

AGE, WEIGHT, BSA, VITALS, EQUIPMENT

Age	Birth	6 mo	1 yr	2 yr	3 yr	4 yr	5 yr	6 yr	8 yr	10 yr	12 yr	14 yr	Adult
Avg Wt (kg)	3.5	7	10	12	14	16	18	20	25	30	40	50	70
Appr BSA (m²)	0.25	0.38	0.47	0.55	0.62	0.68	0.75	0.82	0.95	1.18	1.34	1.50	1.73
Normal Heart rate	80-160	75-160	75-160	60-100	60-100	60-100	60-100	60-100	60-100	50-90	50-90	50-90	50-90
SBP 5% ile	60	70	72	74	76	78	80	82	86	90	90	90	90
SBP 95% ile			101-105	104-109	106-110	107-112	107-113	108-114	110-117	112-121	116-128	123-134	125-128
ETT (ID mm)	3-3.5	3.5-4	4	4.5	4.5	5	5	5.5	6	6.5	6.5-7	7	7.5-8
ETT Cuffed		3.0	3.5	4	4	4.5	4.5	5	5.5	6	6	6.5	7-8
Blade size	0-1	1	1	1-1.5	1.5-2	2	2	2-3	2-3	3	3	3	3-4
Blade type	Miller			Miller or Wis-Hipple			Miller or Macintosh			Usually Macintosh			
ETT at lip (cm)	9-10	11	12	13	14	14	15	15	16	17	18	20	20-22
Suct. cath (Fr)	6-8	6-8	6-8	8	8-10	10	10	10	10-12	10-12	12	12	12-14
Oral Airway	0	1		2			3		4-5				
NG (Fr)	8	8	8-10	10	10-12	10-12	10-12	12	12-14	14	16	16	16-18
Foley (Fr)	5	5	8	8	10	10	10	10	10	12	12	12	12
Chest tube	10-12	10-12	16-20	16-20	16-20	16-20	20-28	20-28	28-32	28-32	32-42	32-42	
Art line (radial)	24g	22g	22g	22g	22g	22g	22g	20g	20g	20g	20g	20g	
CVL (fem) (Fr)	3	4	4	4-5.5	5.5	5.5	5.5-7	5.5-7	5.5-7	5.5-7	5.5-7	5.5-7	7

Tracheal tube size (mm) = (age in years/4) + 4 for children > 1 yr, uncuffed
Tracheal tube size (mm) = (age in years/4) + 3 for cuffed tubes
Switch to cuffed tube size >= 3.5
Depth of insertion (cm) = tube size (in mm) x 3
OR = age in years/2 + 12 (for children 2-10 yrs of age)
Oropharyngeal airway size: distance from central incisors to angle of jaw
Nasopharyngeal airway size: distance from nares to angle of jaw

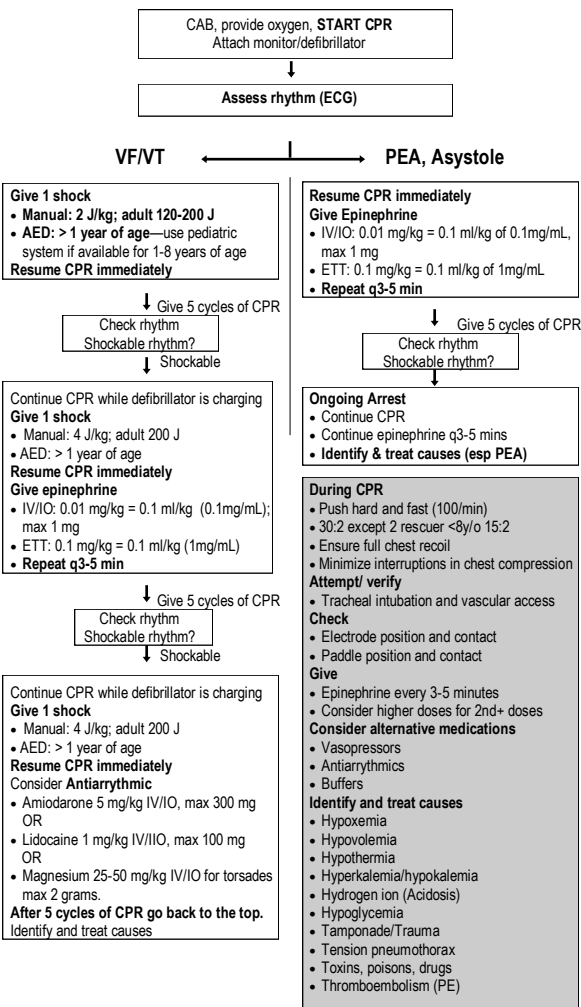
Glasgow Coma Scale (modified for infants/children)

Activity	Best Response
Eye Opening	Spontaneous = 4; To speech = 3; To pain = 2; None = 1
Verbal	Coos/babbles, appropriate words = 5 Appropriate cry, inappropriate words = 4 Cries to pain = 3; Grunts to pain = 2; No response = 1
Motor	Normal spontaneous movements = 6 Withdraws to touch = 5; Withdraws to pain = 4 Abnormal flexion = 3; Abnormal extension = 2; none = 1

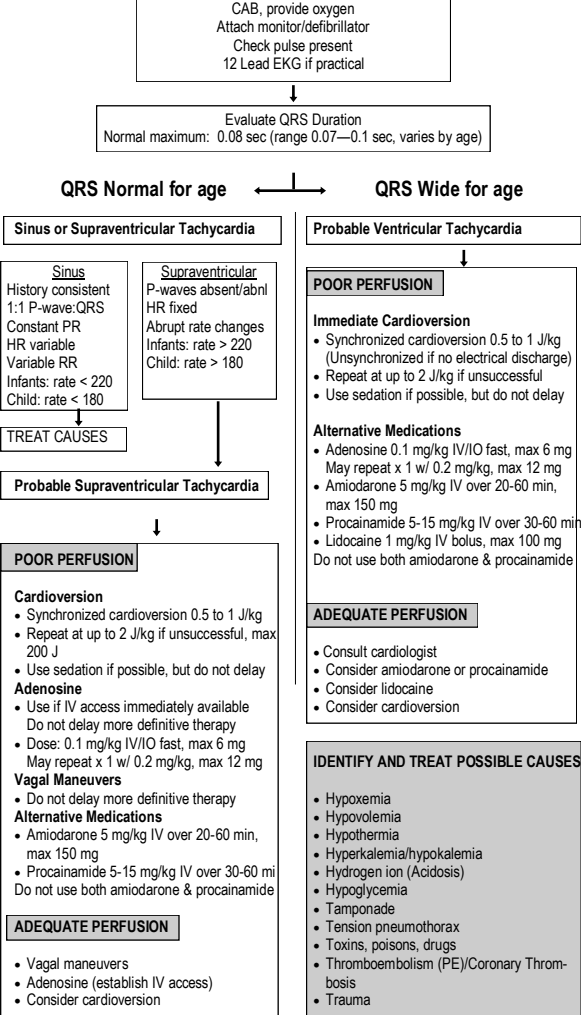
EMERGENCY MEDICATIONS

Drug	Indication	Dose/Route/Forms	Comments
Adenosine	SVT	0.1 mg/kg IV/IO bolus (max 6 mg) • repeat: 0.2 mg/kg (max 12 mg) up to 2 additional doses	• rapid bolus, follow w/ rapid IV NS flush • Can cause bronchospasm • half-life 10 seconds
Amiodarone	VF, pulseless or unstable VT, SVT	5 mg/kg IV/IO (max 300 mg) • may repeat to max 15 mg/kg/day or 2.2 Grams	• rapid bolus for pulseless VT/VF; infuse over 20-60 mins for all else • acute hypotension/frequent side effect • do not use concurrently w/ procainamide
Atropine	Bradycardia	0.02 mg/kg IV/IO 0.04-0.06 mg/kg ETT • maximum dose 0.5 mg in child, 1 mg in adolescent	• anti-cholinergic, vagolytic • may repeat x 1 after 3-5 minutes, to maximum 1 mg in child or 3 mg in adolescent • may cause pupil dilation, but not fixed
Bicarbonate (Sodium)	Severe metabolic acidosis, extended cardiac arrest, Hyperkalemia, TCA overdose	1 meq/kg IV/IO slow bolus • 8.4% soln (1 meq/mL): 1 mL/kg • 4.2% soln (0.5 meq/mL): 2 mL/kg (use in infants)	• can transiently worsen acidosis; • 4.2% soln preferable in neonates • watch hypernatremia, hyperosmolality • do not mix w/ catecholamines, calcium overdose
Calcium	Hypocalcemia, Hyperkalemia, Hypomagnesemia, Calcium channel blocker overdose	Calcium Chloride 10% • 0.2 mL/kg = 20 mg/kg slow push during arrest Calcium Gluconate 10% • 0.6 mL/kg = 60mg/kg	• give slow IV push – 10-20 sec for cardiac arrest, otherwise 5-10 min • can repeat PRN in cardiac arrest • preferably via central vein, esp CaCl
Epinephrine	Bradycardia	IV/IO: 0.01 mg/kg • 0.1 mL/kg of 0.1 mg/mL ETT: 0.1 mg/kg (0.1 mL/kg of 1mg/mL)	• can follow initial dose w/ infusion 0.1-0.2 mCg/kg/min for persistent bradycardia • do not mix with bicarbonate • Maximum single dose 1 mg
	Pulseless arrest (asystole, PEA, VF, pulseless VT)	IV/IO: 0.01 mg/kg (0.1 mL/kg of 0.1mg/mL) ETT: 0.1 mg/kg (0.1 mL/kg of 1mg/mL) For 3 + doses, consider high dose • Maximum single dose 1 mg	• converts fine VF to coarse VF • can repeat q3-5 mins for ongoing arrest • can use infusion after spontaneous circulation is restored
	Status asthmaticus	IM/SQ: 0.01 mg/kg (0.01 mL/kg of 1mg/mL) max 0.5 ml or 0.5 mg	• Can repeat q15 minutes x 3-4 doses
	Anaphylaxis	IM: 0.01 mg/kg (0.01 mL/kg of 1mg/mL, max 0.5 ml or 0.5 mg)	• Can repeat q15 minutes PRN • Avoid IV unless hypotensive/shock
Lidocaine	VF, pulseless VT, wide complex tachycardia (with pulses)	IV/IO: 1mg/kg (max 100 mg) ETT: 2-3mg/kg • Infusion: 20-50 mCg/kg/min	• rapid bolus for VF, pulseless VT; infuse over 2-4 minutes for VT with pulse • Repeat bolus if > 15 min until drip starts
Magnesium Sulfate	Severe asthma, Torsades de pointes VT	25-50 mg/kg IV/IO (max 2 gm/dose)	• infuse over 10-20 minutes for asthma • infuse over several minutes for torsades de pointes VT • May cause hypotension
Naloxone	Narcotic overdose	IV/IO/IM/SQ For full reversal ≤ 5 yrs or ≤ 20 kg: 0.1 mg/kg > 5 yrs or > 20 kg: 2 mg May repeat every 2 minutes	• for partial reversal use small repeated doses 1-5 mCg/kg (0.001 to 0.005 mg/kg) titrated to desired effect
Procainamide	VT (w/ pulse) SVT (stable)	15 mg/kg IV/IO	• infuse over 30-60 mins • do not use concurrently w/ amiodarone • stop infusion if QRS widens or BP falls

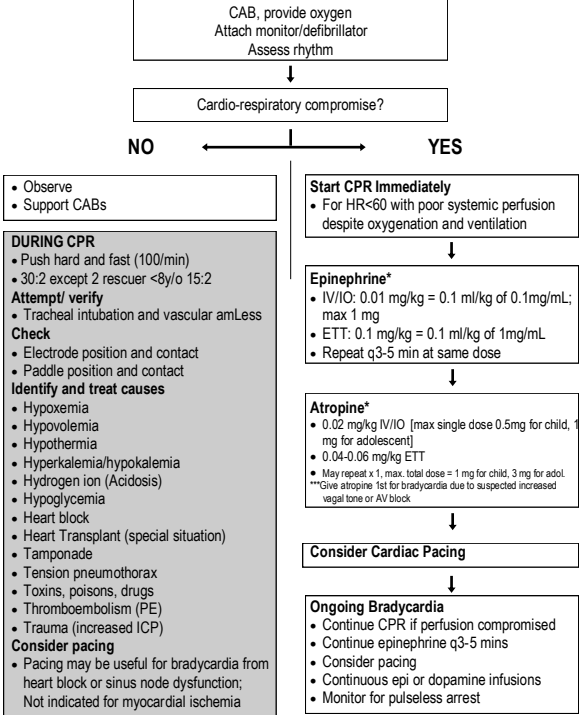
PULSELESS ARREST



TACHYCARDIA



BRADYCARDIA



DEFIBRILLATION/ CARIOVERSION

General Information • Pediatric paddles for <1 yr, <10 kg • Can use monitor leads or paddles to detect rhythm • Use electrode gel or gel pads • If not available, use Saline-soaked gauze. Do not use alcohol pads or ultrasound gel. • Paddles, pads, or electrode gel of each paddle cannot touch each other • Apply paddles with firm pressure • Consider sedation if practical for cardioversion • An AED may be used if > 1year old	General Steps • Turn on defibrillator • Attach monitor leads • Set lead select (leads or paddles) • Engage synch if cardioversion • Select energy level • Apply gel to paddles or pads to pt • Position paddles on patient • Confirm rhythm • Confirm markers if cardioversion • Announce 'charging', press charge • 'One I'm clear, two you're clear, three everybody's clear, four oxygen clear' • Press discharge button	Defibrillation • Dose: initial approx 2 J/kg, then 4 J/kg; adult 120-200 J • If initial defibrillation successful but VF recurs, use same dose Cardioversion • Activate synch mode before each shock (resets to non-synch) • Dose: first 0.5 - 1 J/kg, then 2 J/kg, max 200 J • Confirm markers on each R-wave prior to shock
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RAPID SEQUENCE INTUBATION

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graph TD; A[Verify all equipment ready & working<br/>• Suction, oxygen, scope, airway adjuncts, meds, monitors, ETCO2<br/>• Estimate ETT size = 4 + (age / 4)<br/>Also have available one size above and below<br/>PREOXYGENATE WITH 100% O2 x 2 minutes] --> B[Sedate and paralyze<br/>• Cricoid pressure from time of sedating med to tube confirmation<br/>• Administer sedative, analgesic** (see note)<br/>• Administer paralytic** (see note)<br/>• Wait until loss of tone/reflexes]; A --> C[Pre-medicate 2-5 min before laryngoscopy<br/>• All premedication optional<br/>• Atropine 0.02mg/kg/dose; consider if < 1yo<br/>• Wait 2-3 minutes]; B --> D[Intubate<br/>• Depth: 3 x ETT size at gum<br/>• Confirm placement with auscultation, capnography, then CXR<br/>• Decompress stomach with NGT/OGT];
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Verify all equipment ready & working

- Suction, oxygen, scope, airway adjuncts, meds, monitors, ETCO2
- Estimate ETT size = 4 + (age / 4)

Also have available one size above and below

PREOXYGENATE WITH 100% O2 x 2 minutes

Sedate and paralyze

- Cricoid pressure from time of sedating med to tube confirmation
- Administer sedative, analgesic** (see note)
- Administer paralytic** (see note)
- Wait until loss of tone/reflexes

Pre-medicate 2-5 min before laryngoscopy

- All premedication optional
- Atropine 0.02mg/kg/dose; consider if < 1yo
- Wait 2-3 minutes

Intubate

- Depth: 3 x ETT size at gum
- Confirm placement with auscultation, capnography, then CXR
- Decompress stomach with NGT/OGT

**Note on RSI Medications:	ICP	BP	Indicated	Contraindicated
Midazolam + fentanyl and vecuronium can be used safely for most RSI situations.	NL	NL	Midazolam+ Fentanyl	
	NL	↓	Ketamine or Etom or Midaz + Fent	
	NL	↓↓	½ Ketam or Etom or ½ Midaz + ½ Fent	
	↑	NL	Etomidate	Ketamine
Alternative medications for certain scenarios are listed in table at right and described in table below.	↑	↓	Etomidate or Midazolam + Fentanyl	Ketamine
	RAD		Ketamine + Midazolam	
	Seizure		Midazolam + Fentanyl	Ketamine

Medication	Dose	Kinetics	Notes
Sedation, Analgesia, Amnesia			
Midazolam (Versed)	0.2-0.3 mg/kg IV/IM	Onset 1-2 min Duration 30-60 min	- Amnesia, sedation, no analgesia - Minimal effect on ICP, can slightly ↓ BP - Cons: respiratory depression, mild hemodynamic depression
Fentanyl	1-5 mcg/kg IV	Onset 1 min Duration 30-60 min	- Generally minimal hemodynamic effect, but can ↓ BP - Cons: chest wall rigidity, respiratory depression
Etomidate	0.3 mg/kg IV	Onset 1 min Duration 10-15 min	- Hypnotic; lacks analgesia — consider also using fentanyl - Hemodynamically neutral; acutely ↓ ICP - Avoid in septic shock - Cons: transient adrenal suppression, ? seizures, cough
Ketamine	1-2 mg/kg IV 3-7 mg/kg IM	Onset 1-2 mins Duration 10-30 min	- Dissociative anesthetic, w/ amnesia, some analgesia - Use with midazolam - Bronchodilator, tends to preserve airway reflexes - Overall ↑ HR, BP : neg inotrope but ↑ sympathetic release - Cons: ↑ ICP, ? seizures, emergence reactions, hypersalivation
Propofol	1-1.5 mg/kg IV	Onset 15-45 sec Duration 5-10 min	- Good choice in hemodynamically stable patients with status epilepticus - May cause hypotension due to vasodilatory effects - Neuroprotective effects
Neuromuscular Blockade			
Succinylcholine	2 mg/kg IV <2yr 1-1.5 mg/kg IV >2yr 4 mg/kg IM	Onset 30-60 sec Duration 5-10 min	- Depolarizing muscle relaxant; causes fasciculations - Cons: hyperkalemia, malign, hyperthermia, ↑ ICP, bradycardia - Avoid in: burns, crush injury, denervating disease, myopathies - Repeat dose can only be given in adolescents or adults - Atropine pre-med if age<5 OR before repeat dose
Vecuronium	0.1-0.2 mg/kg IV	Onset 30-120 sec Duration 20-60 min	- Non-depolarizing neuromuscular blockade - Slower onset, longer duration than others - Minimal cardiovascular side effects
Rocuronium	1 mg/kg IV	Onset 30-60 sec Duration 30-60 min	- Non-depolarizing neuromuscular blockade - Quick onset, longer duration - Minimal cardiovascular side effects

PRESSORS

Medication	Dose (mcg/kg/min)	Site of Action	Notes
Dopamine Standard concentration: 1600 mcg/ml Maximum concentration: 3200 mcg/ml	2-20	Dose dependent: Dopaminergic to β to α - β	- Low dose (2-5): renal/splanchnic vasodilator, renal protective, UOP - Medium dose (5-10): inotrope, $\uparrow$ stroke volume, cardiac output - High dose (>10): α – adrenergic effect, vasoconstrictor, $\uparrow$ afterload - Titrate dose by 2.5 mcg/kg/min Q 5 min till desired effect or toxicity
Dobutamine Standard concentration: 2000 mcg/ml Maximum concentration: 4000 mcg/ml	2-30	$\beta_1 \gg \beta_2$	- Almost pure cardiac inotrope - Weak vasodilator - Titrate dose by 2.5 mcg/kg/min Q 5 min till desired effect or toxicity
Epinephrine Standard concentration: 16 mcg/ml Maximum concentration: 64 mcg/ml	0.05-1 Max: 1.5	$\beta > \alpha$	- Inotrope, vasoconstrictor - Elevates PVR, SVR, decreases renal blood flow - Can induce arrhythmias - Titrate dose by 0.05 mcg/kg/min Q 5 min till desired effect or toxicity
Norepinephrine Standard concentration: 16 mcg/ml Maximum concentration: 64 mcg/ml	0.05-1 Max: 2	$\alpha > \beta$	- Peripheral vasoconstrictor - Can elevate myocardial perfusion pressures - Useful in: septic shock, neurogenic shock, anaphylaxis - Titrate dose by 0.05 mcg/kg/min Q 5 min till desired effect or toxicity
Milrinone Standard concentration 0.2 mg/ml	Bolus, then 0.25-1	PDE3 inhibitor	- Bolus 50 mcg/kg IV x 1 over several minutes, then infusion - Inotrope, $\uparrow$ cardiac contractility - Afterload reducer, vasodilator, reduces SVR - Useful in: pure cardiogenic shock
Vasopressin Standard concentration 0.2 units/ml	0.02-0.1 units/kg/hr	V1 and V2 receptors	May use for vasodilatory shock with hypotension unresponsive to fluid resuscitation and exogenous catecholamines

(ACUTE) INCREASED INTRACRANIAL PRESSURE

CAB • Vitals, O2, protect airway, D-stik, C-spine protection if comatose or trauma • Elevate HEAD OF BED 30°, Head Midline • Non-contrast Head CT if unknown etiology	If Signs of Herniation: • Intubate (premed with lidocaine) • HYPERVENTILATE goal pCO2 20 mmHg ↓ pCO2 5-10 mmHg ↓ ICP 20-30 mmHg Transient effect as pH equilibrates in hours	• MANNITOL 0.5-1 gm/kg IV [max 50-100 gm] • Follow with Mannitol 0.25-0.5 gm/kg IV q6 hrs • 3% Hypertonic Saline 2-5 ml/kg • Hold for Na>155, Osm>320, Osm Gap >20 • Sedation/muscle blockade If fluid excess, CHF: Lasix 1 mg/kg IV q6 prn
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STATUS ASTHMATICUS

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graph TD
    CAB[CAB  
Initial treatment:] --> D1[• STACKED DUONERTS Albuterol 7.5-15 mg + Ipratropium 1.5 mg  
• DEXAMETHASONE 0.6 mg/kg IV/IM/PO (maximum 16 mg) OR  
• METHYLPREDNISOLONE IV: 2 mg/kg [max 125 mg], then 0.5 mg/kg/dose IV q6 hours]
    D1 --> P1[If poor response, add:]
    P1 --> D2[• CONTINUOUS NEBULIZED ALBUTEROL  
0.5 mg/kg/hr [titrate to HR, max 20 mg/hr]  
• MAGNESIUM SULFATE IV  
50 mg/kg/dose IV over 20 min [max 2 gm]  
Monitor BP q30 min  
• NORMAL SALINE BOLUS  
20 mL/kg, may repeat up to two more times  
• IPRATROPIUM Nebulized q6h  
0.25 mg < 20 kg; 0.5 mg ≥ 20 kg]
    D2 --> E[EPINEPHRINE  
0.01 mg/kg of 1mg/mL solution IM (max 0.5 mL IM)  
  
20 mL/kg, may repeat up to two more times]
    E --> SE[STATUS EPILEPTICUS]
    SE --> CAB2[CAB—D-stik, Get Access I/O, labs]
    CAB2 --> P2[If persistent seizures, add:]
    P2 --> D3[• PHENOBARBITAL 20 mg/kg IV  
Give over 15-20 minutes  
Significant respiratory suppression likely with use of benzos and barbs together]
    D3 --> D4[ADDITIONAL CONSIDERATIONS  
• LABS: δ-stik, CBC, Chem 12, ABG, β-HCG, Tox screens, anti-epileptic drug levels  
• FEVER: tx w/ antipyretics. Empiric use of antibiotics will NOT hinder dx of meningitis  
• HYPOGLYCEMIA: if adult, give thiamine 100 mg IV first  
• HEAD TRAUMA: emergent head CT.]
    D4 --> P3[If persistent seizures:]
    P3 --> D5[• PENTOBARBITAL COMA  
Loading 5 mg/kg IV  
Infuse 1 to 3 mg/kg/hr IV]
  
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CAB
Initial treatment:

- **STACKED DUONERTS** Albuterol 7.5-15 mg + Ipratropium 1.5 mg
- **DEXAMETHASONE** 0.6 mg/kg IV/IM/PO (maximum 16 mg) **OR**
- **METHYLPREDNISOLONE** IV: 2 mg/kg [max 125 mg], then 0.5 mg/kg/dose IV q6 hours

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If poor response, add:

- **CONTINUOUS NEBULIZED ALBUTEROL**
0.5 mg/kg/hr [titrate to HR, max 20 mg/hr]
- **MAGNESIUM SULFATE IV**
50 mg/kg/dose IV over 20 min [max 2 gm]
Monitor BP q30 min
- **NORMAL SALINE BOLUS**
20 mL/kg, may repeat up to two more times
- **IPRATROPIUM** Nebulized q6h
0.25 mg < 20 kg; 0.5 mg ≥ 20 kg

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EPINEPHRINE
0.01 mg/kg of 1mg/mL solution IM (max 0.5 mL IM)

20 mL/kg, may repeat up to two more times

↓

STATUS EPILEPTICUS

CAB—D-stik, Get Access I/O, labs

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No IV Access:

- **DIAZEPAM (VALIUM)** PR 0.5 mg/kg [max 20 mg PR]
Inject to lower 1/3 rectum
High rate of seizure recurrence due to rapid redistribution

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IV Access established:

- **LORAZEPAM (ATIVAN)**
0.1 mg/kg IV over 3 min, repeat q5 min prn x 1. Max single dose 4 mg, Max total dose 6 mg
- **LEVETIRACETAM (KEPPRA)**
20mg/kg IV infusion, may repeat up to x2 to max 60 mg/kg; dose not to exceed 1-3g
- **FOSPHENTYIN** 20 mg PE/kg IV/IM
Dosed in phenytoin equivalents (PE)
Infuse 3 mg PE/kg/min, max 150 mg PE/min

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If persistent seizures, add:

- **PHENOBARBITAL** 20 mg/kg IV
Give over 15-20 minutes
Significant respiratory suppression likely with use of benzos and barbs together

↓

ADDITIONAL CONSIDERATIONS

- **LABS:** δ-stik, CBC, Chem 12, ABG, β-HCG, Tox screens, anti-epileptic drug levels
- **FEVER:** tx w/ antipyretics. Empiric use of antibiotics will NOT hinder dx of meningitis
- **HYPOGLYCEMIA:** if adult, give thiamine 100 mg IV first
- **HEAD TRAUMA:** emergent head CT.

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If persistent seizures:

- **PENTOBARBITAL COMA**
Loading 5 mg/kg IV
Infuse 1 to 3 mg/kg/hr IV

HYPERKALEMIA

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graph TD
    CAB["CAB  
• Discontinue all IV infusions  
• Hyperventilate patient  
• 12-lead EKG, reconfirm with arterial lytes"]
    CG["CALCIUM GLUCONATE 10%  
60-100 mg/kg IV/IO  
Max 2-3 grams"]
    SB["SODIUM BICARBONATE 1 mEq/kg IV  
[adult 50-100 mEq/dose IV]  
Do not give at same time as Calcium"]
    AN["ALBUTEROL NEB (2.5 mg-5mg)"]
    G["GLUCOSE (D25 2-4 mL/kg IV)  
INSULIN (Reg. 0.1 units/kg IV [max 10 u])  
Push with glucose simultaneously  
Follow blood sugar"]
    H["If persistent hyperkalemia or symptoms:  
HEMODIALYSIS (most rapid tx)  
KAYEXALATE 1 gm/kg PO/PR q6hr prn  
[max 50 gm PO/PR]"]
    LABS["Notes  
LABS: CBC, Chem 7, ABG/VBG, serial EKG  
CONSIDER: lab error, exogenous (ingestion, IVF, TPN), renal failure, adrenal insufficiency, cell death (rhabdo, burn, tumor lysis), drug (digitalis, ACE-I), retroperitoneal hematoma.  
• Avoid succinylcholine as paralytic."]

    CAB --> CG
    CG --> SB
    SB --> AN
    AN --> G
    AN --> H
    G --> H
    H --> LABS
  
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CAB

- Discontinue all IV infusions
- Hyperventilate patient
- 12-lead EKG, reconfirm with arterial lytes

↓

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60-100 mg/kg IV/IO
Max 2-3 grams

↓

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[adult 50-100 mEq/dose IV]
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↓

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[max 50 gm PO/PR]

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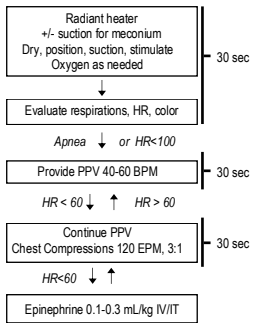
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• Avoid succinylcholine as paralytic.

MISCELLANEOUS

CONDITION	TREATMENT	NOTES
HYPOGLYCEMIA	Infant/Child: 0.5-1 g/kg IV/I/O D50 1-2 mL/kg D25: 2-4 mL/kg D10: 5-10 mL/kg Neonates: 0.2-0.4 g/kg IV/I/O D10: 2-4 mL/kg	- Defined as glucose less than 50 mg/ml - Obtain blood/urine samples if possible before tx for endocrine/metabolic analyses
HYPERTENSIVE EMERGENCY	Nitroprusside 0.3-0.5 mcg/kg/min Usual dose: 3-4 mcg/kg/min Labetalol 0.21 mg/kg/dose Max: 40 mg/dose Hydralazine 0.1-0.2 mg/kg/dose IV Max: 20 mg/dose	- Defined as life or organ-threatening; e.g. encephalopathy, ICP, heart failure, stroke, cerebral hemorrhage, pulm edema - Goal of tx: reduce BP only to stabilize sx; then reduce slowly over 3-4 days
ANAPHYLAXIS	Epinephrine SQ/IM: 0.01 mg/kg [maximum 0.5 mg] (0.01mg/kg of 1 mg/ml) Diphenhydramine 1-2 mg/kg IV [max 50mg] Methylprednisolone 1-2 mg/kg IV [max 125mg]	- Manage airway! - Consider racemic epi nebs (0.25-0.5 mL) - Consider famotidine PO/IV 0.5 mg/kg (max 20) **ONLY use IV epinephrine if hypotension/shock; otherwise use IM/SQ epi even if you have an IV in place!
REVERSAL AGENT (benzodiazepines)	Flumazenil 0.01 mg/kg IV [max 0.2 mg] Maximum total dose 1 mg	- Can repeat dose as needed to maintain reversal - Start dose low and titrate to effect
CROUP	Racemic epinephrine neb 0.25-0.5 mL Dexamethasone 0.6 mg/kg IV/IM (or PO)	- Solumedrol 2 mg/kg IV if dex not available - Can repeat epi nebs every 12-20 mins
ADRENAL INSUFFICIENCY (hypotensive Crisis)	Hydrocortisone 2-3mg/kg IV (max 100 mg)	- Consider for hypotension which is resistant to pressors - Draw baseline cortisol prior to giving hydrocortisone
DUCT-DEPENDENT HEART DISEASE	Prostaglandin E1 (Alprostadil) 0.05 to 0.1 mcg/kg/min infusion Dopamine infusion for persistent hypotension (see pressor table for dose) Bicarbonate 1 meq/kg for pH < 7.25	- Consider for cyanosis, shock with acidosis in 1st month of life - Watch apnea, hypotension with PGE1

NEONATAL RESUSCITATION

DELIVERY ROOM ALGORITHM



Consider intubation at each step

- Recheck effectiveness of ventilation, chest compressions, intubation, epinephrine delivery
- Consider hypovolemia, severe metabolic acidosis
- Consider depressed neuro drive, pneumothorax, airway malformations, CDH, congenital heart disease

Intubation Guidelines by Weight and Age				
BW (gm)	Wks	ETT	To lip	Blade
<1000	<27	2.5	6-7 cm	00
1000	27	2.5-3.0	7 cm	0
1500	31	3.0	7-8 cm	0-1
2000	33	3.0-3.5	8 cm	0-1
2500	35	3.5	8-9 cm	0-1
3000	37	3.5	9 cm	0-1
3500	40	3.5-4.0	10 cm	0-1

Drug/Therapy	Dose/kg	Wt	Volume	Method	Indication
Epinephrine 0.1mg/mL 1 mg/mL	0.01 to 0.03 mg/kg IV of 0.1mg/mL 0.1 mg/kg ET of 1mg/mL	1kg 2 kg 3 kg 4 kg	IV 0.1 - 0.3 mL 0.2 - 0.6 mL 0.3 - 0.9 mL 0.4 - 1.2 mL	Give IV push or ET (in 2-3 NS) Follow by 1 mL NS flush Do not give arterially Do not mix with bicarb Repeat q5 min PRN	Asystole Severe bradycardia
Na Bicarbonate 0.5 mEq/mL 4.2% soln	2 mEq/kg +	1 kg 2 kg 3 kg 4 kg	4 mL 8 mL 12 mL 16 mL	Give IV over 2 minutes Do not mix with epinephrine Do not mix with Ca, Phos Assure adequate ventilation	Metabolic acidosis
Naloxone 1 mg/mL	0.1 mg/kg	1 kg 2 kg 3 kg 4 kg	0.1 mL 0.2 mL 0.3 mL 0.4 mL	Give IV push, IM, SQ, or ET Repeat PRN x3 if no response Do not give if suspected maternal narcotic addiction Do not mix with bicarbonate	Narcotic- induced depression
Volume expand Normal saline O-neg blood	10 cc/kg	1 kg 2 kg 3 kg 4 kg	10 mL 20 mL 30 mL 40 mL	Give IV over 5-10 mins	Hypotension - intra-vascular volume loss
Cardioversion Defibrillation	0.5-1 J/kg (cardioversion) 2-4 J/kg (defibrillation)			Start at low dose, double for 2nd and subsequent attempts	Unstable VT, VF, unstable SVT
Dopamine	5-20 mCg/kg/min IV			Give as continuous infusion Monitor HR and BP	Hypotension - poor cardiac output

Rule of 6's

$\frac{6 \times (\text{kg}) \times (\text{mCg/kg/min})}{(\text{cc/hr})} = \frac{\text{mg of drug}}{\text{per 100 mL of solution}}$	$[0.6 \times \text{kg}] \text{ mg in 100 mL} \rightarrow 1 \text{ mL/h} = 0.1 \text{ mCg/kg/min}$
	$[60 \times \text{kg}] \text{ mg in 100 mL} \rightarrow 1 \text{ mL/h} = 10 \text{ mCg/kg/min}$

NOTE: This card contains guidelines and recommendations based on published information. It is not meant to be a comprehensive guide to therapy. Specific medications, doses, and techniques may be altered based upon patient condition. This card is to be used only by clinicians with appropriate experience and training.