pressure</b> (NIBP) SBP (50th Percentile): 90 mmHg + (2 x Age)	40-60	45-60	45-60	50-80	70-105	70-105	75-105	75-105	75-105	80-110	85-115	90-115	90-115	95-120	100-130	100-130
In premature infants, it is difficult to define a "normal" BP but is generally considered to be adequate if patient is not tachycardic, has adequate pulses, CR <3 seconds, UOP > 1 mL/kg/hr, and is not metabolically acidotic. Hypotension is a late sign in pediatric patients. A low SBP should prompt an immediate evaluation for additional signs of inadequate perfusion, such as AMS, prolonged CR, and tachycardia.																
Many factors other than actual vital sign measurements must be considered when determining whether a specific vital sign is normal in an individual patient. The above values are intended to serve as a general guide only.																
<b>Endotracheal Tube Size</b> Pediatric: (Age + 16) /4 Cuffed: ETT (Uncuffed) - 0.5 cm	Uncuffed	2.5 ETT	3.0 ETT	3.0 ETT	3.5 ETT	4.0 ETT	4.0 ETT	4.0 ETT	4.0 ETT	4.5 ETT	5.0 ETT	5.5 ETT	6.0 ETT	6.0-6.5	6.5-7.0	7.0-7.5
<b>Endotracheal Tube Oral Depth</b> (cm) Neonate/Infant: Weight in kg + 6 cm Pediatric: (Age/2) + 12 cm	Cuffed	N/A	N/A	2.5 ETT	3.0 ETT	3.5 ETT	3.5 ETT	3.5 ETT	3.5 ETT	4.0 ETT	4.5 ETT	5.0 ETT	5.5 ETT	6.0 ETT	6.0-6.5	6.5-7.5
<b>Laryngoscope Blade</b>	00	0	0	0-1	1	1	1	1-2	1-2	2	2	2-3	2-3	2-3	2-3	3-4
<b>Suction Catheter Size</b> (ETT Size x 2)	6 Fr	6 Fr	6 Fr	6-8 Fr	8 Fr	8 Fr	8 Fr	8 Fr	8-10 Fr	10 Fr	10 Fr	10-12 Fr	12 Fr	12-14 Fr	12-14 Fr	14 Fr
<b>Epinephrine IV/IO (1:10,000)</b> Neonatal: 0.02 mg/kg (0.2 mL/kg); Pediatric: 0.01 mg/kg (0.1 mL/kg);	0.1 mL	0.3 mL	0.4 mL	0.6 mL	0.4 mL	0.6 mL	0.7 mL	1 mL	1.3 mL	1.6 mL	2 mL	2.5 mL	3.2 mL	4 mL	5 mL	10 mL
<b>Epinephrine ETT (1:1,000)</b> Neonatal: 0.01 mg/kg (1 mL/kg); Use 1:10,000 Pediatric: 0.01 mg/kg (1 mL/kg); Use 1:1,000	May give 1 mL/kg of 1:10,000 solution via ETT until IV access is established.				If IV/IO unavailable, may give 0.1 mL/kg via ETT using 1:1,000 solution diluted to 3-5 mL with NS. Max: 2.5 mg (IV/IO preferred)											
<b>Defibrillation (Biphasic)</b> V-Fib, Pulseless V-Tach 1st: 2J/kg 2nd: 4J/kg Max: 10J/kg Round up to nearest number.	0.5 mL	1.5 mL	2 mL	3 mL	0.4 mL	0.6 mL	0.7 mL	1 mL	1.3 mL	1.6 mL	2 mL	2.5 mL	2.5 mL	2.5 mL	2.5 mL	2.5 mL
<b>Synchronized Cardioversion</b> Unstable SVT, V-Tach (+ Pulse), A-Fib/Flutter 1st: 0.5-1J/kg 2nd: Up to 2J/kg Round up to nearest number.	Neonatal arrhythmias are rare and can often be treated by correcting metabolic issues, vagal maneuvers, and use of medications. The most common cause of a ventricular arrhythmia in a neonate is electrolyte imbalance and defibrillation will not stop the arrhythmia. Cardioversion at the listed doses (J) may be appropriate for unstable patients >2.5 kg with arrhythmias (i.e. SVT, a-flutter) in which other measures have failed. <b>PHYSICIAN CONSULTATION IS RECOMMENDED FOR ALL INFANTS WITH TACHYARRHYTHMIAS.</b>				8J / 16J	12J / 24J	14J / 28J	20J / 40J	26J / 52J	32J / 64J	40J / 80J	50J / 100J	64J / 128J	80J / 160J	100J / 150J	120J / 150J
<b>Dextrose</b> Neonate: 2 mL/kg D10W Pediatric: 2-4 mL/kg D25W Adolescent: 1-2 mL/kg D50W	Recheck glucose level 15 minutes after treatment and repeat PRN. Reassess IV site for extravasation during administration. Avoid hyperglycemia.															
<b>Fluid Bolus</b> (See Fluid Resuscitation)	1 mL	3 mL	4 mL	6 mL	8 mL	12 mL	14 mL	20 mL	26 mL	32 mL	40 mL	50 mL	64 mL	80 mL	100 mL	100 mL
<b>Maintenance Fluid Rate</b> Neonate: D10W Pediatric: D5-NS or NS	D10W (2 mL/kg) for glucose ≤ 40 mg/dL				D25W (2 mL/kg) as calculated above for glucose ≤ 60 mg/dL. May also give D10W (5 mL/kg) in infants/children or D50W (1-2 mL/kg) in adolescents.											
<b>NG/OG Tube Size (Fr)</b>	5 mL NS	15 mL NS	20 mL NS	30 mL NS	40 mL NS	120 mL NS	140 mL	200 mL	260 mL	320 mL	400 mL	500 mL	640 mL	800 mL	1000 mL	1200+ mL
<b>Chest Tube Size (Fr)</b>	2 mL/hr	5 mL/hr	6 mL/hr	10 mL/hr	16 mL/hr	24 mL/hr	28 mL/hr	40 mL/hr	46 mL/hr	52 mL/hr	60 mL/hr	65 mL/hr	72 mL/hr	80 mL/hr	90 mL/hr	100+ mL/hr
<b>Foley (Fr)</b>	5-6 Fr	5-6 Fr	6 Fr	6-8 Fr	8-10 Fr	8-10 Fr	8-10 Fr	8-10 Fr	8-10 Fr	8-10 Fr	10-14 Fr	10-14 Fr	10-14 Fr	10-14 Fr	14 Fr	14 Fr
<b>Umbilical Arterial Catheter (UAC)</b>	6 Fr	6 Fr	8 Fr	8 Fr	10-12 Fr	10-12 Fr	10-12 Fr	12-16 Fr	16-22 Fr	16-24 Fr	20-28 Fr	28-32 Fr	32-38 Fr	32-38 Fr	32-38 Fr	32-38 Fr
<b>Umbilical Venous Catheter (UVC)</b>	Defer placement in pre-hospital setting.				6 Fr	6 Fr	6 Fr	6-8 Fr	8 Fr	8-10 Fr	10-12 Fr	10-12 Fr	12-14 Fr	12-14 Fr	12-14 Fr	12-14 Fr
<b>Size:</b>	<1500 gms: 3.5 Fr ≥1500 gms: 5.0 Fr				UAC: 3 x Weight (kg) + 9 + Stump Length (cm) UVC: ½ UAC Depth + 1 + Stump Length (cm)				Placement on X-ray: UAC: T6-T9 (High - Preferred), L3-L4 (Low) UVC: Junction of IVC and RA (~T8-T9) Low-lying: Below the liver							

MEDICATION	DOSE	COMMENTS
<b>Adenosine</b>  MAX DOSE: 1st: 6 mg 2nd: 12 mg	1st Dose: 0.1 mg/kg IV	SVT. Rapid push followed by flush administered as close to central circulation as possible using stopcock. If patient is decompensating, do not delay synchronized cardioversion to obtain IV access. If no improvement is noted, may give 0.3 mg/kg (max 12 mg) two minutes after second dose.
	2nd Dose: 0.2 mg/kg IV	
<b>Amiodarone</b>  MAX DOSE: 300 mg	5 mg/kg IV	<b>VF/VT (No Pulse):</b> Rapid bolus. Do not dilute. May repeat twice for max total dose of 15 mg/kg. Must filter. <b>SVT/VT (With a Pulse):</b> Administer over 20-60 min (Dilute in D5W to 2 mg/mL). Monitor for hypotension, bradycardia.
<b>Atropine</b>  MAX DOSE: 0.5 mg (Child) 1 mg (Adolescent)	0.02 mg/kg IV (Preferred)	Symptomatic bradycardia, reduces secretions, organophosphate poisoning. Rapid push, flush with NS. May repeat once after 3-5 minutes. Reserve for patients unresponsive to O2/epi.
	0.04-0.06 mg/kg ETT (In 3-5 mL NS)	<b>Neonates (&lt;5 kg):</b> May use in non-emergent intubation to prevent vagal bradycardia. Do not use a minimum dose. Do not give if HR > 180 BPM.
<b>Calcium Chloride</b>  MAX DOSE: 1 gm	10-20 mg/kg IV	Hypocalcemia, hyperkalemia, calcium channel blocker overdose. <b>Arrest:</b> 20 mg/kg bolus over 10-20 seconds, CVL preferred. <b>Non-Arrest:</b> Slow push over 5 minutes. Monitor for tissue injury and ECG changes. Pause if bradycardia occurs.
<b>Calcium Gluconate</b>  MAX DOSE: 2 gm	Neonate: 100 mg/kg IV	Hypocalcemia, hyperkalemia, magnesium toxicity. Dilute to 20 mg/mL for PIV. In emergent situations, may give over 10-20 seconds; in non-emergent, infuse over 1 hr.
	Pediatric: 60 mg/kg IV	<b>Neonate:</b> Dilute dose to 50 mg/mL and infuse over 30 minutes for iCa < 1, particularly in CHD patients.

MEDICATION	DOSE	COMMENTS
<b>Epinephrine</b>  MAX DOSE: 1 mg IV/IO 2.5 mg ETT	Concentration 1:10,000 (0.1 mg/mL)	<b>Symptomatic Bradycardia/ Pulseless States:</b> <b>Neonatal:</b> Repeat q 3-5 min if HR < 60. Rapid push, flush with 3 mL NS. If IV access cannot immediately be obtained, may attempt 0.1 mg/kg (1 mL/kg) via ETT until IV access is established.
	<b>Neonatal:</b> 0.02 mg/kg IV (0.2 mL/kg)	
	<b>Pediatric:</b> 0.01 mg/kg IV (0.1 mL/kg)	<b>Pediatric:</b> Repeat q 3-5 min. If IV/IO unavailable, may give 0.1 mg/kg (0.1 mL/kg) via ETT using 1:1,000 concentration diluted to 3-5 mL with NS. (IV/IO preferred)
	Concentration 1:1,000 (0.1 mg/mL)	<b>Anaphylaxis:</b> Injected IM into mid-outer thigh. May repeat q 5-15 min. If using auto-injector: • <10 kg: 0.1 mg • >25-50 kg: 0.3 mg • 10-25 kg: 0.15 mg • > 50 kg: 0.5 mg
<b>Lidocaine</b>  MAX DOSE: 100 mg	0.01 mg/kg IM (0.1 mL/kg)	
	Concentration 1:1,000 (0.1 mg/mL)	<b>Status Asthmaticus:</b> May be given IM/SQ. May repeat q 10 min PRN until improvement demonstrated. May give epinephrine IM/SQ or Terbutaline, but not both.
<b>Sodium Bicarbonate</b>  MAX DOSE: 50 mEq	0.01 mg/kg IM (0.1 mL/kg)	
	1 mg/kg IV	Pulseless ventricular arrhythmias not responsive to CPR, defibrillation, and epi. May repeat after 10 minutes, but if this is necessary, a continuous infusion should be started. Monitor for bradycardia and hypotension. Contraindicated in severe heart block. Slow push at 0.7 mg/kg/min (Max 50 mg/min). Onset: 45-90 sec.
<b>1 mEq/kg IV</b>	≤ 6 Months: 0.5 mEq/mL (4.2%)	Hyperkalemia, prolonged cardiac arrest/shock with documented severe metabolic acidosis; should not routinely be used in cardiac arrest. Incompatible with LR, calcium, and epi. Slow push. Infant Max Rate: 10 mEq/min.
	≥ 6 Months: 1 mEq/mL (8.4%)	

MEDICATION	DOSE	COMMENTS
<b>Fentanyl</b>  MAX DOSE: Pain: 50 mcg RSI: 100 mcg	1-2 mcg/kg IV 1.5 mcg/kg IN	Preferred opiate for RSI, short-acting with rapid onset. Slow push to avoid chest wall rigidity. Caution in shock and hypotensive patients.
<b>Ketamine</b>  MAX DOSE: 100 mg	Induction/RSI: 1-2 mg/kg IV	Analgesic and anesthetic. Consider for use in asthmatics d/t bronchodilatory properties, as well as for RSI in septic and shock patients as it maximizes sympathetic response, maintains hemodynamics, and preserves airway reflexes. Monitor for tachycardia, hypertension, and emergence reaction. Contraindications: Age < 3 months, known hydrocephalus, uncontrolled hypertension. Dilute with NS to 50 mg/mL for IV use. Onset: 30 seconds.
	Pain: 0.3-0.5 mg/kg IV 1 mg/kg IN	
<b>Morphine</b>  MAX DOSE: 4 mg	0.1 mg/kg IV	Slow push. Avoid in hypotensive and shock patients. Monitor for respiratory depression and hypotension.
<b>Etomidate</b>  MAX DOSE: 20 mg	0.3-0.6 mg/kg IV	Ultrashort-acting, non-barbiturate anesthetic without analgesic activity. May cause adrenal suppression, avoid use in septic shock and renal insufficiency. Onset: 10-15 seconds.
<b>Diazepam (Valium)</b>  MAX DOSE: 10 mg	0.05-0.1 mg/kg IV (Usual Dose)	<b>Muscle Spasms:</b> Administer over 3 minutes, no more than 5 mg/min. Use lowest dose possible, may repeat q 6-12 h. Consider for use in femur fractures with refractory pain and black widow spider bites. May cause respiratory depression. Not recommended in infants ≤ 6 months.
	DOSE RANGE: 0.05-0.2 mg/kg	<b>Status Epilepticus:</b> Typically given PR at prescribed home doses to patients with history of seizures. Not considered first- or second-line therapy for seizures. (See Lorazepam, Levetiracetam)
<b>Lorazepam (Ativan)</b>  MAX DOSE: 4 mg	0.1 mg/kg IV	First-line therapy in pediatric seizures. (See Phenobarbital for neonatal seizures.) Consider other anti-epileptics after two benzodiazepine doses if no improvement is noted. Monitor for respiratory depression. Dilute with NS 1:1. Slow push, do not exceed 2 mg/minute.
	0.05-0.1 mg/kg IV 0.2 mg/kg IN 0.15 mg/kg IM	Avoid for sedation in neonates. Consider 0.03-0.05 mg/kg if using for sedation in pediatric patients. Monitor for hypotension and respiratory depression.
<b>Midazolam (Versed)</b>  MAX DOSE: 5 mg	0.1 mg/kg IV (Initial Dose) DOSE RANGE: 0.6-1.2 mg/kg	Paralytic of choice for RSI. Onset: 60-90 sec, Duration: 20-75 min.
<b>Succinylcholine</b>  MAX DOSE: 100 mg	1 mg/kg IV	Can produce muscle twitching. Contraindicated in patients under 10 years or with a personal/family history of malignant hyperthermia, myopathies, hyperkalemia. Onset: 45 sec, Duration: 10 min.
<b>Vecuronium</b>  MAX DOSE: 10 mg	0.1 mg/kg IV	Reconstitute to 1 mg/mL with NS. Not preferred for RSI due to delayed onset. Onset: 3 min, Duration: 30 min.
<b>Naloxone (Narcan)</b>  MAX DOSE: 2 mg	<5yrs/<20kg: 0.1 mg/kg IV	Opioid reversal. Administer over 30 seconds. May need to repeat q 2-3 min. Not recommended in newborns. Avoid ETT administration.
	>5yrs/>20kg: 2 mg IV	
<b>Flumazenil</b>  MAX DOSE: 0.2 mg	0.01 mg/kg IV	Benzodiazepine reversal. Give over 15 seconds, may repeat after 45 seconds. May cause seizures. Use with caution if chronic dependence.

MEDICATION	DOSE	COMMENTS
<b>Amino-phylline</b>  MAX DOSE: 500 mg	5.7 mg/kg IV	Status asthmaticus. Administer over 30 minutes, not to exceed 25 mg/min. Must be diluted to 2 mg/mL in D5W. Monitor for vomiting, rapid heart rate, seizures, confusion, headache, hyperkalemia, hyperglycemia.
<b>Magnesium Sulfate</b>  MAX DOSE: 2 gm	25-50 mg/kg IV	Refractory asthma, hypomagnesemia. Dilute to 40 mg/mL (PIV), 200 mg/mL (CVL) and infuse over 15-30 minutes. Monitor closely for hypotension q 5 min during infusion.
		Torsades de Pointes: Slow push, 150 mg/min max rate (pulseless) or infuse over 10-20 minutes (with a pulse). Status asthmaticus. SQ: May give q 20 min x 3 doses. <b>NEB:</b> Injectable form may be nebulized. <b>IV:</b> 10 mcg/kg over 10 minutes, then 0.4 mcg/kg/min (1 by 0.2 mcg/kg/min to a max dose of 6 mcg/kg/min). May give undiluted.
<b>Terbutaline</b>  MAX DOSE: SQ: 0.4 mg NEB: 10 mg	SQ: 0.01 mg/kg  NEB: 0.1-0.3 mg/kg	
<b>Dexamethasone (Decadron)</b>  MAX DOSE: 16 mg	0.6 mg/kg PO/IV/IM	Croup, asthma exacerbation, airway edema. May administer undiluted (4 mg/mL or 10 mg/mL) IV/IM. For IV administration, slow push over 1-4 minutes.
<b>Methylprednisolone (Solu-Medrol)</b>  MAX DOSE: 60 mg	1-2 mg/kg IV	<b>Status asthmaticus:</b> Administer over at least 5-15 minutes. Adolescent Max Dose: 80 mg. <b>Anaphylaxis:</b> Administer epinephrine first. Corticosteroids are considered second- or third-line therapy. Administer IV/IM.
<b>Hypertonic Saline (3%)</b>	2-5 mL/kg IV	Head injury (ICP>15), AMS (i.e. DKA), hyponatremia (seizures). Given as bolus over 10-20 minutes. Use largest vein possible, CVL preferred. Monitor for tissue injury.
<b>Mannitol</b>  MAX DOSE: 12.5 gm	0.25-1 g/kg IV	↑ICP, cerebral edema. Administer over 20-30 minutes. If crystals are visible, re-dissolve by warming solution to 37°C. Must filter.
<b>Fosphenytoin (Cerebyx)</b>  MAX DOSE: 1500 mg	20 mg/kg IV	Status epilepticus. Dilute to 25 mg/mL. Infuse over 10-20 minutes. Rate 1-3 mg/kg/min. Max infusion rate: 150 mg/min.
<b>Levetiracetam (Keppra)</b>  MAX DOSE: 4500 mg	Pediatric: 60 mg/kg IV Neonate: 40 mg/kg IV	Second-line therapy for status epilepticus after benzodiazepines. Infuse over 15 minutes diluted with NS to 15 mg/mL. Preferred in trauma patients.
<b>Phenobarbital</b>	10-20 mg/kg IV (Loading Dose)	First-line therapy for seizures in neonates. Start low, may repeat to max loading dose of 30 mg/kg in increments of 10 mg/kg doses infused over 15 min and given q 15 min from end of previous dose. Monitor closely for respiratory depression.
<b>Phenytoin (Dilantin)</b>  MAX DOSE: 1 gm	15-20 mg/kg IV	Status epilepticus. Flush with NS before/after dose. Inject at max rate 50 mg/min. Very caustic, monitor for tissue injury. Use in-line 0.2 micron filter. IM contraindicated.
<b>Diphenhydramine (Benadryl)</b>  MAX DOSE: 50 mg	0.5-1 mg/kg IV	Allergic or hypersensitivity reactions including urticaria, pruritis, angioedema, or as an adjunct to epinephrine for anaphylaxis. Administer over 10-15 minutes IV, may also give IM. Use with caution in infants and children as paradoxical CNS stimulation or seizures can occur. Do not use in neonates.
<b>Labetalol</b>  MAX DOSE: 40 mg	0.2-1 mg/kg IV	Hypertensive crisis. Slow push over 2 minutes. Avoid lowering BP rapidly. Contraindicated in asthma, arrhythmias (i.e. heart block, bradycardia), heart failure, or diabetes. May cause hyperkalemia and hypoglycemia. Continuous Infusion: 0.25-3 mg/kg/hr.
<b>Ondansetron (Zofran)</b>  MAX DOSE: 4 mg	0.15 mg/kg IV/SL	Nausea, vomiting. May cause prolonged QTc interval. Use with caution in patients with arrhythmias, ingestions. Max Dose for Chemotherapy Patients: 8 mg