

# Pocket Anesthesia Reference Card

v4.2.21



Card design by providers from many institutions including:



Center for Health Equity in Surgery & Anesthesia  
chesa.ucsf.edu



Association of Anesthesiologists of Uganda

GENERAL KNOWLEDGE	
<b>Anesthesia/Pre-Induction Checklist – MSMAID</b> <i>Gelb et al 2018</i>	
<b>M Machine:</b>	<input type="checkbox"/> Complete standard machine check <input type="checkbox"/> Ensure backup ventilation and O2 available
<b>S Suction:</b>	<input type="checkbox"/> Confirm suction is available and working
<b>M Monitors:</b>	<input type="checkbox"/> Standard: Pulse Ox, BP, EKG, Capnography, Temp <input type="checkbox"/> Consider adjuncts: palpate pulse, auscultation, etc.
<b>A Airway:</b>	<input type="checkbox"/> Confirm appropriate plan and backup <input type="checkbox"/> Prepare mask, ETT/LMA, laryngoscope/blades, bougie, tape/tie <input type="checkbox"/> Optimize intubation positioning (sniffing, ramp)
<b>I IV:</b>	<input type="checkbox"/> Confirm adequate number & flow of IV's
<b>D Drugs:</b>	<input type="checkbox"/> Availability of standard & emergency meds
Always know who to call for help!	

NPO Guidelines (Hrs)			
Clears	2	Formula, milk, light meal	6
Breast Milk	4	Full meals	8

Average Blood Volume (ABV)			
Premature	90-100 ml/kg	1yo	75 ml/kg
Term	80 ml/kg	Adult	70 ml/kg

Allowable Blood Loss (ABL)	
Est blood volume (EBV) = Kg x Average Blood Volume (ABV)	
Allowable Blood Loss (ABL) = [EBV x (initial Hgb-final Hgb)]/initial Hgb	

Calculation of Drug Concentrations	
<b>Percentage solutions:</b> 100% solution = 1g/ml • To convert: multiply % by 10	<b>Ratio solutions:</b> Number before : = grams in solution. Number after : = mls in solution. • To convert ratio to g/ml divide grams by mls. • 1% solution = 1:100 = 10mg/ml • 0.005% = 1:200,000 = 0.005mg/ml or 5 mcg/ml

Maintenance Fluids - “4-2-1” Rule	
4 mL/kg/hr: each kg up to 10 kg	
2 mL/kg/hr: each additional kg to 20 kg	
1 mL/kg/hr: each additional kg > 20 kg	
Example: a 22 kg pt needs 40+20+2 = 62ml/hr)	

OBSTETRICS & OB EMERGENCIES <small>(Please see full OB pocket card for details)</small>	
<b>Hypertensive Disorders</b>	
<b>Pre-Eclampsia:</b> BP > 140/90 x2 ≥ 20 wks, proteinuria, +/- organ dysfunct. • Consider delivery • Prevent seizure: Mg 4-6 g IV over 15-20 min + 1-2 g/hr gtt for 24 hr post delivery (do NOT d/c in OR); (10 g IM load described if no PIV) • Tx severe HTN (SBP > 155, DBP > 105): 1 <sup>st</sup> line: Labetalol IV, hydralazine IV, nifedipine PO and no IV (others okay if 1st line unavailable) • Watch for Mg tox: ↓ DTRs, Resp/cardiac comp. Tx: CaCl 1g IV or CaGluc 1-3 g IV	
<b>Eclampsia:</b> Pre-E w/ Seizure • Goal: prevent hypoxia, trauma, additional seizures. • Tx HTN, eval for prompt delivery • LUD/full lateral, O2, airway, +/- ETT (If intubation: control BP to avoid cerebral hemorrhage) • IV Mg load & gtt, as above • If persistent/recurrent seizure: IV benzo (IM/IO okay) • If severe HTN, tx as above • Prepare for prompt delivery (NO neuraxial until rule out HELLP)	
<b>HELLP:</b> hemolysis, ↑ LFTs, ↓ plt • Tx: As above for seizure ppx, HTN, consider delivery (vaginal if able) • If active bleeding, consider plt transfusion • Prepare for delivery, likely GA if C-Section (Control BP to avoid cerebral hemorrhage)	

Post-Partum Hemorrhage	
<b>PPH EBL: Vaginal: &gt; 500 mL, C-section: &gt; 1000 mL</b> <b>4 T's:</b> Tone/atony, Thrombin/coags, Tissue/retained placenta, Trauma/artery lac	
<b>Oxytocin/Pitocin (Syntocinon)</b>	- Can be given: IM/IV/IO routes (WHO rec: 10 U IM/IV) - Do NOT bolus IV rapidly - Consider Rule of 3's: - Dose: 3 U load IV over 30 sec - Consider repeat 3 U doses q 3 min for total 3 doses - Infusion at 3 U/hr for up to 9 hr postop - COMMUNICATE w/ OB TEAM re: TONE q 3 min - SE: hypotension, N/V, coronary spasm <i>Kovacheva et al, Anesthesiology, 2015</i>
<b>Methyleterg ovine/Methergine</b>	- Dose: 0.2 mg IM; q 5-10 min max 2 doses, then q 2-4 hr - Avoid IV, but if IV, 0.2 mg/10 mL NS, give 2 mL q 1 min - Relatively contraindicated if GHTN, HTN, Pre-E - SE: HTN, seizures, HA, N/V, chest tightness
<b>Hemabate/Carboprost</b>	- Dose: 0.25 mg only IM or IU q 15-90 min, Max 2 mg/24 hr - Contraindicated in asthma - SE: N/V, flushing, bronchospasm, diarrhea
<b>Misoprostol/Cytotec</b>	- Dose: 600-1000 mcg buccal/PR (10 min onset) - SE: temp ↑ to ~ 38.1, N/V, diarrhea
<b>Tranexamic Acid/TXA</b>	- Consider for all PPH - Dose: 1 g IV over 10 min, repeat x 1 after 30 min prn
<b>Fibrinogen concentrate/RiaSTAP</b>	- Consider for PPH w/ confirmed/suspected low fibr state: (DIC, AFE, abruptio, major hemorrhage) - 2 g fibrinogen = 2 vials RiaSTAP = 2-4 U FFP = 10-20 cryo U - To ↑ fibrinogen 100 mg/dL, give 2-4 g fibrinogen conc
- Keep pt. warm - Don't forget CaCl - Consider IR for uterine artery embolization - Call for help	- Consider MTP, cell salvage - Consider POC testing/ROTEM - Syntometrine = oxytocin + ergometrine - Prepare for hysterectomy if bleeding still uncontrolled (↑IV access, consider airway)

OBSTETRICS & OB EMERGENCIES <small>(Please see full OB pocket card for details)</small>	
<b>Urgent or Emergent C-Section &amp; Emergent GA</b>	
<b>For all: Pre-induction checklist</b> • Call for help, take AMPLE Hx, IV access, NaCit, pulse ox, LUD. • Neuraxial preferred if time - plan determined by degree of urgency, communication w/OB team, resources, & pt. condition • If CS for fetal distress, ↑ O2 to baby: <b>SPOILT-Stop oxytocin, Position-LUD, O2, IV fluid, Low BP (give pressor), Tocolytics (terbutaline 250 mcg subQ, +/-NTG SL spray 400 mcg x2)</b>	
<b>For Emergent GA:</b> • <b>ENSURE OBs PREPPED AND DRAPED BEFORE INDUCTION</b> • Pre-oxygenate 4 breaths. RSI w/ cricoid: • Meds: Sux 1.5 mg/kg w/ either: propofol 2-3 mg/kg or etomidate 0.2 mg/kg or ketamine 1-2 mg/kg or thiopental 4-5 mg/kg • Once ETT placement verified, <b>INSTRUCT SURGEONS TO “CUT”</b> • <b>Until</b> cord clamp: High gas flow & 2 MAC. Try to avoid benzo/narcs • <b>After</b> cord clamp: 0.5 MAC + 70% N <sub>2</sub> O or TIVA. Benzo/narcs OK • When able: Timeout, Abx, OG, +/-NMB, +/- post-op TAP block or PCA	
<b>C-section Antibiotics</b> *Redose Cefazolin/Clinda if EBL > 1500ml • <b>Standard:</b> Cefazolin 2 gm IV (3 g if ≥ 120 kg) Q 4 hr • <b>PCN-allergic:</b> Clindamycin 900 mg IV q 6 hr & Gentamicin 5 mg/kg IV once • <b>High-risk (discuss w/ OB):</b> Cefazolin as above & Azithromycin 500 mg IV x 1 (Do NOT re-dose azithro & infuse over 1 hr, faster risks local IV site rxn)	

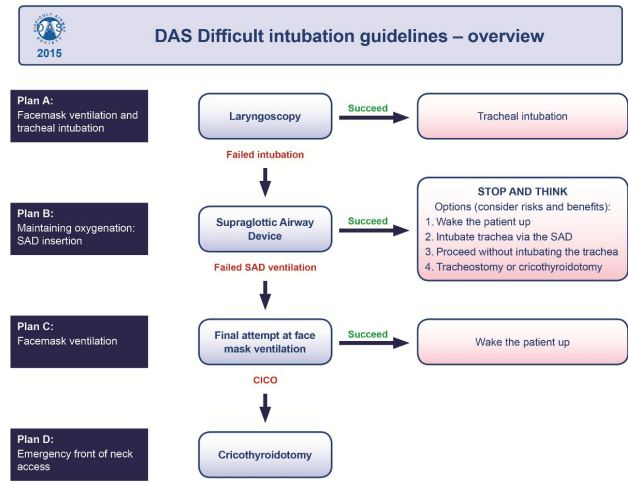
PEDIATRICS & NEONATES								
Normal Physiologic Parameters & Equipment								
AGE	KG	HR	MAP**	RR	LMA	Blade	ETT mm	ETT@ Lips
0-1mo	<1*	140's	30	<60	1	Miller 0	2.5	7 cm*
0-1mo	1-2*	140's	30's	<60	1	Miller 0	3.0	8 cm*
0-1mo	2-3*	130-140	30's	<60	1	Mil 0/Mil 1	3.5	9 cm*
0-1mo	>3	130-140	40's	<60	1	Mil 0/Mil 1	3.5-4.0	10 cm
1-6 mo	4-6	130's	50's	24-30	1-1.5	Mil1/Wis1.5	3.5-4.0	12 cm
6mo-1yr	6-10	130's	60's	22-26	1.5	Wis 1.5	4.0	13 cm
1-2 yr	10-12	120's	60's	20-24	2	Wis 1.5	4.5	14 cm
2-4 yr	12-16	110's	60's	18-22	2	Wis1.5/Mac2	5.0	15 cm
4-6 yr	16-20	90-110	70's	16-20	2	Mil 2/Mac2	5.5	16 cm
6-8 yr	20-30	90's	70's	16-20	2.5	Mil 2/Mac2	6.0	17 cm
9-12 yr	30-45	80	70-80's	12-18	3	Mil/Mac 2-3	6.5-7.0	18 cm
>14 yr	>50	75	70-80's	10-16	4	Mil/Mac 2-3	7.0	20-22

Neonatal & Peds General Estimates	
• The Neonatal “1-2-3(kg)/7-8-9(ETT@Lips) Rule” • For preterm & term newborns: MAP equals the # of weeks post conceptual age(PCA) • By day of life 5, MAP = # of weeks PCA + 5	• ETT Size: (Age/4) + 4 or 5th finger size • ETT Depth: [(Height in cm)/10] + 5 or 3 x ETT Size • Age + 11 cm at lip
Intraop Glucose for Infants and Neonates	
For any NPO infant < 6mo & recommended for infants that are:	
1. < 45 wks PCA*	5. On TPN or Glucose/D10
2. Premature/IUGR/SGA*	6. Suspected inborn errors of metabolism/TCA cycle
3. Septic, have fever or shock*	7. Having long procedures
4. Born to diabetic mothers*	
*will have higher glucose requirement	
Typical basal glucose requirement: 5-8 mg/kg/min. If in doubt, start at 5, adjust prn.	

NEURAXIAL ANESTHESIA			
Key Points			
<ul style="list-style-type: none"> <li>• Uses: C/S, Gyn, Uro, Abdo &amp; LE procedures</li> <li>• <b>High spinal is a significant cause of morbidity/mortality</b> → see emergencies</li> <li>• <b>Monitor BP q1-5 min before, during, &amp; after. Use standard monitors</b></li> <li>• Ensure adequate IV access, vasoconstrictors &amp; GA available</li> <li>• Consider preloading with IVF (Avoid in pre-eclampsia)</li> <li>• Consider starting vasopressor support at time of placement</li> <li>• Ensure aseptic technique for placement</li> <li>• Spread determined by: baricity, dose, volume, position, level of injection, ↓ CSF volume(↑ intra-abdominal pressure, pregnancy)</li> </ul>			
Contraindications to Spinal Anesthesia			
<ul style="list-style-type: none"> <li>• Coagulopathy: INR&gt;2, platelets &lt;80x10<sup>9</sup>/L). History of anticoag use &amp; bleeding</li> <li>• Sepsis and/or hypovolemia</li> <li>• Skin infection at injection site</li> <li>• Elevated ICP, indeterminate neurologic disease</li> <li>• Lack of emergency meds &amp; equipment</li> <li>• <b>Relative:</b> Infection away from injection site, unclear surgical duration</li> </ul>			
Hypotension in Spinal Anesthesia			
Most pts. receiving spinal anesthesia will need vasopressor support.			
Prevention	<ul style="list-style-type: none"> <li>• See contraindications</li> <li>• Bolus 500-1000ml IVF at time of placement &amp; consider preemptive phenylephrine gtt.</li> </ul>		
Signs:	<ul style="list-style-type: none"> <li>• AMS: confusion, agitation, somnolence, unconsciousness</li> <li>• Nausea, vomiting</li> <li>• Inability for BP cuff to read</li> <li>• Increased HR</li> </ul>		
Tx:	<ul style="list-style-type: none"> <li>• IV ephedrine 5-10mg or IV phenylephrine 50-100mg</li> <li>• Will likely need phenylephrine infusion</li> <li>• Pt positioning (left lateral + reverse trendelenburg)</li> </ul>		
Common Local Anesthetics for Spinal Anesthesia			
Procedure < 90 min	Chloroprocaine	~Dose, mg	~Duration
	Lidocaine 2%	40-60	w/ epi
	Lidocaine 5% (Avoid 2/2 TNS)	60-80	n/a
	Procaine	60-80	30-45
Procedure > 90 min	Bupivacaine 0.05% or 0.75% (iso or hyperbaric)	75-200	45
	Tetracaine 0.5%	60-75	60-70
Common Adjuncts for Spinal Anesthesia			
Epinephrine	0.1-0.2mg	Morphine	50-300mcg
Fentanyl	10-25mcg	Peak 2hr & 6-12hr: only for postop pain. Must monitor 24 hrs due to risk of delayed respiratory depression	
Clonidine (caution black box warning for maternal hypoTN and bradycardia)	30-60 mcg		
Common mix: 2.5-15 mg 0.5-0.75% hyperbaric bupiv +/- 10-15 mcg fentanyl +/- 100-150 mcg morphine +/- 50-100 mcg epinephrine			

Epidural		
Indication	Level	Drug and Dosing
Thoracic	T4-T7	PCEA (bolus/lockout/rate/hr limit) 0.1% bupiv 5 mL/10 min/8 mL/32 mL
Abdominal	T7-T12	PCEA (bolus/lockout/rate/hr limit) 0.1% bupiv 5 mL/10 min/8 mL/32 mL
Lower Abdominal, C-Sections, Lower-Extremity	L1-L5	PIB 0.0625-0.1% bupiv ± fentanyl 5-10 mL/30 min PCEA 5-10 mL/10-15 min

EMERGENCIES	
High Spinal & Total Spinal	
<b>Signs</b>	<ul style="list-style-type: none"> <li>• Numbness, paresthesia, or weakness of UE's</li> <li>• Rapid unexpected rise of sensory block</li> <li>• SOB, apnea, bradycardia, hypotension, or nausea/vomiting</li> <li>• Loss of consciousness (LOC = total spinal), Cardiac arrest</li> </ul>
<b>Tx</b>	<ul style="list-style-type: none"> <li>• Call for help &amp; code cart, inform team</li> <li>• If cardiac arrest: start CPR, refer to ACLS protocol</li> <li>• Support ventilation. Intubate if necessary</li> <li>• If significant brady or hypotension: 10mcg boluses epi, ↑prn, consider ACLS/pacing pads</li> <li>• If mild brady can try atropine, low threshold for epi</li> <li>• Give IV fluid bolus</li> <li>• IF PARTURIENT: LUD, alert OB, prepare for possible C/S, monitor fetal HR. If arrest, see ACLS in parturient</li> </ul>
Hyperkalemia Tx	Anaphylaxis Treatment
Medication	Dose
Calcium	0.5-1g CaCl
Bicarbonate	25-50mEq
Insulin Regular	5-10 units IV
Glucose (D50)	25-50gm IV
Kayexalate	15-50g PO
Albuterol	Puffs or neb PRN
Furosemide	40-80mg IV
<ul style="list-style-type: none"> <li>• Epinephrine: If cardiac arrest, 0.5-1.0 mg IV and begin ACLS. If hypotensive or bronchospasm, 10-50 mcg IV increments. 300mcg IM if no IV.</li> <li>• Open IV fluids, albuterol</li> <li>• Diphenhydramine 25-50mg IV, ranitidine 50mg IV</li> <li>• Hydrocortisone 100mg IV or methylprednisolone 125mg IV</li> </ul>	



Reproduced From: Difficult Airway Society 2015 guidelines for management of unanticipated difficult intubation in adults  
Frerik et al, *British Journal of Anaesthesia*, 2015

**Disclaimer:** This card is intended to be educational in nature and is not a substitute for clinical decision making based on the medical condition presented. It is intended to serve as an introduction to terminology. It is the responsibility of the user to ensure all information contained herein is current and accurate by using published references. This card is a collaborative effort by representatives of multiple academic medical centers.

MEDICATIONS*	
<b>ACETAMINOPHEN</b>	See Paracetamol
<b>ADENOSINE</b>	<i>Adult:</i> 6 mg IV push; then 12 mg IV q1min x2 PRN <i>Peds:</i> 0.1 mg/kg IV push (max 6 mg/dose), may repeat 0.2 mg/kg IV (max 12 mg/dose)
<b>ADRENALINE (EPINEPHRINE)</b>	<i>Adult:</i> Arrest: 1 mg q3-5min IV prn; ETT 2-2.5 mg q3-5min prn (dilute in 5-10 mL NS or sterile water) Anaphylaxis/Hypotension: 0.05 - 0.1 mg IV q5min prn; 0.2 - 0.5 mg IM q5min prn; Infusion: 0.5 - 20 mcg/min IV Racemic 2.25% solut. 0.5ml via neb <i>Peds:</i> Arrest: 10 mcg/kg IV (max 1 mg) q3-5min prn; 100 mcg/kg ETT q3-5 min prn Anaphylaxis: Children >6mo < 30kg: 10mcg/kg IM, >30kg then 300 mcg IM Severe Hypotension: 0.5-10 mcg/kg IV Infusion: 0.02 - 1 mcg/kg/min IV Racemic 2.25% solut. 0.25-0.5 ml via neb
<b>ALBUTEROL</b>	<i>Adult &amp; Peds:</i> (bronchodilation) Nebulized: 2.5 mg in 3mL every 20 min or continuous (5-20 mg/hr)
<b>AMIODARONE</b>	<i>Adult:</i> 150-300 mg IV (dependent on rhythm) then 1 mg/min x 6hrs, then 0.5 mg/min x 18hrs <i>Peds:</i> 5 mg/kg IV (max 300 mg) over 30 minutes, may repeat x2; Infusion: 5-15 mcg/kg/min IV
<b>ATRACURIUM</b>	<i>Adult &amp; Peds:</i> 0.4-0.5 mg/kg IV. (t½ = ~20 min)
<b>ATROPINE</b>	<i>Adult:</i> Arrest/Bradycardia: 0.5mg IV q3-5min max 3mg; ETT 1-2 mg q3-5min prn <i>Peds:</i> Arrest/brady: 0.02 mg/kg (max 0.5mg) IV,repeat x 1 q5min prn; ETT 0.04-0.06 mg/kg; repeat x 1 prn
<b>CALCIUM CHLORIDE</b>	<i>Adult:</i> Arrest, CCB toxicity: 1-2 gm IV slowly; repeat q10min prn <i>Peds:</i> Arrest, CCB toxicity: 20 mg/kg IV (max 2 gm); repeat q10min prn
<b>CARBOPROST (HEMABATE)</b>	<i>Adult:</i> 250 mcg IM, repeat q15min prn. Max 2 mg. (See PPH for full details)
<b>CISATRACURIUM</b>	<i>Adult:</i> 0.1-0.2 mg/kg IV. (t½ = ~ 25 min); Infusion 0.5 - 10 mcg/kg/min IV <i>Peds:</i> 0.1-0.15 mg/kg IV; Infusion 0.5-4 mcg/kg/min IV
<b>CODEINE</b>	<i>Adult:</i> 15-60 mg PO/IM/SQ; repeat q4h prn <i>Peds***:</i> not recommended in children < 12 yo
<b>DANTROLENE</b>	<i>Adult &amp; Peds:</i> 2.5 mg/kg IV, repeat 1 mg/kg prn (max of 10 mg/kg) (see MH protocol)
<b>DEXMEDETOMIDINE</b>	<i>Adult &amp; Peds:</i> Load: 0.5 -1 mcg/kg IV (over 10 min), Infusion: 0.2-1.5 mcg/kg/hr IV
<b>DEXAMETHASONE</b>	<i>Adult &amp; Peds:</i> Airway edema: 0.5 mg/kg IV q6h PONV: Adults 4-8 mg IV; Peds 0.1 mg/kg IV
<b>DIAZEPAM</b>	<i>Adult:</i> 5-10 mg IV <i>Peds:</i> 0.2-0.3 mg/kg IV
<b>DICLOFENAC</b>	<i>Adult:</i> 50-100 mg PO <i>Peds:</i> 0.5 mg/kg IV/IM, 1 mg/kg PO/PR
<b>DIPHENHYDRAMINE</b>	<i>Adult:</i> 25-50 mg IV/IM/PO q4-6 hours <i>Peds:</i> 0.5-1 mg/kg IV q 4-6 hours; Max 50 mg
<b>DOBUTAMINE</b>	<i>Adult &amp; Peds:</i> 0.5-20 mcg/kg/min IV Infusion

MEDICATIONS*	
<b>DOPAMINE</b>	<i>Adult &amp; Peds:</i> 0.5-20 mcg/kg/min IV Infusion
<b>EPINEPHRINE</b>	See Adrenaline
<b>EPHEDRINE</b>	<i>Adult:</i> 5 - 10mg IV prn <i>Peds:</i> 0.1-0.2 mg/kg (max 25 g/dose) IV prn
<b>ERGOMETRINE</b>	<i>Adult:</i> 0.5 mg IV/IM slow
<b>ESMOLOL</b>	<i>Adult &amp; Peds:</i> Bolus: 0.5 mg/kg IV prn; Infusion: 50-300 mcg/kg/min IV
<b>ETOMIDATE</b>	<i>Adult &amp; Peds:</i> 0.2-0.3 mg/kg IV
<b>FENTANYL</b>	<i>Adult:</i> Analgesia: 25-100 mcg IV prn; Infusion 25-200 mcg/hr (or higher) <i>Peds:</i> Analgesia: 0.5-1 mcg/kg IV prn; 1-2 mcg/kg intranasal prn; Infusion: 0.5-5 mcg/kg/hr IV
<b>GLYCOPYRROLATE</b>	<i>Adult:</i> Reversal: 0.1-0.2 mg IV <i>Peds:</i> Reversal: 0.015 mg/kg IV; Antisialogogue: 4 mcg/kg IM
<b>HYDRALAZINE</b>	<i>Adult:</i> 10-20 mg IV <i>Peds:</i> 0.1-0.2 mg/kg IV
<b>HYDROCODONE</b>	<i>Adult:</i> 20-40 mg PO <i>Peds:</i> 0.2 mg/kg PO
<b>HYDROCORTISONE</b>	<i>Adult:</i> 100 mg IV, Stress Dose 50 mg IV q6hr <i>Peds:</i> (stress dose) 1-2 mg/kg IV
<b>HYDROMORPHONE</b>	<i>Adult:</i> 0.5-2 mg IV prn <i>Peds:</i> IV: 5-10 mcg/kg IV prn PO/PR: 50-80 mcg/kg q3-6h prn
<b>INTRALIPID</b>	<i>Adult &amp; Peds:</i> LAST: 1.5 mL/kg followed by infusion 0.25 mL/kg/min up to 0.5 mL/kg/min (see LAST protocol); use ideal body weight; NTE 12 ml/kg in peds
<b>KETAMINE</b>	<i>Adult:</i> Induction: 0.5-2 mg/kg IV, 4-10 mg/kg IM; Analgesia: 0.2-0.8 mg/kg IV; 2-4 mg/kg IM; Infusion 2-15 mcg/kg/min IV <i>Peds:</i> Induction: 2-3 mg/kg IV, 5-8 mg/kg IM, 5-10 mg/kg PR; Analgesia: 0.2-0.5 mg/kg IV, 2-4 mg/kg IM, Infusion: 2-10 mcg/kg/min IV
<b>KETOROLAC</b>	<i>Adult:</i> 30-60 mg IV/IM, then 15-30 mg IV/IM q6h prn <i>Peds:</i> 0.5 mg/kg (max 30 mg) IV q6h prn; 1 mg/kg IM
<b>LABETALOL</b>	<i>Adult:</i> 10-20 mg IV, double dose q15min prn to max 300mg; infusion 0.5-2 mg/min (or higher) <i>Peds:</i> 0.1 mg/kg IV q5-10min
<b>LIDOCAINE</b>	<i>Adult:</i> Arrest: 1-1.5 mg/kg IV, 0.5-0.75 mg/kg q5-10ming prn (max 3 mg/kg), ETT 2-3.75 mg/kg, infusion 1-4 mg/min; Analgesia: 1-2 mg/kg IV, infusion: 0.5-3 mg/kg/hr IV <i>Peds:</i> Arrest: 1 mg/kg IV, repeat x1 prn, ETT 2-3 mg/kg infusion 20-50 mcg/kg/min IV; Analgesia: 1 mg/kg IV, infusion: 1.5-2 mg/kg/hr IV
<b>LORAZEPAM</b>	<i>Adult:</i> 1-4 mg IV prn <i>Peds:</i> 0.1 mg/kg IV prn (max 4 mg/dose)
<b>MAGNESIUM SULFATE</b>	<i>Adult:</i> Asthma: 2 gm IV over 20 min; Eclampsia/preeclampsia: Load 4-6 gm IV, infusion 1-2 gm/hr IV; TdP: 1-2 gm IV, infusion 0.5-1 gm/hr IV <i>Peds:</i> Asthma: 25-75 mg/kg (max 2 gm) IV over 20min; TdP: 25-50 mg/kg/dose (max 2 gm) IV

MEDICATIONS*	
<b>MEPERIDINE</b>	See Pethidine
<b>METARAMINOL</b>	<i>Adult &amp; Peds:</i> 0.5 mg IV bolus, repeat q2-3min prn (avoid in children <12)
<b>METHADONE</b>	<i>Adult:</i> Analgesia: 2.5-10 mg PO/IM/IV/SQ (based on opioid tolerance), repeat q8-12hr prn; <i>Peds:</i> Analgesia: 0.05-0.1 mg/kg PO/IM/IV/SQ; (t½ = 18-24 hrs)
<b>METHOHEXITAL</b>	<i>Adult:</i> Induction: 1-1.5 mg/kg IV <i>Peds:</i> Induction: 1-3 mg/kg IV, 20-30 mg/kg PR
<b>METHYLERGONOVINE/ METHERGINE</b>	<i>Adult:</i> 0.2 mg IM; repeat q 5-10min max 2 doses (See PPH for full details)
<b>METHYLPREDNISOLONE</b>	<i>Adult:</i> Asthma: 40-80mg IV; Anaphylaxis: 125mg IV <i>Peds:</i> Asthma: 1mg/kg IV; Anaphylaxis: 1-2mg/kg IV
<b>METOCLOPRAMIDE</b>	<i>Adult:</i> 10-20 mg IV/PO, repeat 5-10 mg q6hr prn <i>Peds:</i> 0.1-0.15 mg/kg IV/PO q6hr prn
<b>MIDAZOLAM</b>	<i>Adult:</i> 0.5-4 mg IV <i>Peds:</i> 0.1-0.2 mg/kg IV, 0.5 mg/kg PO/PR
<b>MISOPROSTOL</b>	<i>Adult:</i> 1mg PR
<b>MORPHINE SULFATE</b>	<i>Adult:</i> 2.5 - 10 mg IV/IM <i>Peds:</i> 0.05-0.1 mg/kg IV/IM
<b>NALOXONE</b>	<i>Adult:</i> Excessive sedation: 0.02-0.2 mgq4-8 ; Opioid overdose: 0.1-2 mg IV/IM q2-3min prn, 2 mg nebulized, 4 mg intranasal <i>Peds:</i> Excessive sedation: 0.5-1 mcg/kg IV q2-3min prn; Opioid overdose: 10 mcg/kg IV/IM q2-3min prn; 4 mg intranasal
<b>NEOSTIGMINE</b>	<i>Adult &amp; Peds:</i> 0.03-0.07 mg/kg IV (max 5 mg) Add atropine IV 0.5-1 mg (adults), 20 mcg/kg (peds) or glycopyrrolate (see 'glycopyrrolate')
<b>NITROGLYCERIN</b>	<i>Adult:</i> Infusion: 10-200 mcg/min IV <i>Peds:</i> 0.5-20 mcg/kg/min IV Infusion IV
<b>NOREPINEPHRINE</b>	<i>Adult:</i> Infusion: 0.05-2 mcg/kg/min or 0.5-20 mcg/min IV <i>Peds:</i> Infusion: 0.05-2 mcg/kg/min IV
<b>ONDANSETRON</b>	<i>Adult:</i> 4-8 mg IV, repeat q4-8hr prn <i>Peds:</i> 0.15 mg/kg IV; repeat q6-8hr prn
<b>OXYCODONE</b>	<i>Adult:</i> 5-15 mg (or higher depending on opioid tolerance), repeat q3-4hr prn <i>Peds:</i> 0.1 mg/kg PO; repeat q3-4hr prn
<b>OXYTOCIN (PITOCIN)</b>	<i>Adult:</i> 3 U load IV over 30 sec, consider repeat dosing and infusion (See PPH for full details)
<b>PANCURONIUM</b>	<i>Adult:</i> 0.04-0.1 mg/kg IV <i>Peds:</i> 0.05-0.15 mg/kg IV. (t½ = ~110 min)
<b>PARACETAMOL (ACETAMINOPHEN)</b>	<i>Adult:</i> 500-1000 mg IV/PO, repeat q4-6 prn (max 2-4 gm/day) <i>Peds:</i> PO/IV: 10-15 mg/kg, repeat q6h prn, PR: 40 mg/kg x 1, Max: 75 mg/kg/24 hour
<b>PETHIDINE (MEPERIDINE)</b>	<i>Adult:</i> Shivering/Analgesia: 12.5-50 mg IV <i>Peds:</i> 0.5-1 mg/kg IV, max 400 mg daily
<b>PHENOBARBITAL/ PHENOBARBITONE</b>	<i>Adult &amp; Peds:</i> Status epilepticus: 15-20 mg/kg IV, may repeat 5-10 mg/kg in 10min prn x 1

MEDICATIONS (All IV drugs can be given IO)	
<b>PHENYLEPHRINE</b>	<i>Adult:</i> 40-100 mcg IV q1-2min prn; Infusion 10-200 mcg/min
<b>PITOCIN</b>	See Oxytocin
<b>PROCHLORPERAZINE</b>	<i>Adult:</i> 5-10 mg IV/IM/PO q3-6 hrs prn (max 40 mg/day) <i>Peds:</i> 0.1-0.15 mg/kg PO/IM/IV q6-8h prn (max 10 mg/dose)
<b>PROMETHAZINE</b>	<i>Adult:</i> 12.5-25 mg PO/PR q4-6hr prn <i>Peds:</i> 0.2-0.5 mg/kg PO/PR q6-8h Max 25 mg/dose (do not give if < 2 yo)
<b>PROPOFOL</b>	Induction: Dose variable, Adults: 1-2.5 mg/kg, Children 2-4 mg/kg Infusion: 10-250 mcg/kg/min
<b>RANITIDINE</b>	<i>Adult:</i> 50 mg IV; 150-300 mg PO <i>Peds:</i> 1 mg/kg IV; 2.5 mg/kg PO
<b>REMIFENTANIL</b>	<i>Adult &amp; Peds:</i> Bolus: 0.5-1 mcg/kg IV; Infusion: 0.05-0.5 mcg/kg/min IV
<b>ROCURONIUM</b>	<i>Adult:</i> 0.6-1.2 mg/kg IV (t½ = ~60 min) <i>Peds:</i> 0.9-1.2 mg/kg IV
<b>SCOPOLAMINE</b>	<i>Adult &amp; Adolescents:</i> 1 patch q72hr <i>Peds:</i> 6 mcg/kg IV (max 0.3 mg)
<b>SODIUM CITRATE (Bicitra)</b>	<i>Adult:</i> 15-30mL PO q6h prn <i>Peds</i> ≥ 2 yo: 1-1.5 mL/kg q6-8h prn (max 30 mL/dose)
<b>SODIUM BICARBONATE</b>	<i>Adult:</i> 50-100 mEq IV prn (1"Amp" of 50 mL 8.4% = 50 mEq) <i>Peds:</i> 1-2 mEq/kg IV
<b>SUCCINYLCHOLINE/ SUXAMETHONIUM</b>	<i>Adult:</i> (induction) 0.6 - 2 mg/kg IV (high end for RSI) IM: 3-4 mg/kg; Max 5 mL at injection site (t½ = ~6-8 min) <i>Peds:</i> 1-2 mg/kg IV; 3-4 mg/kg IM
<b>SUFENTANIL</b>	<i>Adult:</i> Analgesia: 0.5-2 mcg/kg IV Infusion: 0.05-2mcg/kg/hr
<b>SUGAMMADEX</b>	<i>Adult:</i> 2 TOF Twitches: 2 mg/kg; 0 TOF, 1-2 PTC: 4 mg/kg; Immediate emergent reversal : 16 mg/kg
<b>TERBUTALINE</b>	<i>Adult:</i> (tocolysis) 5-10 mcg/kg IV q15 min (max 250 mcg)
<b>THIOPENTAL/ THIOPENTONE</b>	<i>Adult:</i> (induction) 3-6 mg/kg
<b>TRAMADOL</b>	<i>Adult:</i> 25-100 mg PO q4-6h prn <i>Peds:</i> not recommended in children < 12 yo
<b>TRANEXAMIC ACID</b>	<i>Adult:</i> 1 g IV over 10 min, repeat x 1 after 30 min prn
<b>VASOPRESSIN</b>	<i>Adult:</i> (shock) 0.03 - 0.05 units/minute drip <i>Peds:</i> (shock) Infusion: 0.0002-0.002 units/kg/min IV
<b>VECURIONIUM</b>	<i>Adult &amp; Peds:</i> (induction) 0.1 mg/kg IV (t½ = ~ 65 min) 0.8-1.7 mcg/kg/min drip

MEDICATIONS (All IV drugs can be given IO)			
Antibiotics for surgical ppx – dose & interval (all IV unless otherwise noted)			
Antibiotic	Peds/Wt. Based	Adult	Interval
Amoxicillin PO	50 mg/kg		
Ampicillin	25-50 mg/kg	2 g	Q2H
Amp/Sulbactam	25-37.5 mg/kg	3 g	Q2H
Cefazolin	25-50 mg/kg	2 g, 3 g if > 120kg	Q4H
Cefotaxime	50 mg/kg	1 g	Q3H
Cefotetan	25 mg/kg		Q12H
Cefoxitin	20-40 mg/kg		Q6-8H
Ceftriaxone	50-75 mg/kg	2 g	Q12-24H
Cefuroxime	25-50 mg/kg		Q6H
Cephalexin IV/PO	50 mg/kg		
Ciprofloxacin	10 mg/kg		Q12H
Ciindamycin	10 mg/kg	900mg	Q6H
Gentamicin	1.5mg/kg		Q8-12H
Nafcillin	25-50 mg/kg	2 g	Q6H
Ornidazole	20 mg/kg (over 2 doses, each over 30 min)	500-1000 mg over 30 min	
Oxacillin	25 mg/kg		Q6H
Piperacillin/Tazo	37.5-75 mg/kg	3.375 g	Q2H
Vancomycin	10-15 mg/kg	1 g, 1.5 g if > 80kg	

Local Anesthetics						
Note:	Onset	~ Duration (hrs)			Toxic Dose mg/kg	
		Spinal	Epidural	Local	Plain	w/Epi
Lidocaine (Lignocaine)	Fast	1-1.5	2-3	1-3	4.5	7
Bupivacaine	Mod	1.5-2.5	3-4	4-12	2.5	3
Ropivacaine	Mod	1.5-2.5	3-4	9-11	2.5	2-3
Mepivacaine	Mod		2-3.5	2-3	4	7
Prilocaine	Fast		1-3	1.5-3	6	9
Chloroprocaine	Fast	0.5-1	1-1.5		11	14
Procaine	Fast	0.5-1.5	0.5-1.5	0.5-1	8	14
Tetracaine	Slow	1-4	3-5	6	1-1.5	2.5

Inhalational Anesthetics, MAC% by age					
	Neonate	Infant	Child	Adult	> 60yr
Halothane	0.87	1.2	0.95	0.75	0.6
Enflurane	-	-	-	1.7	1.4
Isoflurane	1.6	1.87	1.6	1.2	1.05
Sevoflurane	3.3	3.0	2.5	2.1-2.6	1.5
Desflurane	9.2	10.0	8.1	6-7.3	5.2
Nitrous Oxide				105	