

THERAPY	DOSE	ROUTE	MAX DOSE
Adenosine	0.1 mg/kg, then 0.2 mg/kg	IV/IO	1st (6 mg), 2nd (12 mg)
Amiodarone	5 mg/kg	IV/IO	300 mg
Atropine	0.02 mg/kg (Min 0.1 mg)	IV/IO/ETT	1 mg
Calcium Chloride	10-20 mg/kg	IV/IO	1 gram
Calcium Gluconate	60-100 mg/kg	IV/IO	3 grams
Dextrose	0.5-1 gram/kg (D10 5-10 mL/kg, D25 2-4 mL/kg)	IV/IO	25 grams
Epinephrine (1:10,000)	0.01 mg/kg = 0.1 mL/kg	IV/IO	1 mg (10 mL)
Epinephrine (1:1,000)	0.1 mg/kg = 0.1 mL/kg	ETT	10 mg (10 mL)
Insulin (Regular)	0.1-0.2 units/kg	IV/IO	N/A
Lidocaine	1 mg/kg	IV/IO	100 mg
Mannitol	0.25-1 mg/kg	IV/IO	N/A
Naloxone	0.1 mg/kg	IV/IO	2 mg
Sodium Bicarbonate	1-2 meq/kg	IV/IO	N/A
Cardioversion	0.5-1 J/kg, then 2 J/kg	N/A	200 J (Biphasic)
Defibrillation	2-4 J/kg, then 4 J/kg	N/A	10 J/kg or 200 J

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BLS/IF UNRESPONSIVE, APNEIC/AGONAL RESPIRATIONS AND PULSELESS, PERFORM COMPRESSIONS FIRST!			
	<1 Year (Infant)	1 Year to Puberty (Child)	Puberty to Adult (Adult)
Airway	Head Tilt/Chin Lift and 100% Oxygen (In-Line Cervical Immobilization if Suspected Trauma)		
Oxygen	Hyperoxia Can Be Harmful; Titrate FIO2 to Keep Saturations 94-99%		
Advanced Breaths	8 to 10 breaths per minute (~1 breath every 6-8 seconds)		
Pulse Check	Brachial/Femoral (<10 seconds)	Carotid or femoral (<10 seconds) to identify	
CPR Method	2 thumbs/chest encircling method	2 hands or 1 hand (using heel)	2 hands (hand over hand)
CPR Rate/Depth	At least 100/minute (ALL AGES)/4 cm (Infant), 5 cm (Child/Adult)		
CPR:Breaths	15:2 or 30:2 if single rescuer		30:2
ASYSTOLE			
1. Initiate Basic Life Support/CPR	1. Initiate Basic Life Support/CPR	1. Assess/Support ABCs/Confirm Pulse	
2. Epinephrine (IV/IO/ETT) q 3-5 minutes	2. Defibrillate at 2-4 J/kg	2. Attach monitor/defibrillator	
IV/IO: (1:10,000) 0.01 mg/kg=0.1 mL/kg	3. Perform 5 cycles of CPR (1-2 minutes)	3. Synchronized Cardioversion	
ETT: (1:1,000) 0.1 mg/kg = 0.1 mL/kg	4. Check rhythm only (NOT pulse)	1st Cardioversion: 0.5 to 1 J/kg	
Max Dose: 1 mg (IV/IO) 10 mg (ETT)	5. Shockable Rhythm?	2nd Cardioversion: 2 J/kg	
3. Perform 5 Cycles of CPR (1-2 min)	YES: CPR:Defibrillate at 4 J/kg (May use up to 10 J/kg)-Do not exceed adult dose!	4. Consider antiarrhythmics	
4. Check rhythm/pulse	NO: Proceed to correct algorithm	Adenosine (IV/IO) if possible SVT	
5. Repeat #1-4 for continued asystole	NO: Proceed to correct algorithm	See SVT algorithm for dose	
6. Resume CPR immediately	6. Resume CPR immediately	Amiodarone (IV/IO) 5 mg/kg	
NARROW QRS TACHYCARDIA/SVT			
1. Assess/Support ABCs/Confirm Pulse	7. Epinephrine (IV/IO/ETT) q 3-5 minutes	Over 20 to 60 minutes (Max 300 mg)	
2. Attach monitor/defibrillator	IV/IO: (1:10,000) 0.01 mg/kg=0.1 mL/kg	Procainamide (IV/IO) 15 mg/kg	
3. ECG/Clinical Consultation if stable	ETT: (1:1,000) 0.1 mg/kg = 0.1 mL/kg	Over 30 to 60 minutes (Max 17 mg/kg)	
4. Sinus/Physiologic Tachycardia?	8. Resume CPR immediately	BRADYCARDIA (SYMPTOMATIC)	
4. YES: Identify etiology and treat	9. Repeat #3-7 for refractory VF/VT	1. Basic Life Support/Identify Cause	
5. Confirm SVT (no P waves, "fused" HR)	10. Consider antiarrhythmics (IV/IO)	2. CPR if HR < 60 and poor perfusion	
6. Vagal maneuvers (if clinically stable)	Amiodarone (IV/IO) 5 mg/kg IV Push	3. Epinephrine (IV/IO/ETT) q 3-5 minutes	
7. Adenosine (IV/IO) Rapid IV Push	Max Single Dose: 300 mg	IV/IO: (1:10,000) 0.01 mg/kg=0.1 mL/kg	
1st dose: 0.1 mg/kg (Max 6 mg)	Drip: 5-10 mcg/kg/min	ETT: (1:1,000) 0.1 mg/kg = 0.1 mL/kg	
2nd dose: 0.2 mg/kg (Max 12 mg)	Magnesium Sulfate (IV/IO) 25-50 mg/kg	Max Dose: 1 mg (IV/IO) 10 mg (ETT)	
8. Synchronized Cardioversion	For Torsades de Pointes	4. Atropine (IV/IO/IM/ETT) q 3-5 minutes	
1st Cardioversion: 0.5 to 1 J/kg	IV/IO: 1 mg/kg	Indication: Vagally mediated bradycardia	
2nd Cardioversion: 2 J/kg	ETT: 2-3 mg/kg	IV: 0.02 mg/kg IM: 0.02-0.04 mg/kg	
9. Consider antiarrhythmics (IV/IO)	Amiodarone (IV/IO) 5 mg/kg	ETT (Neonates): 0.01-0.03 mg/kg	
Over 20 to 60 minutes (Max 300 mg)	Max Single Dose: 100 mg	ETT (Child/Adults): 0.04-0.06 mg/kg	
Procainamide (IV/IO) 15 mg/kg	Max Total Dose: 3 mg/kg	Min. Dose: 0.1 mg	
Over 30 to 60 minutes (Max 17 mg/kg)	Drip: 20-50 mcg/kg/min	Max. Child = 1 mg; Teen/Adults = 2 mg	
		5. CONSIDER EARLY PACING	

PEA	SHOCK	RAPID SEQUENCE INTUBATION	
1. Initiate Basic Life Support/CPR	1. Assess/Support ABCs/Give Oxygen	1. Preparation is the most important!	
2. Shockable Rhythm (VF/VT)?	2. Continually reassess/treat ABCs	2. Preoxygenate/Have Bag & Mask Ready	
YES: Proceed to VF/VT algorithm	3. Do not rely on/ wait for BPs	3. Suction (always prepare for emesis)	
3. Epinephrine (IV/IO/ETT) q 3-5 minutes	4. Identify etiology (Hypovolemic, Distributive, Cardiac/Obstructive, Dissociative, Neurogenic, or Toxicity/Overdose)	4. IV/IO Access	
IV/IO: (1:10,000) 0.01 mg/kg=0.1 mL/kg	5. Immediate IV/IO access (2 sites)	5. Premedications/Medications	
ETT: (1:1,000) 0.1 mg/kg = 0.1 mL/kg	6. Rapid fluid bolus (NS, LR, 5% albumin) 20 mL/kg (NO hypotonic fluid) IV/IO	6. Laryngoscope (make sure light works)	
Max Dose: 1 mg (IV/IO) 10 mg (ETT)	7. Appropriate ETT (check cuff)	7. Have different blades readily available	
4. Perform 5 cycles of CPR (1-2 min)	7. Reassess, repeat as clinically indicated!	8. Have smaller/larger sizes available	
5. Check rhythm/pulse	8. Vasoactive Continuous Infusions (IV/IO)	9. Typical ETT Size: (Age in Years/16)/4	
6. Repeat #1-5 for continued PEA	Dopamine: 5-20 mcg/kg/min	10. Have nasal/oral airways available	
7. Evaluate/re-evaluate for PEA etiologies	Max Dose: 20 mcg/kg/min	11. Position patient/yourself optimally	
	Epinephrine: 0.05-1 mcg/kg/min	12. Use C-spine precautions if necessary	
PEA ETIOLOGIES			
1. Hypovolemia	Norepinephrine: 0.05-2 mcg/kg/min	13. Use cricoid pressure if necessary, not routinely. Release with active vomiting!	
2. Hypoxia	Max Dose: 30 mcg/min	14. Ensure effective BMV/chest rise/air exchange before giving paralytic	
3. Hypothermia	Vasopressin: 0.003-0.002 units/kg/min	15. Minimize BMV (unless needed) due to abdominal distension/emesis risks	
4. Hydrogen Ion (Acidosis)	Max Dose: 0.1 units/min	16. If saturation drop, stop and bag the patient!	
5. Hypokalemia	Dobutamine: 2-20 mcg/kg/min	17. Confirm placement: Listen, equal/adequate chest rise, end-tidal CO2, and CXR	
6. Hyperkalemia	Max Dose: 20 mcg/kg/min	18. Secure ETT/check CXR afterwards	
7. Hypoglycemia	Phenylephrine: 0.1-0.5 mcg/kg/min	ETT depth (at lip)-ETT Size X 3	
8. Hypercarbia	Max Dose: 180 mcg/min	RSI PREMEDICATIONS	
9. Toxins	Max Dose: 0.75 mcg/kg/min	1. Atropine (IV/IO): 0.01-0.02 mg/kg	
10. Tamponade (Cardiac)	Do NOT give loading dose	Recommended in all patients < 5 years	
11. Tension pneumothorax	Cautions: Causes vasodilation	Recommended if using succinylcholine	
12. Thrombus/Embolus	Phenylephrine: 0.1-0.5 mcg/kg/min	Min. Dose: 0.1 mg (smaller dose can result in paradoxical bradycardia)	
13. Trauma (e.g. increased ICP)	Milrinone: 0.25-0.75 mcg/kg/min	Max Single Dose: 1 mg	
BRADYCARDIA ETIOLOGIES			
1. Hypoxemia	Max Single Dose: 100 mg	2. Lidocaine (IV/IO): 1 mg/kg	
2. Hypothermia	Cautions: Causes vasodilation	Use if increased ICP present/suspected	
3. Increased Vagal Tone	9. Ductal Dependent Heart Lesion?	Give 30 seconds to 5 minutes before RSI	
4. Overdose	Prostaglandin E1 (IV/IO, peripheral OK)	Max Single Dose: 100 mg	
Beta Blockers, Calcium Channel Blockers, Opioids, Benzodiazepines, TCAs, Digoxin	Dose: 0.05-0.1 mcg/kg/min		
5. Increased ICP	10. Adrenal Insufficiency?		
6. Atrioventricular Blocks	Hydrocortisone Succinate (IV/IO)		
7. Hypoglycemia	Load: 2 mg/kg		
8. Hypothyroidism	Maintenance: 1-2 mg/kg q 6-8h		

RSI/PROCEDURAL MEDICATIONS	ASTHMA EXACERBATION	UPPER AIRWAY OBSTRUCTION	
1. Sedatives	1. Assess/Support ABCs/Give Oxygen	1. Assess/Support ABCs/Give Oxygen	
Midazolam	2. NIH Guidelines	2. Dexamethasone (IV/IO/IM/PO)	
IV/IO/IM: 0.1-0.2 mg/kg	Children: < 12 years of age	All routes: 0.6 mg/kg	
Intranasal: 0.2-0.4 mg/kg	Adults: > 12 years of age	Max Single Dose: 16 mg	
Max Single Dose: 6 mg	Max Child Dose equals Max Adult Dose	3. Methylprednisolone (IV/IO/IM)	
Lorazepam (IV/IO/IM) 0.05-0.1 mg/kg	3. Albuterol Nebulization (Min 2.5 mg)	All Routes: 1-2 mg/kg	
Max Dose: 4 mg	Children: 0.15 mg/kg q 20 min X 3, then 0.15-0.2 mg/kg q 1-4h prn	4. Racemic Epinephrine 2.25% Neb	
Propofol (IV/IO) 0.5-1 mg/kg	Adults: 2.5 to 5 mg q 20 min X 3, then 2.5-10 mg q 1-4h prn	All Ages: 0.5 mL	
Cautions: Can cause hypotension	4. Albuterol MDI (90 mcg/puff)	ANAPHYLAXIS	
Etonitdate (IV/IO) 0.2-0.4 mg/kg	Children: 4-8 puffs q 20 min X 3, then 4 puffs q 1-4h prn	1. Assess/Support ABCs/Give Oxygen	
RSI Only: Max Single Dose: 20 mg	Avoid in Spina; May Decrease Cortisol	2. Consider EARLY intubation as laryngeal edema can be VERY rapid and fulminant	
Lowers ICP; minimal BP effects	Adults: 4-8 puffs q 20 min X 3, then 4 puffs q 1-4h prn	3. Establish IV/IO access	
Use ONLY for RSI!	5. Albuterol (Continuous)	4. Patients usually require large amounts of volume resuscitation	
2 mg/kg (up to 6 mg/kg)	Children: 0.5 mg/kg/hr (range 0.3-3 mg/kg/hr)	5. Epinephrine is the MOST important drug to administer and give ASAP!	
Cautions: Can cause hypotension	Adults: 10-15 mg/hr	6. Epinephrine (IM/SubQ) q 5 minutes	
2. Analgesics	6. Ipratropium Nebulization	Use E1:1000 Concentration	
Fentanyl (IV/IO/IM) 1-2 mcg/kg	Children: 250 mcg q 20 min X 3, then 250 mcg q 2-4h prn	0.01 mg/kg = 0.01 mL/kg	
Morphine (IV/IO/IM) 0.05-0.1 mg/kg	Adults: 500 mcg q 30 min X 3, then 500 mcg q 2-4h prn	Max Single Dose: 0.5 mg (0.5 mL)	
3. Combined Sedative/Analgesic Agents	7. Ipratropium MDI (17 mcg/puff)	7. Epinephrine (IV/IO/ETT) q 3-5 min	
Ketamine (IV/IO/IM)	IV: 1-2 mg/kg (2 mg/kg for RSI)	IV/IO: (1:10,000) 0.01 mg/kg=0.1 mL/kg	
IV: 1-2 mg/kg (2 mg/kg for RSI)	IM: 2-4 mg/kg (4 mg/kg for RSI)	ETT: (1:1,000) 0.1 mg/kg = 0.1 mL/kg	
IV: 2-4 mg/kg (4 mg/kg for RSI)	8. Methylprednisolone (IV/IO)	Max Dose: 1 mg (IV/IO) 10 mg (ETT)	
Preferred with asthmatics	Children: 2 mg/kg load, then 0.5-1 mg/kg qph (Max Single Dose: 60 mg)	8. Diphenhydramine (IV/IO/IM)	
Avoid with elevated ICP	Adults: 40-60 mg qph	1-2 mg/kg (Max Single Dose: 50 mg)	
4. Paralytics	9. Epinephrine (IM/SubQ)	9. Ranitidine (IV/IO) 1 mg/kg	
Succinylcholine (IV/IO/IM)	May repeat q 20 minutes X 3	Max Single Dose: 50 mg	
MULTIPLE CONTRAINDICATIONS!	Always premedicate with atropine!	10. Albuterol (See Asthma Algorithm)	
Always premedicate with atropine!	(1:1,000) 0.01 mg/kg = 0.01 mL/kg	11. Anti-inflammatory Medications	
IV/IO: 1-2 mg/kg	Max Single Dose: 0.5 mg (0.5 mL)	Dexamethasone (IV/IO/IM/PO)	
IM: 2-4 mg/kg	10. Terbutaline Infusion (IV/IO)	All routes: 0.6 mg/kg	
10. Terbutaline Infusion (IV/IO)	Load: 2-10 mcg/kg (over 5-10 minutes)	Max Single Dose: 16 mg	
Paralytic of choice if succinylcholine is contraindicated; shorter acting than vecuronium	Infusion: 0.08-0.4 mcg/kg/min	Methylprednisolone (IV/IO/IM)	
11. Magnesium Sulfate (IV/IO)	25-50 mg/kg (Max Dose 2 grams)	All Routes: 1-2 mg/kg	

