



**CHILDREN'S HOSPITAL  
LONDON HEALTH SCIENCES CENTRE**

**Dosing Guidelines for  
Drugs used in the  
Paediatric Critical Care Unit**

**2009 Edition**



## DOSING GUIDELINES FOR DRUGS USED IN THE PAEDIATRIC CRITICAL CARE UNIT

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INTENDED FOR USE IN THE PAEDIATRIC CRITICAL CARE UNIT (PCCU),  
CHILDREN'S HOSPITAL, LONDON HEALTH SCIENCES CENTRE,  
LONDON, ONTARIO.

Intended only to serve as a guide; current literature sources and Paediatric  
Pharmacists should be consulted for further information.

**NOTE:** When treating patients with liver and/or kidney impairment consult  
further references for possible dosage adjustments.

### Legend

A	Adult
N	Neonate-doses apply to newborn infants until post-conceptual age >38 weeks and post-natal age of >4 weeks
C	Child
I	Infant
ETT	Endotracheally
Inh	Inhalation
IM	Intramuscular
IO	Intraosseus
IV	Intravenous
PNA	Post natal age
po	Oral
pr	Rectal
Renal dose adjust	Dose requires adjustment in renal insufficiency consult other references
sc	subcutaneous

**Intended for use in the Paediatric Critical Care Unit (PCCU)  
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DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
acetaminophen	N, I, C	10-15 mg/kg/dose <b>Max. dose N 60 mg/kg/day</b> <b>max. dose I,C 75 mg/kg/day or 4 gm/day whichever is less)</b>	po/pr q4-6h
acetazolamide IV-SAP product renal dose adjust	I, C Diuretic Urinary alkalinization Decrease CSF production	5mg/kg/dose 5 mg/kg/dose 5 mg/kg/dose (↑ by 25 mg/kg/day to max. 100 mg/kg/day)	po, IV q24h po, IV q8-12h po, IV q6h
acetylsalicylic acid (ASA)	I, C <b>JRA, pericarditis, Rheumatic fever Kawasaki disease</b> Acute Maintenance <b>Antiplatelet</b>	60-100 mg/kg/day 80-100 mg/kg/day 3-5 mg/kg/day 3-5 mg/kg/day (max. 325 mg/day)	po div q6h po div q6h po q 24h po q24h
acyclovir dose IBW renal dose adjust	N Neonatal HSV  I, C <b>HSV encephalitis</b> 1 mo-12 yr > 12y  <b>HSV – immunocompromised</b> Treatment  Prophylaxis  <b>Varicella-Zoster immunocompromised</b> <1 year ≥ 1 year  <b>Immunocompetent</b>  <b>Zoster- immunocompetent</b> ≥ 12 years  <b>CMV prophylaxis-immunocompromised</b>	60 mg/kg/day  60 mg/kg/day 30 mg/kg/day  15-30 mg/kg/day 80 mg/kg/day (max. 1000 mg/day)  600-1000 mg/day (max. 80 mg/kg/day)  30 mg/kg/day 1500 mg/m <sup>2</sup> /day or 30 mg/kg/day 80 mg/kg/day  4000 mg/day  1500 mg/m <sup>2</sup> /day 800-3200 mg/day (max 80 mg/kg/day)	IV div q8h  IV div q8h IV div q8h  IV div q8h po div 3-5 x /day  po div 3-5 x /day  IV div q8h IV div q8h  po div q6h  po div 5 x/day  IV div q8h po div q6-24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
adenosine	N	0.05 mg/kg increase by increments 0.05 mg/kg/dose to max 0.25 mg/kg/dose	IV, IO
	I, C	0.1 mg/kg/dose (max. 6mg) followed by 0.2 mg/kg (max. 12 mg) in 1-2 min prn	IV, IO
Aldactazide (hydrochlorothiazide/spironolactone)	I, C	2-4 mg/kg/day	po div q6-12h
allopurinol  renal dose adjust	C≤ 10	10 mg/kg/day or 200-300 mg/m <sup>2</sup> /day (max 800 mg/day)	po div q8-12h po div q6-12h
	C>10, A	600-800 mg/day	po div q8-12h
alprostadil	I, C	0.05-1.0 mcg/kg/min  may reduce dose to 0.025 mcg/kg/min by titrating to the patency of patent ductus arteriosus	IV
alteplase	Blocked catheter ≤ 10 kg	0.5 mg diluted in NS to volume required to fill lumen	Leave in lumen 2-4 hours then remove
	≥ 10 kg	1mg/ml (amount required to fill volume of lumen) <b>(max. 2 ml)</b>	
amiodarone	PALS dose Pulseless VT/VF Perfusing tachycardia	5 mg/kg 5 mg/kg (may repeat to max. 15 mg/kg or 300 mg)	IV,IO rapid IV over 20-60 min
		PSVT	5mg/kg followed by 5-10 mcg/kg/min
		LD:10 mg/kg/day MD: 5.0 mg/kg/day	po div q12-24h(x 7- 10 days) po div q24h
amlodipine	I, C  Initial dose Maintenance	0.1 mg/kg/day 0.1-0.3 mg/kg/day	po div q24h po div q24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
amoxicillin renal dose adjust	N, I  I>3 months, C <b>Acute otitis media</b>  <b>Apslenic prophylaxis</b> (up to 5 years of age)	20-30 mg/kg/day  25-50 mg/kg/day 80-90 mg/kg/day  20 mg/kg/day	po div q12h  po div q8h po div q8h  po div q12h
amoxicillin clavulanate (Clavulin) renal dose adjust  limit clavulanate dose 10 mg/kg/day in children  <b>dosing recommendations based on 4:1 formulation for N, I&lt; 3 mo 7:1 formulation for I&gt;3mo, C Tablets for C&gt;40kg, A</b>	N, I, < 3 mo (4:1 formulation)  I>3 mo, C<40kg (7:1 formulation)  C>40 kg, A	30 mg amoxicillin/kg/day  25-45 mg amoxicillin/kg/day 80-90 mg amoxicillin/kg/day  250-500 mg/ <b>dose</b> (as 500 mg tabs)	po div q12h  po div q12h  po div q8-12h  po q8h
amphotericin B liposomal	I, C, A	3 mg/kg/day	IV div q24h
ampicillin renal dose adjust	N PNA < 7 days <2 kg <b>meningitis</b>  >2 kg <b>meningitis</b> <b>Group B streptococcus</b>  N PNA >7 days <2 kg <b>meningitis</b>  > 2 kg <b>meningitis</b> <b>Group B streptococcus</b>  I, C <b>meningitis</b>	50 mg/kg/day 100 mg/kg/day  75 mg/kg/day 150 mg/kg/day 200 mg/kg/day  75 mg/kg/day 150 mg/kg/day  100 mg/kg/day 200 mg/kg/day 300 mg/kg/day  100-200 mg/kg/day 200-400 mg/kg/day (max. 12 g/day)	IV div q12h IV div q12h  IV div q8h IV div q8h IV div q8h  IV div q8h IV div q8h  IV div q6h IV div q6h IV div q6h  IV div q6h IV div q6h



DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
atropine	I, C, A	0.02 mg/kg/ <b>dose</b>  min dose 0.1 mg max. single dose: child 0.5 mg adolescent 1 mg  max. total dose child 1 mg adolescent 2 mg  0.03 mg/kg	IV, IO       ETT
azithromycin	I < 6 mo <b>Pertussis</b>  C ≥ 6 mo  Day 1  Day 2-5  Adolescents ≥ 16 years, A Day 1 Day 2-5	10 mg/kg/day  10 mg/kg/day max. 500 mg  5 mg/kg/day max. 250 mg  500 mg 250 mg	po div q24h x 5 days  po, IV once  po, IV div q24h  po, IV once po, IV div q24h
baclofen	C 2-7 years Initial dose  ≥ 8 years  A	10-15 mg/ day titrate dose q3days in increments of 5-15 mg/day (max. 40 mg/day)  titrate as above (max. 60 mg/day)  5 mg/ <b>dose</b> may increase by 5 mg/dose q3 days (max. 80 mg/day)	po div q8h  po div q8h  po q8h
budesonide	I,C  Severe acute asthma Maintenance  A  Severe acute asthma Maintenance	500-1000 mcg/ <b>dose</b> 250-500 mcg/ <b>dose</b>  1000-2000 mcg/ <b>dose</b> 500-1000 mcg/ <b>dose</b>	Inh q12h Inh q12h  Inh q12h Inh q12h
caffeine	N  Loading dose  Maintenance	10 mg caffeine base/kg 2.5 mg caffeine base/kg/day	IV, po  IV, po div q24h
calcium carbonate  suspension provides 80 mg elemental Ca/ml 2mmol elemental Ca/ml	N  C	50-150 mg elemental Ca/kg/day  45-65 mg elemental Ca/kg/day	po div q6h  po div q6h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
calcium chloride  calcium chloride 10%: 27.2 mg elemental Ca/ml 0.68 mmol elemental Ca/ml	Resuscitation  N, I, C  A	Dose expressed mg calcium chloride  20 mg/kg (0.2 ml/kg) max. dose 1g  500-1000 mg (5-10 ml)	  IV, IO  IV
calcium gluconate  calcium gluconate 10% 100 mg Ca gluconate/ml 9 mg/ml elemental Ca/ml 0.23 mmol elemental Ca/ml	<b>Hypocalcemia</b> N initial Maintenance  I,C  A	Dose expressed mg calcium gluconate  50-200 mg/kg/ <b>dose</b> 200-800 mg/kg/day  200-500 mg/kg/day  1-2 g 2-15 g	  IV IV as continuous infusion or div q6h  IV as continuous infusion or div q6h  IV single dose IV continuous infusion or div doses
captopril	N  I,C  <b>Hypertension</b>  <b>Congestive Heart Failure</b>	0.05-0.1 mg/kg/ <b>dose</b> max 0.5 mg/kg/dose  0.1-0.3 mg/kg/ <b>dose</b> max. 2 mg/kg/dose  0.1 mg/kg/ <b>dose</b> max 1 mg/kg/dose	po q8h  po q8h  po q8h
carbamazepine	I,C Initial Maintenance dose	10 mg/kg/day 20-30 mg/kg/day  max. dose: < 6 years- 35 mg/kg/day 6-15 years- 1000 mg/day > 15 years- 1200 mg/day	po div q12-24h po div q6-12h
carvedilol	I,C Initial dose  Maintenance dose	0.01 mg/kg/ <b>dose</b>  0.1-2 mg/kg/day	  po div q12h
caspofungin	C Loading dose  Maintenance dose	70 mg/m <sup>2</sup> (max. 70 mg) 50 mg/m <sup>2</sup> /day (max. 50 mg)	IV  IV div q24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
cefazolin renal dose adjust	N <2kg ≥ 2kg 0-7 days >7 days  I,C	40 mg/kg/day 40 mg/kg/day 60 mg/kg/day  100-150 mg/kg/day max. 6 gm/day	IV div q12h IV div q12h IV div q8h  IV div q8h
cefotaxime renal dose adjust	N ≤ 2 kg ≤ 7 days > 7 days > 2 kg ≤ 7days > 7 days  I, C < 50 kg moderate-severe <b>meningitis</b> <b>pneumococcal meningitis</b>  > 50kg moderate-severe <b>life-threatening</b>	100 mg/kg/day 150 mg/kg/day  100-150 mg/kg/day 150-200 mg/kg/day  100-200 mg/kg/day 200 mg/kg/day 300 mg/kg/day  1-2 gm/ <b>dose</b> 2 gm/ <b>dose</b> ( max. 12 g/day)	IV div q12h IV div q8h  IV div q8h IV div q6h  IV div q6-8h IV div q6h IV div q6h  IV q6-8h IV q4-6h
ceftazidime renal dose adjust	N < 2 kg ≤ 7 days > 7 days ≥ 2 kg ≤ 7 days > 7 days  I, C (1 mo-12 years) Mild-severe <b>Meningitis</b> <b>Cystic Fibrosis</b>  C>12 years, A	100 mg/kg/day 150 mg/kg/day  100-150 mg/kg/day 150 mg/kg/day  100-150 mg/kg/day 150 mg/kg/day 200 mg/kg/day (max. 6 g/day)  1-2 g/ <b>dose</b> (max. 6 g/day)	IV div q12h IV div q8h  IV div q8-12h IV div q8h  IV div q8h IV div q8h IV div q6h  IV q8h
ceftriaxone  Restricted to the Emergency Departments and patients without IV access  May be given IV but is non- formulary at LHSC by this route	N ≤ 7 day > 7 day ≤ 2 kg > 2 kg  I > 3mo, C Other infections <b>meningitis</b>	50 mg/kg/day  50 mg/kg/day 75 mg/kg/day  50-75 mg/kg/day 100 mg/kg/ <b>dose</b> followed by 100 mg/kg/day (max. 2g/dose)	IM q24h  IM q24h IM q24h  IM q24h IM at 0,12,24 hr  IM q24h
cefuroxime renal dose adjust	N I,C  A	50-100 mg/kg/day 75 –150 mg/kg/day (max. 6 g/day) 750 mg – 1.5 g/ <b>dose</b>	IV div q12h IV div q8h  IV q8h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
cefuroxime axetil renal dose adjust	I ≥ 3 mo-C<12 years  C≥12 years	30 mg/kg/day (suspension) max. 500 mg/ <b>dose</b>  250-500 mg/ <b>dose</b> (tablets)	po div q12h  po q12h
cephalexin renal dose adjust	I, C  Adults	50-100 mg/kg/day (max. 4 gm/day)  250-500 mg/ <b>dose</b>	po div q6h  po q6h
chloral hydrate avoid use CrCl<50 ml/min	N  I, C  Procedural sedation	25 mg/kg/ <b>dose</b>  10-50 mg/kg/ <b>dose</b>  50-75 mg/kg/ <b>dose</b> (max. 120 mg/kg or 1g infants/young children max. 2 g older children)	po, pr q6-8h  po,pr q6-8h  po,pr 30-60 min pre-procedure
ciprofloxacin renal dose adjust	C   <b>Cystic Fibrosis</b>	30 mg/kg/day (max. 1500 mg/day)  20-30 mg/kg/day (max. 800 mg/day)  40 mg/kg/day (max. 2000 mg/day)  30 mg/kg/day (max. 1200 mg/day)	po div q12h  IV div q12h  po div q12h  IV div q8-12h
cisatracurium	I, C<2  C 2-12 y  C >12, A	0.1 mg/kg 2 <b>mcg</b> /kg/min  0.1 mg/kg 1-2 <b>mcg</b> /kg/min  0.15-0.2 mg/kg 1-3 <b>mcg</b> /kg/min	IV IV  IV IV  IV IV
clarithromycin renal dose adjust	I,C  Adolescent, A	15 mg/kg/day  250-500 mg/kg/day	po div q12h  po q12h
clindamycin	N  <2 kg 0-7 days > 7days ≥ 2 kg 0-7 days > 7days  I, C	10 mg/kg/day 15 mg/kg/day  15 mg/kg/day 20-30 mg/kg/day  20-40 mg/kg/day (max. 4800 mg/day) 10-30 mg/kg/day (max. 1800 mg/day)	IV div q12h IV/po div q8h  IV div q8h IV/po div q6-8h  IV div q6-8h  po div q6-8h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
clobazam	I, C Initial dose Maintenance	0.25 mg/kg/day increasing gradually to max. 1 mg/kg/day or 80 mg/day	po qhs po div q8-12h
clonazepam	N C ≤ 30 kg  C > 30 kg	0.01-0.02 mg/kg/day  0.01-0.03 mg/kg/day (max. 0.05 mg/kg/day) increase dose by 0.01-0.02 mg/kg q3days <b>(max. 0.2 mg/kg/day)</b>  1.5 mg/day increase dose by 0.5- 1.0 mg/day <b>(max. dose 20 mg/day)</b>	po div q8h  po div q8h  po div q8h
clonidine	I,C Sedation/analgesia adjunct	4-8 mcg/kg/day	po div q6h
cloxacillin	N < 2kg 0-7 days <b>meningitis</b>  > 7 days <b>meningitis</b>  ≥ 2 kg 0-7 days <b>meningitis</b>  > 7days <b>meningitis</b>  I,C	50 mg/kg/day 100 mg/kg/day  75 mg/kg/day 150 mg/kg/day  75 mg/kg/day 150 mg/kg/day  100 mg/kg/day 200 mg/kg/day  50-200 mg/kg/day <b>(max. 12g/day IV or 4g/day po)</b>	IV div q12h IV div q12h  IV,po div q8h IV div q8h  IV,po div q8h IV div q8h  IV,po div q6h IV div q6h  IV,po div q6h
codeine	C analgesic antitussive ≥ 2 yr	0.5-1.0 mg/kg/dose <b>(max. dose 60 mg)</b> 1-1.5 mg/kg/day	sc, po q4-6h po q4-6h
desmopressin (DDAVP)	I,C  <b>Diabetes Insipidus</b>  <b>Coagulopathy</b>  A Diabetes insipidus  Initial dose maintenance	5-20 mcg/day 0.25-1 mcg/dose  0.3 mcg/kg/dose <b>(max. 25 mcg)</b>  5-40 mcg/dose  1-4 mcg/dose 1-2 mcg/dose	Nasal div q12-24h IV q6h for u/o>4ml/kg/hr  IV, SC  Nasal div q12-24h  IV once IV q6h for u/o>4 ml/kg/hr

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
dexamethasone	N <b>Airway edema</b>	0.25 mg/kg/ <b>dose</b>	IV 4 hours pre-extubation then q8h x 2 doses
	I,C <b>Airway edema</b>	0.25-0.5 mg/kg/ <b>dose</b> <b>(max. 10 mg dose)</b>	IV, po q6h x 4-6 doses starting 6-12 hours pre-extubation
	<b>Croup</b>	0.6 mg/kg/ <b>dose</b>	IV, po x 1 dose
	<b>Meningitis</b>	0.15 mg/kg/ <b>dose</b>	IV q6h x 4 days Start therapy prior to or with the first dose of antibiotic
diazepam	I, C Muscle relaxation, sedation, anxiety	0.1-0.8 mg/kg/day 0.04-0.3 mg/kg/ <b>dose</b> Max. 0.6 mg/kg in 8 hour period	po div q6-8h IV q2-4h
digoxin	Digitalization Dose		
renal dose adjust	N		
	<37 weeks	7 mcg/kg/ <b>dose</b> 5 mcg/kg/ <b>dose</b>	po q6h x 3 doses IV q6h x 3doses
	≥ 37 weeks	17 mcg/kg/ <b>dose</b> 12 mcg/kg/ <b>dose</b>	po q6h x 3 doses IV q6h x 3 doses
	I, C<2 yr	17 mcg/kg/ <b>dose</b> 12 mcg/kg/ <b>dose</b>	po q6h X 3 doses IV q6h x 3 doses
	C>2 yr	13 mcg/kg/ <b>dose</b> 10 mcg/kg/ <b>dose</b> (max. total digitalization dose 1 mg)	po q6h X 3 doses IV q6h x 3 doses
	Maintenance Dose		
	N		
	< 37 weeks	4 mcg/kg/day 3 mcg/kg/day	po div q12h IV div q12h
	≥37 weeks	10 mcg/kg/day 7 mcg/kg/day	po div q12h IV div q12h
	I, C<2 yr	10 mcg/kg/day	po div q12h
	C> 2yr	8 mcg/kg/day	po div q12-24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
dimenhydrinate doses may be subject to change as per hospital autosubstitution policy	C <12  C>12, A	5 mg/kg/day max. 300 mg/day  25-100 mg/ <b>dose</b> max. 400 mg/day	IV,IM, po, pr div q6h  IV,IM, po, pr q4-6h
diphenhydramine	I, C  Antihistamine  Anaphylaxis	5 mg/kg/day max. 300 mg/day  1.25 mg/kg/ <b>dose</b> (max. 50 mg)	IV, IM po div q6h  IV
dobutamine	N  I, C	2-25 mcg/kg/min  2-15 mcg/kg/min (max. 40mcg/kg/min)	IV  IV
docusate	I,C	5 mg/kg/day	po div q6-8h
domperidone renal dose adjust	I, C	1.2-2.4 mg/kg/day	po div tid-qid (15-30 min ac&hs)
dopamine	N, I, C	5-20 mcg/kg/min	IV
enalaprilat	N, I, C  Adolescents, A	5-10 mcg/kg/ <b>dose</b>  0.625 –1.25 mg/ <b>dose</b> max 5 mg/ <b>dose</b>	IV q8-24h  IV q6h
enalapril	N  I, C  Adolescents, A	0.1 mg/kg/day  0.1 mg/kg/day max. 0.5 mg/kg/day  2.5-5 mg max. 40 mg	po div q24h  po div q12-24h  po daily
enoxaparin anti Xa monitoring required  see anticoagulant nomograms for dosing adjustments	N, I <2 mo Treatment Prophylaxis  I >2 mo, C Treatment prophylaxis	1.5 mg/kg/ <b>dose</b> 0.75 mg/kg/ <b>dose</b>  1.0 mg/kg/ <b>dose</b> 0.5 mg/kg/ <b>dose</b>	sc q12h sc q12h  sc q12h sc q12h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
epinephrine	<b>Resuscitation</b> N	0.01 mg/kg/ <b>dose</b> (0.1 ml/kg of 1:10,000) followed by 5 ml NS	IV
		0.1 mg/kg/ <b>dose</b> (1 ml/kg of 1:10,000 – <b>max. 3ml/dose</b> )	ETT
	I,C	0.01 mg/kg/ <b>dose</b> (0.1 ml/kg of 1:10,000 – max. 1 mg)	IV, IO q3-5 min
		0.1 mg/kg/ <b>dose</b> (0.1 ml/kg of 1:1000- max 10 mg)	ETT
	<b>Other indications</b>		
	<b>Hypotension</b>		
	N	0.05-1 mcg/kg/min	IV
	I,C	0.1-1 mcg/kg/min	IV
	<b>Anaphylaxis</b>		
		0.01 mg/kg/ <b>dose</b> (0.01 ml/kg of 1:1000) max. 0.5 mg/dose	IM, sc q15 min
<b>+hypotension</b>			
	0.01 mg/kg/ <b>dose</b> (0.1 ml/kg of 1:10,000 – max 1 mg)	IV,IO q3-5 min	
<b>Inhalation</b>			
N, I<1 yr	2.5 ml of 1:1000 = 0.25 ml of racemic epinephrine/ <b>dose</b>	INH q30m-2h	
C	5 ml of 1:1000 = 0.5 ml of racemic epinephrine/ <b>dose</b>	INH q30m-2h	



DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
erythromycin ( <b>oral</b> )	Erythromycin estolate N <2kg 0-7 days > 7days  ≥ 2kg 0-7 days >7 days  I,C Erythromycin base  I, C  A	20 mg/kg/day 30 mg/kg/day  20 mg/kg/day 30-40 mg/kg/day  30-50 mg/kg/day (max. 2 g/day)  35-50 mg/kg/day  250-500 mg/dose	po div q12h po div q12h  po div q12h po div q8h  po div q6-12h  po div q6h  po div q6-12h
erythromycin lactobionate <b>(Intravenous)</b>  <b>Risk of pyloric stenosis in neonates</b>	N  I,C  Prokinetic agent  A	20-40 mg/kg/day  20-50 mg/kg/day (max. 4g/day)  1-3 mg/kg/ <b>dose</b>  250-500 mg/ <b>dose</b> (max. 4g/day)	IV div q6h  IV div q6h  IV  IV q6h
esmolol	I,C  Loading dose Maintenance	500 mcg/kg 50-800 mcg/kg/min	IV IV
ethacrynic acid	C	1mg/kg 1-3 mg/kg/day	IV po div q24h
fentanyl	N  I, C	0.5-2 mcg/kg/ <b>dose</b> 0.2-2 mcg/kg/hr  0.5-2 mcg/kg/ <b>dose</b> 0.5-2 mcg/kg/hr (titrate to effect)	IV IV  IV IV
fluconazole  renal dose adjust	N  30-36 weeks, <14 days old  N> 14 days, I, C <b>Oropharyngeal or esophageal candidiasis</b>    <b>Invasive fungal disease</b>	3-6 mg/kg/ <b>dose</b>  6 mg/kg/ <b>dose</b> 3 mg/kg/day max. 200 mg/day  6-12 mg/kg/day max. 400 mg/day	IV, po q48h  IV, po x 1 IV, po div q24h  IV, po div q24h
flucytosine Special Access Drug renal dose adjust	N  I,C	50-150 mg/kg/day  100-150 mg/kg/day	IV, po div 12-24h  IV, po div q6h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
flumazenil	I, C	0.01 mg/kg/ <b>dose</b> (max. dose 0.2 mg)  may repeat 0.01 mg/kg max. cumulative dose 0.05 mg/kg or 1 mg  if resedation occurs repeat doses at 20 min intervals effective dose may be given as an hourly infusion	IV
fosinopril	C	0.1-0.6 mg/kg/day	po div q24h
furosemide	N  I, C	1-2 mg/kg/ <b>dose</b> 1-4 mg/kg/ <b>dose</b>  1-2 mg/kg/ <b>dose</b> 2-6 mg/kg/ <b>dose</b> 0.1-1 mg/kg/hr	IV q12-24h po q12-24h  IV q6-12h po q6-12h IV
gabapentin renal dose adjust	C Initial dose Maintenance Adolescents, A Initial dose Maintenance	10-15 mg/kg/day 20-50 mg/kg/day  300 mg/ <b>dose</b> 900-1800 mg/day	po div q8h po div q8h  po q8h po div q8h
ganciclovir renal dose adjust	I, C Initial maintenance	10 mg/kg/day 5 mg/kg/day	IV div q12h IV div q24h
gentamicin renal dose adjust	N  ≤ 7 days < 35 weeks GA ≥ 35 weeks GA  >7 days < 2 kg >2 kg  I, C <5 yr  C>5 yr  C –cystic fibrosis	3.0 mg/kg/day 3.5 mg/kg/day  2.5 mg/kg/ <b>dose</b> 2.5 mg/kg/ <b>dose</b>  2.5 mg/kg/ <b>dose</b>  2-2.5 mg/kg/ <b>dose</b> (max. dose 100 mg prior to levels)  10 mg/kg/day	IV div q24h IV div q24h  IV q8-12h IV q8h  IV q8h  IV q8h  IV div q24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
glucagon	N  I, C ≤ 20 kg  C > 20 kg, A	0.5-1.0 mg/day  0.02-0.30 mg/kg/dose  0.02-0.03 mg/kg or 0.5 mg  1 mg	IV via continuous infusion IV  IV, IM, SC  IV, IM, SC
glucose	N  I, C	0.1-0.2 g/kg 1-2 ml/kg of D10% 4-6 mg/kg/min  0.5-1.0 g/kg 2-4 ml of D25% 1-2 ml of D50%	IV  IV
glycopyrrolate	I, C	40-100 mcg/kg/dose  4-10 mcg/kg/dose max. dose 0.1 mg	po q6-8h  IV, IM q3-4h
heparin  see anticoagulant nomograms for dosing adjustments	Loading Dose <i>do not give for neonates or children with stroke or high bleeding risk</i>  Maintenance infusion ≤ 1 yr > 1 yr	75 units/kg  28 units/kg/hr 20 units/kg/hr  dose changed according to APTT or anti-Xa level –refer to nomogram	IV  IV IV
hepatitis B immune globulin	N Newborns of HB <sub>s</sub> Ag-positive mothers  I, C, A Post exposure prophylaxis <1y >1y	0.5 ml  0.5 ml 0.06 ml/kg usual dose 3-5 ml	IM within 12 hours of birth  IM IM
hepatitis B vaccine	<b>Engerix</b> I, C ≤ 19 yr A  <b>Recombivax-HB</b> I HBV–neg moms, C ≤ 10 I HBV-pos moms C 11-19 yr A	10 mcg/dose 20 mcg/dose  5 mcg/dose 5 mcg/dose 5 mcg/dose 10 mcg/dose	IM at 0, 1, 6 mo IM at 0, 1, 6 mo  IM at 0, 1, 6 mo IM at 0, 1, 6 mo IM at 0, 1, 6 mo IM at 0, 1, 6 mo
hydralazine  renal dose adjust	I  C	0.1-0.2 mg/kg/dose 0.75 – 5 mg/kg/day  0.1-0.2 mg/kg/dose max 20 mg/dose 0.75-7 mg/kg/day	IV q4-6h po div q6-12h  IV q4-6h  po div q6-12h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
hydrochlorothiazide	I, C	2-4 mg/kg/day	po div q12h
hydrocortisone	N hypoglycemia hypotension  <b>Adrenal insufficiency</b>  I, younger C older C A  <b>Anti-inflammatory</b> <b>Immunosuppression</b> I,C  <b>Status Asthmaticus</b> I, C  A	5 mg/kg/day 2 mg/kg/day  1-2 mg/kg/ <b>dose</b> then 25-150 mg/day 1-2 mg/kg/ <b>dose</b> then 150-250 mg/day  100 mg then 300 mg/day  1-5 mg/kg/day 2.5-10 mg/kg/day  8 mg/kg/day 100-500 mg/ <b>dose</b>	IV, po div q8-12h IV div q6h  IV IV div q6-8h IV IV div q6-8h  IV IV div q8h  IV div q12-24h po div q6-8h  IV div q6h IV q6h
hydroxyzine	C	0.5-1 mg/kg/ <b>dose</b> 2 mg/kg/day	IV q4-6h prn po div q6-8h prn
ibuprofen  doses may be subject to change as per hospital autosubstitution policy	Anitpyretic < 6mo 6mo-12 yr  Analgesic 6 mo-12 yr	5 mg/kg/ <b>dose</b> 5 -10 mg/kg/ <b>dose</b> max. dose 40 mg/kg/day  5-10 mg/kg/dose	po q8h po q6-8h  po q6-8h
immune globulin IVIG	I, C Kawasaki Disease  ITP  Guillain-Barré syndrome	2 g/kg  0.4-1 g/kg  1g/kg	IV  IV  IV q24h x 2 days
indomethacin  renal dose adjust	N  PDA  PNA <48 h at time of first dose PNA 2-7 d at time of first dose PNA >7 d at time of first dose	0.2 mg/kg/ <b>dose</b> followed by 2 doses as follows  0.1 mg/kg/ <b>dose</b>  0.2 mg/kg/ <b>dose</b>  0.25 mg/kg/ <b>dose</b>	IV x 1  IV q12-24 h IV q12-24h IV q12-24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
ipratropium	Acute Asthma Exacerbation		
	I C <12 y	125-250 mcg/ <b>dose</b>	inh q8h
	Nebulization	250 mcg/ <b>dose</b>	inh q20 m x 3 doses then prn
	MDI	4 –8 puffs/ <b>dose</b>	inh prn
	C>12 y		
	Nebulization	500 mcg/ <b>dose</b>	inh q20 m x 3 doses then prn
MDI	4-8 puffs/ <b>dose</b>	inh prn	
Maintenance I,C			
Nebulization	250 mcg/ <b>dose</b>	inh q8-6h	
MDI	20-40 mcg/ <b>dose</b> max. 240 mcg/day	inh q8-6h	
iron	I, C Prophylaxis	1-2 mg elemental Fe/kg/day	po div q24h
	Treatment	3-6 mg elemental Fe/kg/day	po div bid-tid
isoproterenol	N, I, C	0.5-2 mcg/kg/min	IV
ketamine	C	0.5-2 mg/kg/ <b>dose</b> 5-20 mcg/kg/min	IV IV
	A	1-2 mg/kg/ <b>dose</b>	IV
ketorolac	I, C	0.5 mg/kg/ <b>dose</b> max. <16 y 15 mg ≥16y 30 mg	IV q6h
ketotifen	C		
	<3 y >3 y	0.5-1 mg/ <b>dose</b> 1 mg/ <b>dose</b>	po bid po bid
labetalol	C		
	initial	0.2-1.0 mg/kg/ <b>dose</b> (max. 20 mg dose) then 0.25-3 mg/kg/hr	IV IV
		3-20 mg/kg/day	po div q12h
lactulose	I, C	1-3 ml/kg/day	po div q6-24h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
lamotrigine  EID-enzyme inducing drugs	C  2-12 y + valproic acid (with/without EID)  maintenance dose  2-12 y +EID, no valproic acid  maintenance dose  >12 y +EID, no valproic acid  maintenance dose  >12 y +EID + valproic acid  maintenance dose  >12 y +valproic acid, no EID  maintenance dose	0.15 mg/kg/day (wk 1, 2) 0.3 mg/kg/day (wk 2,3) 1-5 mg/kg/day  0.3 mg/kg/day (wk 1,2) 0.6 mg/kg/day (wk 3,4) 5-15 mg/kg/day  25 mg/ <b>dose</b> x 2 weeks 50 mg/ <b>dose</b> x 2weeks 300-500 mg/day  25 mg/ <b>dose</b> x 2 weeks 100-200 mg/day  25 mg/ <b>dose</b> x 2 weeks 25 mg/ <b>dose</b> x 2weeks 100-200 mg/day	po div q12-24h  po div q12-24h  po div q12-24h  po div q12-24h  po div q12-24h  po q12h  po q12h  po div q12h  po q24h  po div q12h  po q48h  po q24h po div q12h
lansoprazole	I,C  <10 kg 10-30 kg ≥ 30 kg	7.5 mg/ <b>dose</b> 15 mg/ <b>dose</b> 30 mg/ <b>dose</b>	po q24h po q24h po q24h
levetiracetam  renal dose adjust	I, C<16 y  A>16 y, A	5-10 mg/kg/day max. 60 mg/kg/day or 3000 mg/day 500 mg/ <b>dose</b> max. 3000 mg/day	po div q12h  po q12h
levocarnitine	I,C  Metabolic crisis  maintenance	50-300 mg/kg/ <b>dose</b> give same dose over next 24 hours 50-100 mg/kg/day	IV IV div q4-6h  IV po div q4-6h
levothyroxine	I,C  Organ donation Initial dose maintenance	50-100 mcg/ <b>dose</b> 25-50 mcg/ <b>dose</b>	IV once IV q12h
lidocaine	I, C cardiac arrhythmia  Prevent raised intracranial pressure prior to suctioning	1 mg/kg/ <b>dose</b> 2-3 mg/kg/ <b>dose</b>  20-50 mcg/kg/min  1 mg/kg/ <b>dose</b>	IV, IO ETT  IV, IO  IV, ETT

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
linezolid	N <7 days >7 days  I, C <12 y  C > 12 y, A	10 mg/kg/dose 10 mg/kg/dose  10 mg/kg/dose  10 mg/kg/dose	IV,po q12h IV, po q8h  IV, po q8h  IV, po q12h
lisinopril	C>6	0.07-0.6 mg/kg/day max. starting dose 5 mg max. dose 40 mg	po div q24h
lorazepam	N status epilepticus  I,C status epilepticus  sedation	0.05 mg/kg/dose  0.05-0.1 mg/kg/dose max. 4 mg/dose  0.05-0.1 mg/kg/dose max. 2 mg/dose	IV  IV, pr  IV, po, pr q4-8h
losartan	I, C	0.7-1.4 mg/kg/day max. starting dose 50 mg max. dose 100 mg	po div q24h
magnesium (oral)  <b>Mg glucoheptonate</b> 90 mg/ ml= 4.5 mg elemental Mg/ml=0.19 mmol elemental Mg/ml  <b>Mg oxide</b> 420 mg mg oxide=252 mg elemental Mg= 10.6 mmol	C	20-40 mg elemental mg/kg/day (0.8-1.6 mmol/kg/day)	po div tid
magnesium sulfate (IV)  magnesium sulfate 50% injection 500 mg/ml=49.3 mg elemental Mg/ml =2 mmol elemental Mg/ml	N     I, C      <b>bronchodilation</b>	25-50 mg Mg S <sub>0</sub> <sub>4</sub> /kg/dose (0.1-0.2 mmol elemental Mg /kg/dose)  25-50 mg Mg S <sub>0</sub> <sub>4</sub> /kg/ dose (0.1-0.2 mmol/elemental Mg/kg/dose) max. dose 2000 mg Mg S <sub>0</sub> <sub>4</sub>  25-40 mg MgS <sub>0</sub> <sub>4</sub> /kg/dose max. dose 2000 mg Mg S <sub>0</sub> <sub>4</sub>	IV q8-12h x 2-3 doses    IV q4-6h x 3-4 doses   IV x 1
mannitol	C	0.25-1 g/kg/dose	IV q4-6h prn

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
meropenem  renal dose adjust	N  <b>Meningitis</b> Other infections  I, C  <b>Meningitis</b> Other infections  C>50kg, A	80 mg/kg/day 40 mg/kg/day  120 mg/kg/day 60 mg/kg/day  500 mg-2 g/dose	IV div q12h IV div q12h  IV div q8h IV div q8h  IV q8h
methylprednisolone	I, C  Acute asthma Pulse therapy  Organ donor	2-4 mg/kg/day 15-30 mg/kg/day  15 mg/kg/dose (max dose 1g)	IV div q6h IV div q24h x 3 days  IV q24h
metoclopramide  renal dose adjust	N,I, C  GE reflux Post operative N&V  Chemotherapy N&V	0.4-0.8 mg/kg/day 0.1-0.2 mg/kg/ <b>dose</b> max 10 mg 1-2 mg/kg/ <b>dose</b>	IV, po div q6h IV,po q6-8h  IV,po q2-4h
metolazone	I, C	0.2-0.4 mg/kg/day max dose 10 mg	po div q12-24h
metronidazole	N  PNA ≤ 7 days 1.2-2.0 kg >2 kg  PNA > 7days 1.2-2.0 kg > 2 kg  I,C  A	7.5 mg/kg/day 15 mg/kg/day  15 mg/kg/day 30 mg/kg/day  30 mg/kg/day 15-30 mg/kg/day  500 mg/ <b>dose</b>	IV div q24h IV div q12h  IV div q12h IV div q12h  IV div q6-8h po div q8h  IV, po q8-12h
midazolam	N  I>2 mo C    I>6 mo, C Pre-op sedation, anxiolysis  Conscious sedation	0.5-1.0 mcg/kg/min  0.05-0.1 mg/kg/ <b>dose</b> 1-2 mcg/kg/min reported doses for status epilepticus up to 18 mcg/kg/min  0.25-0.5 mg/kg/ <b>dose</b> max. 20 mg  0.2 –0.3 mg/kg/ <b>dose</b>	IV  IV IV  po x 1 dose  intranasal x 1
milrinone  renal dose adjust	N, I, C  Loading dose Maintenance dose	0.05 mg/kg 0.25-0.75 mcg/kg/min (dose limit 1.13 mg/kg/day)	IV IV



DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
morphine	N	0.05-0.1 mg/kg/ <b>dose</b> 5-10 mcg/kg/hr	IV
renal dose adjust	I, C		IV
	continuous infusion loading dose infusion	0.1-0.2 mg/kg/ <b>dose</b> 10-40 mcg/kg/hr	IV IV
	intermittent dosing	0.05-0.1 mg/kg/ <b>dose</b> 0.2-0.4 mg/kg/ <b>dose</b>	IV, SC q2-4h prn po q4h prn
naloxone	Total narcotic reversal N, I, C<5 yr or < 20 kg	0.1 mg/kg/ <b>dose</b>	IV, IM, ETT
	C>5 yr or > 20 kg	2 mg/ <b>dose</b>	IV, IM, ETT
	Partial narcotic reversal I, C	0.001-0.01 mg/kg/ <b>dose</b>	IV
neostigmine	Non-depolarizing neuromuscular blocker reversal		
renal dose adjust	I	0.025-0.1 mg/kg/ <b>dose</b>	IV
	C	0.025-0.08 mg/kg/ <b>dose</b> max 2.5 mg/dose	IV
nifedipine	I, C Hypertensive emergencies	0.25-0.5 mg/kg/ <b>dose</b>	po, sl, bite and swallow q4-6h
	Hypertension	max. dose 10 mg max. daily dose 1-2 mg/kg/day	
	Immediate release Sustained release	0.5-1.5 mg/kg/day 0.25-0.5 mg/kg/day max. 3 mg/kg/day	po div q8h po div q12-24h
nitrazepam	I,C	0.25-1.2 mg/kg/day max. 3 mg/kg/day	po div q8-24h
nitroglycerin	I, C	0.5-10 mcg/kg/min	IV
nitroprusside	N, I, C	0.3-0.5 mcg/kg/min max. dose: N- 6 mcg/kg/min I,C- 10 mcg/kg/min	IV
		Max. cumulative dose 3 mg/kg	
norepinephrine	I,C	0.05-0.1 mcg/kg/min max. 2 mcg/kg/min	IV

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
nystatin	N I C, A	100,000 units/ <b>dose</b> 200,000 units/ <b>dose</b> 500,000 units/ <b>dose</b>	po q6h po q6h po q6h
octreotide	C GI bleed Loading dose Maintenance Infusion	1 mcg/kg/ <b>dose</b> 1 mcg/kg/hr titrate to response	IV IV
ondansetron	Post operative N&V  Chemotherapy N&V	0.05-0.1 mg/kg/ <b>dose</b> max. 4 mg  0.15 mg/kg/ <b>dose</b> max. 8 mg	IV q8h  IV q8h
oseltamivir	I <1yr	2 mg/kg/ <b>dose</b>	po q12h
renal dose adjust	C ≥1-12 years ≤ 15 kg >15 ≤23 kg >23 ≤ 40 kg >40 kg  C>12, A	30 mg/ <b>dose</b> 45 mg/ <b>dose</b> 60 mg/ <b>dose</b> 75 mg/ <b>dose</b>  75 mg/ <b>dose</b>	po q12h po q12h po q12h po q12h  po q12h
pancuronium	N,I	0.05-0.1mg/kg/ <b>dose</b>	IV q30-60 min
renal dose adjust	C, A,Adults	0.15 mg/kg/ <b>dose</b>	IV q30-60 min
pantoprazole	I,C  ≤5 kg 6-10 kg 11-20 kg ≥21 kg  GI bleed <40 kg  >40 kg	5 mg/ <b>dose</b> 10 mg/ <b>dose</b> 20 mg/ <b>dose</b> 40 mg/ <b>dose</b>  2 mg/kg/ <b>dose</b> 0.2 mg/kg/hr  80 mg/ <b>dose</b> 8 mg/hr	IV q24h IV q24h IV q24h IV q24h  IV x 1 IV  IV x 1
paraldehyde	N, I, C	200-300 mg/kg/ <b>dose</b> diluted to 30-50% with mineral oil, olive oil or NS	pr
Special Access Drug			
palivizumab RSV immune globulin Synagis®	I, C<2y	15 mg/kg/dose	IM qmonthly during RSV season

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
penicillin G renal dose adjust	N <7 days <2 kg <b>meningitis</b> other >2kg <b>meningitis</b> other <b>Group B strep meningitis</b> Regardless of wt  >7 days <2 kg <b>meningitis</b> other  >2kg <b>meningitis</b> other  I,C <b>severe infections/meningitis</b>	100,000 u/kg/day 50,000 u/kg/day  150,000 u/kg/day 75,000 u/kg/day 250-450,000 u/kg/day  150,000 u/kg/day 75,000 u/kg/day  200,000 u/kg/day 100,000 u/kg/day  250-400,000 u/kg/day max. 24 million units/day	IV div q12h IV div q12h  IV div q8h IV div q8h IV div q8h  IV div q8h IV div q8h  IV div q6h IV div q6h  IV div q4-6h
penicillin V renal dose adjust	I,C<12 y streptococcal infections  C≥12 y, A  Prophylaxis in asplenia 6mo-5y >5yr	25-50 mg/kg/day  125-500 mg/ <b>dose</b>  125-150 mg/ <b>dose</b> 300 mg/ <b>dose</b>	po div q12h  po q6-8h  po q12h po q12h
pentobarbital Special Access Drug	I,C procedural sedation	2-6 mg/kg/ <b>dose</b> 1-3 mg/kg/ <b>dose</b> max. dose 100 mg	IM, po,pr IV
phenobarbital	N Loading dose Maintenance dose  I, C Loading dose Maintenance dose I C 1-5 y C 5-12 y C≥12 y, A	15-20 mg/kg/ <b>dose</b> 3-4 mg/kg/day  15-20 mg/kg/ <b>dose</b> max dose 1g  5-6 mg/kg/day  6-8 mg/kg/day  4-6 mg/kg/day  1-3 mg/kg/day	IV IV,po div q24h  IV  IV, po div q12-24h  IV, po div q12-24h  IV, po div q12-24h  IV, po div q12-24h
phenoxybenzamine Special Access Drug	I,C Loading dose Maintenance dose	1 mg/kg/ <b>dose</b> 0.5-2.0 mg/kg/day	IV IV, po div q6-12h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
phentolamine	Treatment of extravasation of adrenergic drug (e.g dopamine) N  I, C, A	Dilute 2.5-5 mg in 10 ml NS Infiltrate area with small (approx. 1 ml) within 12 hr Max dose 0.1mg/kg or 2.5 mg  Dilute 5-10 mg in 10 ml NS Infiltrate area with 1 ml within 12 hr Max.dose 0.2 mg/kg or 5 mg total	
phenylephrine	I,C hypotension	5-20 mcg/kg/ <b>dose</b> max. dose 0.5 mg 0.1-0.5 mcg/kg/min	IV q10-15 min prn IV
phenytoin	N Loading dose Maintenance dose  I,C Loading dose  Maintenance dose	20 mg/kg/ <b>dose</b> 4-8 mg/kg/day  20 mg/kg/ <b>dose</b> max. dose 1 g  5 mg/kg/day (range 7-9 mg/kg/day)	IV IV div q12h  IV  IV,po div q8-12h
phosphate  indicate dose as mmol of phosphate when ordering  Injection- Potassium Phosphate 4.4 mmol Potassium/ml 3 mmol phosphate/ml  Sodium Phosphate 4.4 mmol sodium/ml 3 mmol phosphate/ml	I,C  Low dose Intermediate dose  High dose  Maintenance dose	Doses expressed as mmol phosphate  0.08 mmol/kg/ <b>dose</b> 0.16-0.24 mmol/kg/ <b>dose</b> 0.36 mmol/kg/ <b>dose</b>  0.5-1.5 mmol/kg/day 2-3 mmol/kg/day	IV IV IV IV po div bid-qid
piperacillin  renal dose adjust	N  <2 kg ≤7 days >7 days  ≥ 2 kg ≤ 7days >7 days  I, C	150 mg/kg/day 225 mg/kg/day  225 mg/kg/day 300 mg/kg/day  200-300 mg/kg/day max. 24 g/day	IV div q12h IV div q8h  IV div q8h IV div q8h  IV div q4-6h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
piperacillin/tazobactam renal dose adjust indicate dose in mg of piperacillin component	I < 6mo  I > 6mo, C  Intraabdominal infections I > 9 mo, C ≤ 40 kg  C > 40 kg	150-300 mg piperacillin /kg/day  240 mg/kg/day  300 mg piperacillin/kg/day  3000 mg piperacillin/ <b>dose</b>	IV div q6-8h  IV div q8h  IV div q8h  IV q6h
potassium chloride <b>refer to hospital policy regarding IV administration</b>	N,I,C Prevention of hypokalemia during diuretic therapy  Treatment of hypokalemia  Intermittent infusion	1-2 mmol/kg/day  2-5 mmol/kg/day  0.5-1 mmol/kg/ <b>dose</b> max. dose 40 mmol	IV, po div q12-24h  IV, po in divided doses  IV
prednisolone	C asthma	1-2 mg/kg/day max. dose 60 mg	po div q12-24h
prednisone	C asthma  nephrotic syndrome  anti-inflammatory therapy	1-2 mg/kg/day max. dose 60 mg 2 mg/kg/day or 60 mg/m <sup>2</sup> /day max. dose 80 mg/day  0.5-2 mg/kg/day	po div q12-24h  po div q8-24h  po div q6-24h
procainamide renal dose adjust	I,C Loading dose <1 y >1 y Maintenance infusion	3-7 mg/kg/ <b>dose</b> 7-15 mg/kg/ <b>dose</b> 20-80 mcg/kg/min	IV IV IV
propafenone injection-Special Access Drug	I,C Loading dose Maintenance dose	1-2 mg/kg/ <b>dose</b> 4-8 mcg/kg/min 200-600 mg/m <sup>2</sup> /day	IV IV po div q6-8h
propofol  used for procedural sedation only not to be used for continuous sedation in the PCCU	C	1-3 mg/kg/ <b>dose</b> 1-4mg/kg/hr	IV IV



DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
salbutamol	Acute exacerbations  Maintenance	0.03 ml/kg/ <b>dose</b> min dose 2.5mg 4-8 puffs  1mcg/kg/min max. 10 mcg/kg/min  1-2 puffs	inh q0.5-4h prn  inh q1-4h prn  IV  Inhalation q4-6h prn
sodium bicarbonate	N,I,C  I, C Urinary alkalinization- prevention hyperuricemia secondary to tumor lysis syndrome  C renal tubular acidosis	1 mmol/kg/ <b>dose</b> Dilute to 0.5 mmol/ml for N,I, C<2y  120-200 mmol/m <sup>2</sup> /day diluted in 3000 ml/ m <sup>2</sup> /day goal urine pH 6-7 12g/ m <sup>2</sup> /day  1-10 mmol/kg/day	IV  IV  po divided doses
sodium polystyrene	N,I,C	1 g/kg/ <b>dose</b>	po q6h pr q2-6h mix with water or D5W
sotalol  renal dose adjust	I,C	2-5 mg/kg/day	po div q8-12h
spironolactone	N  I, C	1-3 mg/kg/day  1-4 mg/kg/day	po div q12h  po div q6-h
succinylcholine	N, I C	2 mg/kg/ <b>dose</b> 1 mg/kg/ <b>dose</b>	IV IV
Surfactant BLES®	N	5 ml/kg/ <b>dose</b>	Intratracheal Dose may be repeated
thiopental	C Intubation Elevated ICP  Seizures  A	2-4 mg/kg/ <b>dose</b> 1.5-5 mg/kg/ <b>dose</b> 5-20 mg/kg/hr 2-4 mg/kg/ <b>dose</b>  75-250 mg/ <b>dose</b>	IV IV IV IV  IV
tobramycin  renal dose adjust	N ≤ 7days > 7days 1.2-2 kg >2 kg  I,C Cystic Fibrosis	2.5 mg/kg/ <b>dose</b>  2.5mg/kg/ <b>dose</b> 2.5 mg/kg/ <b>dose</b>  2.5 mg/kg/ <b>dose</b> 10 mg/kg/day 80-160 mg/ <b>dose</b>	IV q12h  IV q8-12h IV q8h  IV q8h IV div q24h Inhalation q12h

DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
topiramate	C ≥2-16 y initial dose maintenance  Adolescents ≥ 17y initial dose maintenance	1-3 mg/kg/day 5-9 mg/kg/day  50 mg/ <b>dose</b> 200-400 mg/day max dose 1600 mg/day	po div q12-24h po div q12h  po q24h po div q12h
tranexamic acid	I, C	10 mg/kg/ <b>dose</b>  25 mg/kg/ <b>dose</b>	IV pre-procedure, q6-8h po q6-8h for 2-8days
trimethoprim	N, I, C UTI prophylaxis	2 mg/kg/day	po div q12-24h
trimethoprim-sulfamethoxazole (Bactrim/Septra)  indicate dose as mg of trimethoprim component	I, C  <b>Treatment</b> UTI PCP  <b>Prophylaxis</b> UTI Asplenia PCP	8-12 mg TMP/kg/day 20 mg TMP/kg/day  2-5 mg TMP/kg/day 5 mg TMP/kg/day 5 mg TMP/kg/day max. 320 mg/TMP/day	IV, po div q12h IV, po div q6h  po div q24h po div q24h po div q12-24h on 3 consecutive days/week
tromethamine (Tham)  0.3 M solution 36 mg/ml=0.3 mmol/ml		3-6 ml/kg/ <b>dose</b> (1-2 mmol/kg/ <b>dose</b> )  or mL of 0.3 M = body wt (kg) x base deficit (mmo/L) x 1.1	IV
ursodiol	I, C	15-30 mg/kg/day	po div q8h
valproic acid  injection-Special Access Drug	I, C	10-15 mg/kg/day max. 30-60 mg/kg/day  IV dose equal to po dose but divided q6h	po div q8-12h
vancomycin	N  1.2-2 kg >2 kg  I, C Severe infections, meningitis  C. difficile colitis	20 mg/kg/day 30 mg/kg/day  40 mg/kg/day 60 mg/kg/day  50 mg/kg/day	IV div q12h IV div q12h  IV div q6h IV div q6h  po div q6h
varicella zoster immunoglobulin (VZIG)	0-10 kg 10.1-20 kg 20.1-30 kg 30.1-40 kg >40 kg	125 units 250 units 375 units 500 units 625 units	IM IM IM IM IM



DRUG	AGE/COMMENTS	DOSE	ROUTE FREQUENCY
vasopressin	Organ donor	0.0003-0.0007 u/kg/min max. dose 2.4 u/hr	IV
	Refractory hypotension	0.0005-0.002 u/kg/min	IV
	Diabetes Insipidus	2.5-10 units/ <b>dose</b> 0.0005-0.01 u/kg/hr	IM, SC q6-12h IV
verapamil	C	0.1-0.3 mg/kg/ <b>dose</b> max dose 5 mg may repeat in 30 min with max. dose 10 mg  4-10 mg/kg/day	IV   po div q6-8h
vigabatrin	Infantile spasms	Day 1:100 mg/kg/day Day 2: 125 mg/kg/day Day 3: 150 mg/kg/day	po div q12h po div q12h po div q12h
vitamin K	Acute fulminant hepatic failure  I C	1-2 mg/ <b>dose</b> 5-10 mg/ <b>dose</b>	IV IV
	Vitamin K deficiency I, C	2.5-5 mg/ <b>dose</b> 1-2 mg/ <b>dose</b>	po IV, sc, IM
voriconazole	C 2-11 y Loading dose	6-7 mg/kg/ <b>dose</b>	IV q12h x 2 doses
	Maintenance dose	4 mg/kg/ <b>dose</b>	IV q12h
	C>12y , A Loading dose	6 mg/kg/ <b>dose</b>	IV q12h x 2 doses
	Maintenance dose Invasive aspergillosis Candidemia	4 mg/kg/ <b>dose</b> 3 -4 mg/kg/ <b>dose</b>	IV q12h IV q12h
	C <40 kg Loading dose	200 mg/ <b>dose</b>	po q12h x 2 doses
	Maintenance dose	100 mg/ <b>dose</b>	po q12h
	C> 40 kg Loading dose Maintenance dose	400 mg/ <b>dose</b> 200 mg/ <b>dose</b>	po q12h po q12h

**ADRENAL CORTICOSTEROID COMPARISON CHART Estimated Potencies**

STEROID	GLUCOCORTICOID ACTIVITY	MINERALOCORTICOID ACTIVITY	APPROX EQUIVALENT ANTI-INFLAMMATORY DOSE (mg)
cortisone	0.8	0.8	25
hydrocortisone	1.0	1.0	20
prednisone	4.0	0.8	5
methylprednisolone	5.0	0.5	4
dexamethasone	25.0	0	0.75

### Anticoagulation Nomograms

<b>Enoxaparin Dose Titration</b>		
<b>Antifactor Xa</b>	<b>Dose Titration</b>	<b>Time to Repeat Antifactor Xa Level</b>
<0.35 units/mL	Increase dose by 25%	4 h after next dose
0.35-0.49 units/mL	Increase dose by 10%	4 h after next dose
0.5-1 unit/mL	Keep same dosage	Next day, then 1 wk later, then monthly (4 h after dose)
1.1-1.5 units/mL	Decrease dose by 20%	Before next dose
1.6-2 units/mL	Hold dose for 3 h and decrease dose by 30%	Before next dose, then 4 h after next dose
>2 units/mL	Hold all doses until antifactor Xa is 0.5 units/mL, then decrease dose by 40%	Before next dose and every 12 h until antifactor Xa <0.5 units/mL
Modified from Monagle P, Michelson AD, Bovill E, et al, "Antithrombotic Therapy in Children," <i>Chest</i> , 2001, 119:344S-70S.		

### Heparin (unfractionated) Pediatric Nomogram

To be used after initial loading dose and maintenance I.V. infusion dose to maintain APTT of 60-85 seconds (assuming this reflects antifactor Xa level of 0.3-0.7)

Obtain blood for APTT 4 hours after heparin loading dose or 5 – 6 hours after start of infusion if no bolus given and 4 hours after every infusion rate change

Obtain daily CBC and APTT after APTT is therapeutic

APTT (seconds)	Dosage Adjustment	Time to Repeat APTT
<50	Give 50 units/kg bolus and increase infusion rate by 10%	4 h after rate change
50-59	Increase infusion rate by 10%	4 h after rate change
60-85	Keep rate the same	Next day
86-95	Decrease infusion rate by 10%	4 h after rate change
96-120	Hold infusion for 30 minutes and decrease infusion rate by 10%	4 h after rate change
>120	Hold infusion for 60 minutes and decrease infusion rate by 15%	4 h after rate change
Modified from Monagle P, Michelson AD, Bovill E, et al, "Antithrombotic Therapy in Children," <i>Chest</i> , 2001, 119:344S-70S.		

### A Guide to Continuous Infusions of Medications in Pediatric Patients

Traditionally continuous infusions of medications in the PCCU have been prepared and delivered using patient specific infusion solutions. The concentration is calculated based on the patient's weight and results in a solution that when run at 1 ml/hr provides a specific dose as indicated in the following table.

REQUIRED INFUSION RATE (1 ML/HR EQUALS)	DRUG (MG) ADDED TO 50 MLS IVF
0.1 mcg/kg/min	0.3 x body wt
0.5 mcg/kg/min	1.5 x body wt
1.0 mcg/kg/min	3.0 x body wt
2.0 mcg/kg/min	6.0 x body wt
5.0 mcg/kg/min	15.0 x body wt
10.0 mcg/kg/min	30.0 x body wt

There is a move toward using standard concentrations of infusions for safety reasons. When using standardized concentrations, calculate the rate of infusion for medications dosed as mcg/kg/min using the following equation:

$$\text{Rate (mL/h)} = \frac{\text{dose (mcg/kg/min)} \times \text{weight (kg)} \times 60 \text{ min/h}}{\text{concentration (mcg/mL)}}$$

The following table summarizes the current approach to infusions in the PCCU.

### Guide to Drug Infusions in Pediatrics

Drug	Usual Dose	Concentration	Other
alprostadil	0.025-0.1 mcg/kg/min	$\frac{225}{0.05 \times \text{BW} \times 60} = \# \text{ ml}$ Put 225 mcg alprostadil in the # ml calculated above 1ml/hr= 0.05 mcg/kg/min	
amiodarone	5-15 mcg/kg/min	15xBW (mg)/50 ml 1 ml/hr= 5mcg/kg/min	Max. 2 mg/ml – PIV 6 mg/ml- CIV Stable in syringe or Excel bag
cisatracurium	1-2 mcg/kg/min	3xBW(mg)/50 ml 1ml/hr= 1 mcg/kg/min	
dobutamine	2-10 mcg/kg/min	15xBW(mg)/50 ml 1ml/hr=5 mcg/kg/min	
dopamine	5-10 mcg/kg/min	1600 mcg/ml (800 mg/500 ml)	
epinephrine	0.05-0.1 mcg/kg/min	0.3xBW(mg)/50 ml 1ml/hr=0.1 mcg/kg/min	
esmolol	100-500 mcg/kg/min	10 mg/ml	
fentanyl	1-5 mcg/kg/hr	50xBW(mcg)/50 ml 1 ml/hr=1 mcg/kg/hr	Max. conc. 50mcg/ml
furosemide	0.1-0.4 mg/kg/hr	5xBW(mg)/ 50 ml 1 ml/hr= 0.1 mg/kg/hr	
heparin		≤ 10 kg- 80 u/ml > 10 kg-40 u/ml	
insulin		25 u/250 ml For DKA  50 u/50 ml For PCCU non DKA	
isoproterenol	0.05-0.1 mcg/kg/min	0.15xBW(mg)/50 ml 1 ml/hr=0.05 mcg/kg/min	Max. conc. 0.2 mg/ml
ketamine	5-20 mcg/kg/min	6xBW(mg)/50 ml 1 ml/hr=2 mcg/kg/min	
labetolol	0.25-1.0 mg/kg/hr	1 mg/ml-PIV 5 mg/ml-CIV	
lidocaine	10-50 mcg/kg/hr	60xBW(mg)/50 ml 1ml/hr=20mcg/kg/hr	
midazolam	1-5 mcg/kg/min	3xBW(mg)/50 ml 1 ml/hr=1 mcg/kg/min	Max. conc 5 mg/ml
milrinone	0.375-0.75 mcg/kg/min	1.5xBW(mg)/50 ml 1ml/hr=0.5 mcg/kg/min	
morphine	10-40 mcg/kg/hr	0.5xBW(mg)/50 ml 1 ml/hr=10 mcg/kg/hr	
nitroglycerin	0.5-1.0 mcg/kg/min	1.5xBW(mg)/50ml 1 ml/hr=0.5 mcg/kg/min	Stable in syringe or glass bottle
nitroprusside	0.1-1.0 mcg/kg/min	0.3 x BW (mg)/50 ml 1 ml/hr=0.1 mcg/kg/min	
norepinephrine	0.1-1.0 mcg/kg/min	0.3 x BW(mg)/50 ml 1 ml/hr=0.1 mcg/kg/min	
procainamide	20-80 mcg/kg/min	60 x BW(mg)/50 ml 1 ml/hr=20 mcg/kg/min	
salbutamol	0.2-4 mcg/kg/min	0.5 mg/ml (25 mg/50 ml)	
thiopental	3-5 mg/kg/hr	25 mg/ml (1000 mg/40ml)	
vasopressin	0.0005-0.002 units/kg/min	0.5 unit/ml (25 units/50 ml)	

### Neonatal-Average Daily Fluid Requirements (ml/kg/day)

BIRTH WEIGHT	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	> DAY 5
600-800 g	80-100	100-125	130	130	150	150-200
800-1000g	60-100	90-115	120	130	150	150-200
1-1.5 kg	60	70	100	120	150	150-200
1.5-2.0 kg	60	70	100	120	140	150-180
>2.0 kg	60	75	90	120	140	160-180

**\*\* GUIDELINES ONLY, ADJUST PER URINE OUTPUT, WEIGHT CHANGES, ELECTROLYTES, ETC.**

**N.B.** (1) Add 30-50% for radiant heaters  
 (2) Add 10-50% for phototherapy  
 (3) Subtract ~10% for heat shields  
 (4) Subtract ~20-30% for endotracheal intubation + assisted ventilation  
 (5) <600 g start at rates as per 600-800 g and adjust as appropriate

### Maintenance Fluid Requirements in Children

WEIGHT	FORMULA
<b>Body weight daily maintenance formula</b>	
0 - 10 kg	100 mL/kg
11 - 20 kg	1000 mL for first 10 kg + 50 mL/kg for kg 11-20
21 - 30 kg	1500 mL for first 20 kg + 20 mL/kg for > 20 kg
<b>Body weight hourly maintenance formula</b>	
0 - 10 kg	4 mL/kg/h
11 - 20 kg	40 mL/h for first 10 kg + 2 mL/kg/h for kg 11-20
21 - 30 kg	60 mL/h for first 20 kg + 1 mL/kg/h for kg 21-30
<b>Body surface formula - 1500 mL/m<sup>2</sup> body surface area/day</b>	
<b>Insensible water losses - 300 mL/m<sup>2</sup> body surface area + urine output daily</b>	

### Daily Recommendations for TPN

		PREMATURE	INFANT 0-1y	CHILDREN 1-12y	ADOLESCENTS
ENERGY kcal/kg		120-80	110-80	1-7y: 90-75 7-12y: 75-60	60-30
PROTEIN g/kg	Start advance <b>goal</b>	1.0 0.5-1.0 2.5-3.5	1.0-1.5 1.0 2.5-3.0	1.0-2.0 1.0 1.5-2.0	1.0-2.0 1.0 1.5-2.0
LIPID g/kg	Start advance <b>goal</b>	0.5-1.0 0.5-1.0 3.0-4.0	1.0 1.0 3.0-4.0	1.0 1.0 2.0-4.0	1.0 1.0 2.0-4.0
CARBOHYDRATE mg/kg/min	Start advance <b>goal</b>	5-8 1-2 12-16	7-9 1-3 11-12	7-9 1-3 11-12	3-5 1-3 5-8
FLUID mL/kg		120-200	100-140	100-140	80-120

### Minimum Nutrition to Maintain Positive Nitrogen Balance

	ENERGY	PROTEIN
Term Infant	60 kcal/kg	2.0-2.5 g/kg
Preterm Infant	60 kcal/kg	2.5-3.0 g/kg
Maximum protein 3.5 g/kg, because of risk of metabolic acidosis and hyperammonemia.		

### Daily Recommendations for TPN

- 1) Parenteral energy needs are approx 10-15% less than enteral energy needs (does not include energy for digestion and stool losses)
- 2) Most efficient protein utilization: non protein energy to gram of Nitrogen 150-250 :1
- 3) Protein intake should be monitored/ restricted in acute renal failure and liver failure
- 4) Lipid intake should be reduced/restricted in neonatal hyperbilirubinemia (0.5-1g/kg) and sepsis or acute illness (lipid intolerance may be impaired, however, use of lipids are not contraindicated). Decrease lipids to 1g/kg for the first 48 h, then increase as tolerated
- 5) Carbohydrate advancement rate is determined by glucose tolerance

Ref:

ASPEN Guidelines 1998 for TPN-Safe Practices for Parenteral Nutrition Formulations JPEN 1998; 22:49-66  
The Hospital for Sick Children: Guidelines for the Administration of Enteral and Parenteral Nutrition in Pediatrics 2001

### TPN Formulas

	PERIPHERAL		CENTRAL		
Solution	Primene	Travasol	Primene	Travasol	Travasol
Amino Acid%/Dextrose%	3/12.5	4/10	3/20	5/16.6	5/30
Protein grams/100 mL	3	4	3	5	5
Dextrose grams/100 mL	12.5	10	20	16.6	30

- Primene (contains CYSTEINE) is preferred in newborns up to 1 month postnatal age
- Primene plus lipids are available only as **"TWO IN ONE"** systems: Primene containing amino acids, dextrose, vitamins & minerals in one bag; Lipids in a separate bag
- Travasol plus lipids are available as **"THREE IN ONE"** systems - amino acid, dextrose, vitamins, minerals & lipids in one bag or as **"TWO IN ONE"** systems. **"THREE IN ONE"** systems will be sent unless indicated otherwise under "Special Instructions".



**Daily Recommendation for Enteral Feeding**

<b>Energy &amp; Protein Requirements (RNI 1990)</b>			
<b>Age</b>	<b>Sex</b>	<b>Kcal/kg/day</b>	<b>Pro g/kg/day</b>
<b>Premature (Corrected Age)</b>			
800-1200g 26-28 wk	Both	130	4.00
1200-1800g 29-31 wk	Both	130	3.50
<b>Term</b>			
0-2 mo	Both	100-120	2.15
3-5 mo	Both	95-100	1.46
6-8 mo	Both	95-97	1.41
9-11 mo	Both	97-99	1.37
1 yr	Both	101	1.21
2-3 yrs	Both	94	1.16
4-6 yrs	Both	100	1.06
7-9 yrs	M	88	1.03
	F	76	1.03
10-12 yrs	M	73	1.01
	F	61	1.01
13-15 yrs	M	57	0.98
	F	46	0.95
16-18 yrs	M	51	0.93
	F	40	0.88

\* Intubated: 80% RNI

\* Comatose/Flaccid: 60-75% RNI



**FORMULAS AVAILABLE AT CH, LHSC**

	CATEGORY	FORMULA	ENERGY Kcal/mL
INFANT FORMULA	Human Milk Fortifier	Similac Human Milk Fortifier	3.5 kcal/packet
	Cow's Milk Based: Premature	Similac Special Care 24 with Fe	0.68
	Cow's Milk Based	Similac Advance	0.68
		Similac 24	0.81
		Similac 27	0.92
	Cow's Milk Based:Hydrolyzed Whey	Nestle Good Start	0.68
	Soy Based	Isomil	0.68
Protein & Fat Malabsorption	Alimentum	0.68	
	Pregestimil	0.68	
	Neocate (free aa)	0.67	
Fat Malabsorption	Portagen	0.68	

	CATEGORY	FORMULA	ENERGY Kcal/mL
PEDIATRIC FORMULAS 1- 10 years	Cow's Milk Based: Standard (oral or tube)	Pediasure	1
		Pediasure with fibre	1
		Pediasure Plus with fibre	1.5
	Malabsorption	Peptamen Jr Vivonex pediatrics	1 0.8
> 1 years	Renal	Nepro	2
	Renal: lower protein	Suplena	2

	CATEGORY	FORMULA	ENERGY Kcal/mL
> 10 years	Cow's Milk Based:with Fibre	Jevity	1.06
		Jevity 1.2	1.2
	Malabsorption	Peptamen	1.0
		Peptamen	1.5
		Vivonex Plus (free aa)	1.0
MODULES	Protein	Beneprotein	3.6 kcal/g 0.9 protein/g
	Fat	Corn Oil	8.13 kcal/mL
		MCT Oil	7.7 kcal/mL
Microlipid		4.5 kcal/mL	
	Carbohydrate	Polycose powder	3.8 kcal/g 0.94 g CHO/g



## Enteral Feeding Protocol for PCCU

### Guidelines

1. Assess clinical status of each patient to determine bolus vs. continuous feeds
2. Transition to oral feeds when clinically appropriate
3. All initial jejunal feeds must be run continuously

*These guidelines may not be appropriate in all cases (e.g. surgery, sepsis, poor growth, etc) → Consult Dietitian to assess.*

### Neonate - Healthy preterm and term Infants

Weight	Feeding Options	Method	Starting Volume	Frequency	Increases	Goal Rate	Other Directives → if Medically Indicated
1500-2000g or <34 wks GA	Fortified EBM or SSC 24	NG	2-3 mL	q 3h	2 mL q 6h	To be assessed	Consult Dietitian Check residuals q 4 hrs. If volume is > 50% of previous feeding hold feeding and recheck in 4 hours.
		Continuous NG or NJ	2-3 mL	Hourly	2 mL q 6 h		
2000-2500g & >34 wks GA	EBM or Similac Advance	NG	4-5 mL	q 3h	3 mL q 6h (alternate feeds)	To be assessed	Check residuals as above
		Continuous NG or NJ	4-5 mL	Hourly	3 mL q 6h		
> 2500g	EBM or Similac Advance	NG	5-10 mL	q 4 h (q 2-4h if demand)	4-8 mL q 8 h (alternate feeds)	To be assessed	Check residuals as above
		Continuous NG or NJ	5-10 mL	Hourly	4-8 mL q 6-8 h		

### Infant & Child

Age	Feeding Options	Method	Starting Volume	Frequency	Increases	Goal Rate	Other Directives → if Medically Indicated
Infants < 1 y old	Human Milk or Similac Advance	NG	2-5 mL	q 3-4 h	2-5 mL	To be assessed	Hold feeding if the residual volume is greater than half the volume previously infused
		Continuous NG or NJ	2-5 mL	Hourly	2-5 mL q 4-6 h		
1-10 y old	Pediasure with fibre	Continuous NG or NJ	5-10 mL/h	Hourly	5-10 mL/h q4-6h as tolerated	To be assessed	Check residuals q4h. Hold feeding if residual volume is > volume infused over previous 2h
		Bolus*					
> 10 y old	Jevity 1.0	Continuous NG or NJ	10-20 mL/h	Hourly	10 mL/h q 4-6h as tolerated	To be assessed	Check residuals q4h. Hold feeding if residual volume is > volume infused over previous 2h
		Bolus*					

\*For bolus feeds consult Dietitian

FER-IN-SOL

\* Begin iron supplementation in all breast milk fed preterm infants (<37 wks) once full enternal feeds are achieved.

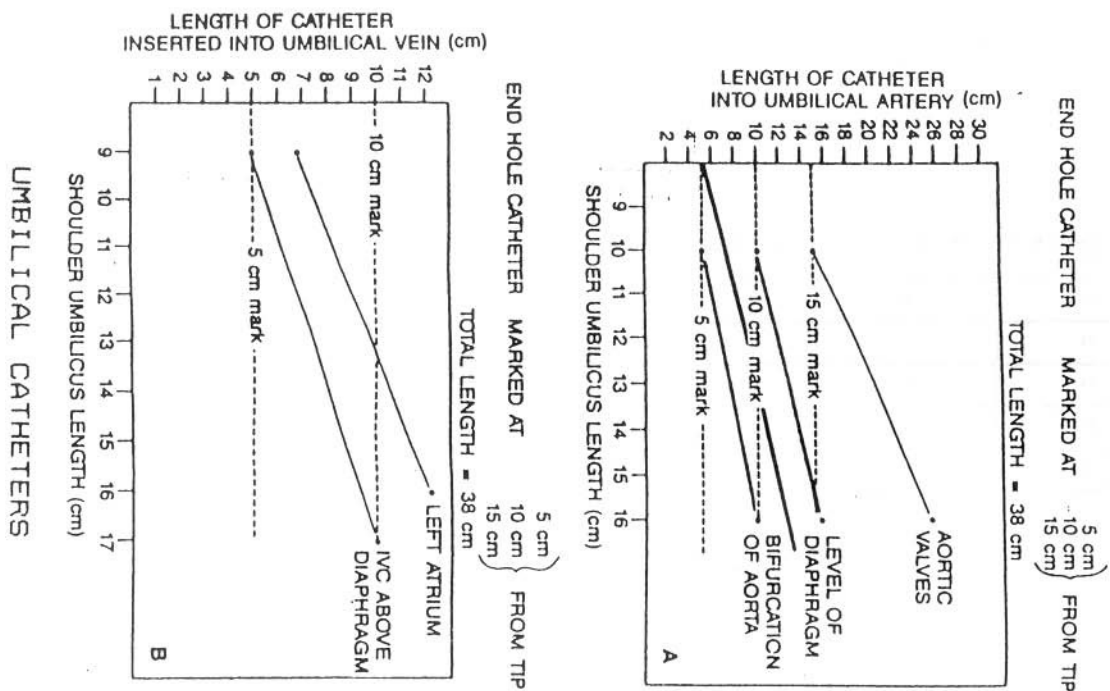
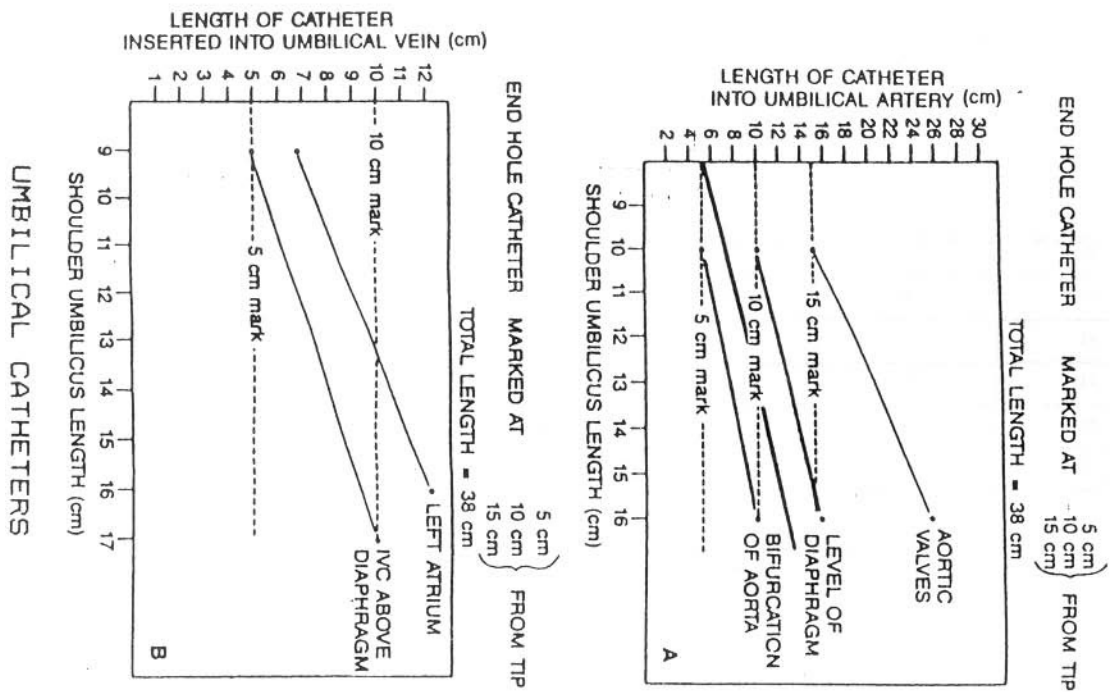
IRON REQUIREMENT (mg elemental Fe/kg/day)	
Birth Weight	Amount
< 1 kg	3-4 mg/kg/day
≥ 1 kg	2-3 mg/kg/day

FER-IN-SOL (mL/day) (1.5 mg Fe/0.1 ml)	
Actual Weight	Amount
≤ 1.5 kg	0.3 mL
> 1.5 kg	0.5 mL

**CHEST TUBE SIZE AND ETT SIZE**

AGE (YR)	WEIGHT (KG)	ETT SIZE	LARYNGOSCOPE BLADE	CHEST TUBE (FR)	FOLEY (FR)
Premature newborn	1-2.5	2.5 uncuffed	0	8	5
Term newborn	3.0	3.0	0-1	10	8
1	10	3.5-4.0	1	18	8
2	12	4.5	1	18	10
3	14	4.5	1	20	10
4	16	5.0	2	22	10
5	18	5.0-5.5	2	24	10
6	20	5.5	2	26	12
7	22	5.5-6.0	2	26	12
8	24	6.0 cuffed	2	28	14
10	32	6.0-6.5	2-3	30	14
Adolescent	50	7.0	3	36	14
Adults	70	8.0	3	40	14

ETT = endotracheal tube; NB, cuffed ETTs used about age 8



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