

Rapid Sequence Intubation	
Preparation	Suction, airway equipment, monitor, check drug doses, oxygen
Pre-oxygenate	Administer 100% oxygen by non-rebreather mask for 5 minutes. Avoid positive pressure ventilation unless apneic.
Pretreatment drugs	Atropine (age < 1 year) 0.02 mg/kg IV/IM - min. 0.1 mg, max 1 mg
Induction (sedation) drugs	Etomidate 0.3 mg/kg IV
	Ketamine 1-2 mg/kg IV/IO
	Midazolam (Versed) 0.2-0.3 mg/kg IV/IM
	Propofol 1-2 mg/kg IV <i>Caution: avoid in hypotension or bradycardia</i>
Paralysis drugs	Rocuronium (preferred) 1 mg/kg (intermediate acting, lasts 60 min) IV/IO <i>Caution: difficult airway</i>
	Succinylcholine 1-2 mg/kg (fast acting, lasts 5 min) IV/IO <i>Caution: high ICP, neuro-muscular disease, hyperkalemia, risk for malignant hyperthermia, renal failure, burns > 48-72 hrs</i>
Protection & positioning	Cricoid pressure
Placement & proof	Confirm with CO2 detection, breath sounds, pulse oximetry, X-ray
Post-intubation sedation	Multiple options: Benzodiazepine +/- narcotic <i>Always sedate the intubated patient!</i>

Procedural Sedation	
Set-up	Suction, airway, monitor, oxygen, check drug doses, premedications
Pre-oxygenation	Administer 100% oxygen by non-rebreather mask for 5 minutes. Avoid positive-pressure BVM unless apneic
Medications	
Ketamine	1 mg/kg IV (then titrate 0.5 mg/kg), 4 mg/kg IM Premedicate: Ondansetron (0.15 mg/kg)
Propofol	1-2 mg/kg IV
Midazolam	0.2-0.3 mg/kg IV/IO
Fentanyl	1-2 mcg/kg IV/IM

Seizures	
Lorazepam	0.05-0.1 mg/kg/dose (max 4 mg) IV/IO Repeat q5 min prn seizures up to 8 mg total dose
Midazolam	0.1-0.2 mg/kg/dose (max 10 mg) IV/IO
Phenobarbital	15-20 mg/kg (max 1 g) IV loading dose (max rate 1 mg/kg/min, up to 60 mg/min) <i>Caution: respiratory depression, hypotension</i>
Fosphenytoin	15-20 mg/kg IV loading dose over 10-20 minutes
Valproic Acid	20-40 mg/kg IV/IO over 10-20 min (rate 3 mg/kg/min)

Equipment											
Age	Weight	Resp	Pulse	BP syst	ET tube size Uncuffed (U) Cuffed (C)	ET depth cm tip to tip	Laryngoscope blade	LMA	NG Tube (Fr)	Foley (Fr)	Chest Tube (Fr)
Premature	1-3 kg	<60	145	50-60	2.5-3.0 U	6 + wt.(kg)	0-1	1	5	5	10-12
Term NB	3-4 kg	<60	120	60	3.5 U	6 + wt.(kg)	1	1	5-8	5-8	12-18
1-6 mo.	4-6 kg	24-30	120	60	3.5-4.0 U/C*	12 cm	1	1-1½	8	8	12-18
6 mo-1 yr	6-10 kg		130	80	4.0 U/C*	12-13 cm	1	1½	8-10	8-10	14-20
1-2 yr	10-14 kg	20-24	120	90	4.0-4.5 U/C*	13-14 cm	2	2	8-10	10	16-20
2-4 yr	12-18 kg		120	100	4.5-5.0 U/C*	15 cm	2	2	10	10	20-24
4-6 yr	16-22 kg		100	100	5.0-5.5 U/C*	16 cm	2		10-12	10-12	20-32
6-8 yr	20-26 kg	12-20	100	105	5.5-6.0 C	17-18 cm	2	2½	12-14	12-14	24-32
10-12 yr	30-45 kg		75	115	6.5-7.0 C	20-21 cm	3	3	12-14	12-14	28-38
>14 yr	>50 kg	10-14	70	120	7.5-8.0 C	22-24 cm	3	3-4	12-14	12-14	28-38

* If choosing a cuffed ET tube for infants and children, use a size that is 0.5 to 1.0 smaller than the recommended uncuffed size
 * **Weight estimation:** (3 x age) + 7
 * Use cuffed tubes when available
 * Estimate of ET Depth = 3x size of tube

Antibiotics	
Antibiotics for severe infections: Sepsis/Meningitis in Children	
Ceftriaxone	50 mg/kg/dose (max 2 g) IV/IM/IO Meningitis: 100 mg/kg
Vancomycin	15 mg/kg/dose (max 2 g) IV
Neonatal Sepsis Antibiotics	
Ampicillin	50 mg/kg/dose (max 2 g) IV/IM Meningitis: 100 mg/kg
Cefotaxime	50 mg/kg/dose (max 2 g) IV
Acyclovir	20 mg/kg/dose (max 1 g) IV
Gentamicin	4 mg/kg/dose IV

Ingestions/Toxicity	
Drug	Dose
Activated Charcoal	0.5-1 g/kg/dose PO/NG (without sorbitol)
Naloxone (Narcan)	0.1 mg/kg (max 2 mg) IV/IO q2 min until reversal
Flumazenil (Romazicon)	0.01 mg/kg (max 0.2 mg) IV/IO q1 min until max 0.05 mg/kg (or 1 mg) total dose.

Respiratory Medications		
Inhaled Medications (Nebulized)		
Albuterol 0.083% Neb or Duoneb with Ipratropium (0.5 mg/3 mL)	2.5-5 mg (3 mL) nebulized x3 doses, or until effect	
Racemic Epinephrine dilute in 2 mL NS	0.25-0.5 mL inhaled x2 doses for stridor at rest	
Intravenous/Intramuscular Medications		
Magnesium	25-75 IV mg/kg (max 2 g) over 15 minutes	
Epinephrine 1:1000 IM	0.01 mg/kg (max 0.3 mg) q20 min x3 doses for refractory asthma	
Anti-inflammatory Medications		
Dexamethasone PO/IV/IM	0.6 mg/kg/dose (max 10 mg)	
Methylprednisolone IV/IO/IM	1-2 mg/kg/dose (max 250 mg)	
Prednisone PO	1-2 mg/kg/dose (max 60 mg)	

Basic Life Support	
- Compression-Airway-Breathing (C-A-B)	
- Compressions at least 100/min and <10 second interruptions	
- Place IO early - all IV medications can be given IO	

Fluid Resuscitation		
Bolus with NS	Maintenance Rates (Per Hour)	Blood Products
Neonate: 10 mL/kg Pediatric: 20-30 mL/kg up to 60 mL/kg in the first hour Diabetic Ketoacidosis (DKA): 10 mL/kg	D5 ½ NS 4 mL/kg for the 1st 10 kg + 2 mL/kg for the 2nd 10 kg + 1 mL/kg over 20 kg	pRBCs Infants: 15-20 mL/kg, Children: 1/2-1 unit, Adolescents: 1 unit

Increased Intracranial Pressure	
Drug	Dose
Hypertonic saline (3%)	3 mL/kg (range 2-5 mL/kg) bolus over 15-30 min
Mannitol	0.5-1 g/kg IV over 20 min (requires <5 micron filter)

Cardiac Electricity	
Defibrillation (VF and pulseless VT)	
Pediatric	Monophasic and Biphasic defibrillators Initial Energy: 4 J/kg Subsequent Doses: 4 J/kg; Third dose: 4-10 J/kg
Synchronized Cardioversion: (Unstable SVT, VT with pulse, Afib, Aflutter)	
Pediatric	Monophasic and Biphasic defibrillators Initial Energy: 0.5 J/kg Subsequent Doses: 1 J/kg

Advanced Life Support Medications	
Drug	Dose
Adenosine	0.1 mg/kg (max 6 mg) rapid IV/IO push in most proximal vein, then 5 mL saline flush. Repeat q2 min x2 doses: 0.2 mg/kg, then 0.3 mg/kg (max 12 mg for repeat doses). Record rhythm strip during administration.
Amiodarone	5 mg/kg (max 300 mg) rapid IV/IO push (PALS), or over 20-60 min (stable tachycardia). Repeat up to 3 doses (up to 15 mg/kg total dose).
Atropine	0.02 mg/kg IV/IM (min 0.1 mg, max 1 mg) q3-5 min, (max 3 mg total dose)
Calcium Chloride 10%	20 mg/kg (max 500 mg) slow IV/IO push or over 30 min if stable (dilute to 20 mg/mL in NS). <i>Caution: extravasation may occur</i>
Epinephrine 1:10,000	0.01 mg/kg = 0.1 mL/kg (max 1 mg) IV/IO push q3-5 min.
Dextrose	Infants: 5 mL/kg D 10W Pediatric: 2 mL/kg D 25W
Lidocaine	1 mg/kg (max 100 mg) IV/IO
Magnesium Sulfate	25-50 mg/kg (max 2 g) slow IV/IO push (PALS), or over 15 min if stable (dilute to 200 mg/mL) <i>Caution: hypotension</i>
Procainamide	15 mg/kg IV/IO over 30 min (dilute to 30 mg/mL in NS)
Sodium Bicarbonate 8.4%	1 mEq/kg IV/IO slow push (dilute to 0.5 mEq/mL in SWFI for neonates) <i>Caution: not routinely used in PALS, ensure adequate ventilation</i>
Alprostadil	0.05 mcg/kg/min IV/IO Consider for newborns in shock for patency of ductus arteriosus - titrate to minimum effective dose. <i>Caution: apnea</i>



PANDA
Pediatric and Neonatal
Doernbecher Transport

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Telemedicine — To Activate a NICU or PICU Consultation:
Call **503 494-7000** or **1-800-648-6478** and request a telemedicine consult. Move the RP-Lite to the patient's bedside and the OHSU physician will initiate the consult.

Every effort has been made to ensure that this information is accurate and in accordance with good medical practice. It is the responsibility of the attending physician to evaluate the appropriateness of a particular option in the context of the clinical situation with due consideration of your knowledge, skills, new developments and FDA regulations. ©2011 David Spiro, M.D., Garth Meckler, M.D., Denise Langley, R.N., Laura Ching, PharmD • Oregon Health & Science University, Department of Emergency Medicine
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