

Emergency Department Drug Card

300 Longwood Avenue, Boston, MA 02115

Contact Pharmacy (617-355-2837) for information/copies.

CODE BLUE	55555	Comm center	52170
Ultrasound	57840	PAGE system	57243
CT	56310	Lab control	56351
Radiology	56286	Blood Bank	56260
CICU	58087	Bacti	57485
NICU	58076	Heme	56732
MICU	58077	Chem	57122
ED fax	734-0756	Respiratory pager	1089
Poison Control Center	1-800-222-1222	Pharmacy	59954/57395

Antimicrobials (Doses for pts >30 days old unless indicated)

Acetaminophen 10 - 15 mg/kg/dose PO/PR q4h prn (NTE max 4 g/day or 90 mg/kg/day whichever is less)

40 mg/kg PR x1 may be given per ED protocol

Acetylcysteine (see N-acetylcysteine)

Activated Charcoal 1 g/kg (up to 60 grams) PO/NG

Acyclovir**

HSV encephalitis: 60 mg/kg/day/q8h IV

VZV/HSV: 30 mg/kg/day/q8h IV, 80 mg/kg/day/÷ 3-5x/day PO (max 3200 mg/day)

Adenosine 0.1 mg/kg rapid IV/IO (max 6 mg/initial dose), if not effective repeat 0.2 mg/kg rapid IV/IO (max 12 mg/dose)

Albuterol 0.5% inhalation solution 0.25 mL (<10 kg), 0.5 mL (10-30kg) and 1 mL (>30 kg) INH q1-6h prn; continuous inhalation 0.5 mg/kg/hr

Alprostadil (prostaglandin E₁) 0.05 - 0.1 mCg/kg/min IV, titrate to response (max 0.4 mCg/kg/min)

Aminocaproic acid 50 - 100 mg/kg IV x1, then 30 mg/kg/hr IV (max 30 g/day)

Amiodarone

VF/VT arrest: 5 mg/kg IV/IO rapid push (max 300 mg/dose)

Dysrhythmia (unstable): 5 mg/kg IV/IO (max 300 mg/dose) over 20 - 60 min

Amoxicillin* 20 - 120 mg/kg/day/q8h PO (usual 80 mg/kg/day, max 3 g/day)

Amoxicillin/Clavulanic Acid* (dosed as amoxicillin)

Augmentin ES-600 90 mg/kg/day/q8-12h PO

Ampicillin* 200 - 400 mg/kg/day/q6h IV (max 12 g/day)

Ampicillin/sulbactam* (dosed as ampicillin) 200 mg/kg/day/q6h IV (max 8 g/day as ampicillin)-add extra ampicillin for total 12 g/day

Azithromycin (RD for IV)

CAP/AOM 10 mg/kg x1 (max 500 mg/dose), followed by 5 mg/kg (max 250 mg/day) IV/PO x4 days; resistant AOM: 30 mg/kg (max 1500 mg/dose) PO x1 dose;

Strep pharyngitis 12 mg/kg/day/Qday x 5d OR 10mg/kg/day x1 day then 5mg/kg/day/Qday x4 days

see sexual assault dosing on back

Bactrim* 8 - 20 mg TMP/kg/day/q6 - 12h IV/PO

Calcium CHLORIDE 10% (100 mg/mL): must dilute

0.2 mL/kg = 20 mg/kg central IV (max 2000 mg), slowly

Calcium GLUCONATE 10% (100 mg/mL): 1 mL/kg = 100 mg/kg IV (max 3000 mg/dose), dilute further

Cefazolin* 50 - 150 mg/kg/day/q8h IV (usual adult 2 g/dose, max 12 g/day)

Cefepime** (RD) 150 - 200 mg/kg/day/q8h IV (max 6 g/day)

Cefixime** 16 mg/kg/day PO on day 1, then 8 mg/kg/day/BID PO (max 400 mg/day)

Cefotaxime* (RD) 150 - 300 mg/kg/day/q6 - 8h IV (max 12 g/day)

Cefoxitin** 80 - 160 mg/kg/day/q6 - 8h IV (max 12 g/day)

Ceftazidime** (RD) 150 mg/kg/day/q8h IV (max 6 g/day)

Cystic Fibrosis: 150 - 200 mg/kg/day/q8h IV (max 6 g/day)

Ceftriaxone 50 - 100 mg/kg/day/q12 - 24h IV/IM (max 4 g/day)

Cephalexin** 25 - 100 mg/kg/day/QID PO (max 4 g/day)

Cetirizine* 2 - 5 year: 2.5 - 5 mg/day/Qday-BID

≥6 year: 5 - 10 mg/day/Qday-BID

Chloral Hydrate See procedural sedation dosing on back

Ciprofloxacin* (RD) 20 - 30 mg/kg/day/q12h IV (max 800

mg/day); Severe *P.aeruginosa* 30 mg/kg/day/q12h IV (max 1.2 g/day); 20 - 30 mg/kg/day/q12h PO (max 1.5 g/day)

Clindamycin 25 - 40 mg/kg/day/q8h IV (max 4.8 g/day)

10 - 30 mg/kg/day/q8h PO (max 1.8 g/day)

Codeine 0.5 - 1 mg/kg/dose PO q3 - 4h prn

(usual adult 60 mg/dose)

Dexamethasone

Croup: 0.6 mg/kg/dose IM/PO x1 (max 10 mg/dose)

Inflammation: 0.5 - 2 mg/kg/day q6 - 8h IV/PO

Asthma: 0.4 mg/kg IV x1, then 0.1mg/kg/dose IV Q6-12h

Dextrose 0.5 - 1 g/kg IV/IO (D25W 2 - 4 mL/kg, D10W 5 - 10 mL/kg)

Diazepam rectal gel <5 year: 0.5 mg/kg/dose PR q2h prn

6 - 11 year: 0.3 mg/kg/dose PR q2h prn

≥12 year: 0.2 mg/kg/dose PR q2h prn

injection given PR 0.5 mg/kg x 1

0.05 - 0.2 mg/kg/dose IV q2 - 4h prn (max 10 mg/dose;

max 0.6 mg/kg per 8h period)

0.1 - 0.8 mg/kg/day/q6-8h PO (max 10 mg/dose)

Diphenhydramine 1 mg/kg/dose IV/PO q6h prn (usual adult 25 - 50 mg/dose)

Dobutamine 2.5 - 20 mCg/kg/min IV

Dopamine 2.5 - 20 mCg/kg/min IV

Enoxaparin (for treatment check LMWH level 4 hr after dose)

DVT/PE Treatment: <2 mo = 1.5 mg/kg/dose SC q12h

≥2 mo = 1 mg/kg/dose SC q12h

Epinephrine

IM: (1:1,000) 0.01 mg/kg/dose IM (0.01 mL/kg/dose)

(max 0.5 mL/dose IM)

FOR CARDIAC ARRHYTHMIAS, SEE PALS SECTION

Erythromycin 15 - 50 mg/kg/day/q6h IV (max 4 g/day)

30 - 50 mg/kg/day/q6h PO (max 3.2 g/day EES)

Esmolol 500 mCg/kg IV x1 over 1 min, then 50 mCg/kg/min CI. If no response in 4 minutes, repeat 500 mCg/kg IV x1 over 1 min, then 100 mCg/kg/min (max 200 mCg/kg/min)

Fentanyl 1 - 2 mCg/kg/dose IV q1h prn (usual adult 100 mCg/dose)

Fluconazole** (RD for IV) 3 - 12 mg/kg/day/Qday IV/PO

(max 800 mg/day)

Fomepizole 15 mg/kg load, then 10 mg/kg IV q12h (if receiving hemodialysis, give 15 mg/kg IV q12h)

Fosphenytoin 20 mg PE/kg IV load (run at 3 mg PE/kg/min, max

150 mg PE/min), then 5 - 8 mg PE/kg/day/q12h IV/IM

(Trough level: total=10 - 20 mCg/mL, free=0.4 - 1.4 mCg/mL)

Furosemide 1 mg/kg/dose IV/PO q6h, CI 0.05 - 0.1 mg/kg/hr

Gentamicin***

(dose on Adj Body Wt, check pk/trough with 3rd dose)

< 35 weeks GA, <30 days old: 3 mg/kg/Qday IV

≥35 weeks GA, <30 days old: 4 mg/kg/Qday IV

>1 mo - 10 yo: 7.5 mg/kg/Qday IV or 7.5 mg/kg/day/q8h IV

>10 yo: 6 mg/kg/Qday IV or 6 mg/kg/day/q8h IV

Glucagon < 20 kg: 0.5 mg IM/SC/IV; > 20 kg 1 mg IM/SC/IV

Haloperidol 0.025 - 0.075 mg/kg/dose (max 10 mg/dose) IV q6h with ½ that dose q2h prn

Heparin 75 units/kg IV x1, then continuous infusion as follows:

<1 yo = 28 units/kg/hr IV; ≥1 yo = 20 units/kg/hr IV

For low molecular weight heparin, see enoxaparin.

Hydralazine 0.1 - 0.5 mg/kg/dose IV q4 - 6h (usual adult 20 mg/dose)

Hydrocortisone

Emergent: 1 - 2 mg/kg IV x1

Stress Dose: 50 mg/m² IV x1, then 50 mg/m²/day/q6 - 8h IV

Maintenance Dose: 10 - 20 mg/m²/day/q6 - 8h IV/PO

Hydromorphone 0.015 mg/kg/dose IV q2-3h (MAX 0.6 mg/dose if opiate naive); 0.03-0.08 mg/kg/dose PO q4-6h PRN (adult MAX 4 mg/dose if opiate naive)

Hypertonic Saline 3% 5 mL/kg IV over 15 min; continuous infusion 1 - 2 mL/kg/hour IV

Ibuprofen 10 mg/kg/dose PO q6h prn (usual adult 600 mg/dose)

Insulin (Regular) 0.1 units/kg IV/SC x1, CI 0.1 units/kg/hr IV

Ipratropium 0.25 mg (<10 kg), 0.5 mg (>10 kg) INH q4 - 6h

Kayexalate 1 g/kg/dose (max 15 g/dose) PO q6h OR

1 g/kg/dose (max 50 g/dose) PR q2 - 6h

Ketorolac 8 - 12.5 kg = 4 mg; 12.5 - 25 kg = 7.5 mg;

>25 - 50 kg = 15 mg; >50 kg = 30 mg IV q6h x 24 - 72h

Labetalol 0.25 - 1 mg/kg/dose IV q4-6h (max 20 mg/dose); may need to give more frequent doses in hypertensive emergency

Lidocaine 1 mg/kg IV/IO x1, infusion 20 - 50 mCg/kg/min IV/IO ET dose 2 - 10x IV dose

Lorazepam 0.05 - 0.1 mg/kg/dose IV/PO q4 - 8h prn (max 4 mg/dose); continuous infusion 0.05 - 0.1 mg/kg/hr IV

Magnesium sulfate asthma: 40 mg/kg IV slow over 20 minutes (max 2 g/dose)

Mannitol 0.5 - 1 g/kg/dose IV over 20 min for ↑ ICP/cerebral edema, then 0.25 - 1 g/kg/dose IV q4-6h

Methotrexate see on-line treatment plan for ectopic pregnancy

Methylprednisolone

Asthma: 2 mg/kg x1, then 1 mg/kg/dose IV q12h

Conversion: methylprednisolone 5 mg = dexamethasone 1 mg

Metoclopramide 0.1 - 0.2 mg/kg/dose IV/PO q6h prn (max 10 mg/dose)

acetaminophen ingestion: 1 mg/kg/dose IV/PO q6h prn (max 50 mg/dose) with diphenhydramine

Metronidazole 30 mg/kg/day/q6h IV/PO (max 4 g/day)

Midazolam 0.05 - 0.1 mg/kg/dose IV/IM q1 - 2h prn; CI 0.05 - 0.1

mg/kg/hr IV; see procedural sedation dosing on back

Milrinone 50 mCg/kg/dose IV x1, then 0.25 - 1 mCg/kg/min IV

Morphine <6 months: 0.05 mg/kg/dose IV q2-4h prn; >6 months: 0.05 - 0.1 mg/kg/dose IV q2h prn (usual adult 10 mg/dose IV); CI 0.05 - 0.1 mg/kg/hr IV

Moxifloxacin (RD) 10 mg/kg/dose IV/PO q24h (max 400mg/dose)

N-acetylcysteine 140 mg/kg PO x1 then 70 mg/kg PO q4h

x17doses OR investigational 140 mg/kg IV over 45 minutes then

70 mg/kg IV q4h x 12 doses (consult tox for IV)

Naloxone Full Reversal 100 mCg/kg IV/IM/ET (max 2 mg/dose);

Partial reversal 10 mCg/kg IV/IM

Nifedipine 0.25 - 0.5 mg/kg/dose/q6h PO (max 10 mg/dose)

Nitroglycerin 0.5 - 5 mCg/kg/min IV

Nitroprusside 0.5 - 10 mCg/kg/min IV (3cyanide & thiocyanate levels esp if dose >4 mCg/kg/min or if used for >3 days)

Norepinephrine 0.05 - 1 mCg/kg/min IV

Octreotide 1 - 2 mCg/kg/hr IV (max 50 mCg/hr)

Omeprazole 1 mg/kg/QDay PO(max 3.3 mg/kg/day,adult 20 mg/day)

Ondansetron < 5 kg = 0.5 mg IV q8h prn; <30 kg = 1 mg IV q8h prn; ≥30 kg = 2 mg IV q8h prn. ORAL: 6 mo- 1yr = 2 mg; 1 yr – 12yr = 4 mg; > 12 yr = 8 mg

Oxacillin 150 - 200 mg/kg/day/q4 - 6h IV (max 12 g/day)

Oxycodone IR 0.05-0.15 mg/kg/dose PO q4-6h prn (adult 5 mg/dose)

Pancuronium 0.1 mg/kg/dose IV q1 - 2h prn
Continuous infusion: 0.1 mg/kg/hr IV

Penicillin G (aqueous)* 100K - 400K units/kg/day/q4 - 6h IV (max 24 Million Units/day)

Penicillin G Benzathine (IM only) 50K units/kg IM x1, available doses 300K, 600K, 900K, 1.2 million units (max 1.2 Million Units/dose)

Penicillin VK 25 - 50 mg/kg/day/q6 - 8h PO (max 2 g/day)

Pentobarbital see procedural sedation dosing below

Phenobarbital 20 mg/kg IV load, then 5 mg/kg/day/q12 - 24h IV/PO (Trough level 15 - 40 mCg/mL)

Phenylephrine 0.1 - 0.5 mCg/kg/min IV

Phytonadione (Vitamin K₁) 1 - 5 mg/dose SC/IV q24h x 3 days (must be given SLOWLY by IV route)

Piperacillin/Tazobactam** (dosed as piperacillin) 300 mg/kg/day/q6h IV (max 18 g/day as pip)-may add extra pip for total 24 g/day

Prednisone asthma: 2 mg/kg PO x1 (max 80 mg/dose), then 2 mg/kg/day/q12h PO

Procainamide <1 year: Load 3-7 mg/kg IV over 30 min; then 20-80 mCg/kg/min IV
>1 year: Load 5-15 mg/kg IV over 30 min; then 20-80 mCg/kg/min IV

Prochlorperazine 0.4 mg/kg/day/q6h prn PO/PR (max 10 mg/dose), 0.13 mg/kg/dose IM (IV with caution) q6h prn

Prostaglandin E₁ (see alprostadil)

Racemic epinephrine 2.25%:(< 5 kg) 0.25 mL, (>5 kg) 0.5 mL INH q1h prn

Ranitidine** 3 mg/kg/day/q8h IV (max 60 mg/dose) or 4 - 6 mg/kg/day/q12h PO (max 150 mg/dose)

Sodium Bicarbonate (1 mEq/mL) 1 mEq/kg = 1 mL/kg IV/IO slow (use 0.5 mEq/mL concentration {2 mL/kg} for neonates)

tPA (Alteplase)
catheter clearance] volume of catheter + 10% (max 2 mg/2 mL) in clogged port for 20 min - 2 hrs, then withdraw
systemic thrombolytic therapy: 0.1 - 0.6 mg/kg/hr IV x 6 hrs (consult heme service)

Terbutaline 10 mCg/kg IV/SC x1, then 0.4 - 6 mCg/kg/min IV
Suggested max total β₂-agonist dose = 20 mg/hr

Thiopental Increased ICP: 1.5 – 5 mg/kg; Intubation: see RSI

Tobramycin*** same as gentamicin

Unasyn®* (see ampicillin/sulbactam)

Valproic acid 20 mg/kg IV bolus (SE run at 5 mg/kg/min, non-SE run over 1 hour), then 15-100 mg/kg/day/q6h IV OR 15-100 mg/kg/day/q8h PO

Vancomycin*** (RD, √ trough with third dose, trough 5 - 15) 40 - 60 mg/kg/day/q6 - 8h IV (usual adult 2 g/day)

Vasopressin
DI: 0.5 milliunits/kg/hr IV, double dose q30min prn to effect (UO < 2mL/kg/hr) to max 10 milliunits/kg/hr
GI Bleed: 2 - 5 milliunits/kg/min IV, titrate as needed. Once no bleeding x12 hrs taper off over 24 - 48 hrs.
Pulseless VT/VF: adult 40 units IV x1

Vecuronium 0.1 mg/kg/dose IV q1h prn
Continuous infusion 0.05 - 0.2 mg/kg/hour IV

Vitamin K₁ (see phytonadione)

Zosyn®** (see piperacillin/tazobactam)

NF = non-formulary, outpatient use only
RD = Restricted antibiotic. Page beeper BUGG (2844) for approval.
*Dose adjust for creatinine clearance <30 mL/min/1.73m²
**Dose adjust for creatinine clearance <50 mL/min/1.73m²
***Dose adjust for creatinine clearance <70 mL/min/1.73 m²

Procedural Sedation

Chloral Hydrate 50 – 100 mg/kg/dose PO/PR x1, may repeat in 30 min with 25 - 75 mg/kg PO/PR x 1 (max total dose 100 mg/kg; 1 gm infants < 1 yo, 2 gm children)

Fentanyl 1-2 mcg/kg/dose IV x1 (max 100 mcg/dose); repeat dose 1 mcg/kg/dose (max 50 mcg/dose) q3 min; max 5 mcg/kg or 500 mcg, whichever is less

Ketamine 1 - 2 mg/kg/dose IV x1 (max 100mg/dose), repeat dose 0.5 mg/kg/dose IV (max 50 mg/dose) q2-5min, max 5 mg/kg or 500 mg; 4-5 mg/kg/dose **IM** with atropine 0.02 mg/kg/dose (min 0.1 mg, max 0.5 mg) x1, may repeat ketamine 2 mg/kg IM x 1 if inadequate sedation in 10 min

Midazolam IV: 0.05 – 0.1 mg/kg/dose IV x 1 (max 2 mg/dose), may repeat q3 min at 0.05 mg/kg (total max 0.3 mg/kg or 10mg, whichever is less)
PO: 0.25 – 0.75 mg/kg/dose PO (max 15 mg); Intranasal: 0.2 mg/kg/dose

Pentobarbital 2 mg/kg/dose (max 100 mg/dose) IV q5 min until asleep (total max 6 mg/kg or 300 mg, whichever is less); 2 – 6 mg/kg/dose PO x1

Reversal Agents

Opioids: **Naloxone** Full reversal: 0.1 mg/kg/dose IV/IM/ET* (max 2 mg/dose) or **Nalmefene** 0.25 mcg/kg/dose IV (max 40 mcg) q2min to a max of 1 mcg/kg (max 0.5 mg)

Benzodiazepines: **Flumazenil**: 0.01 mg/kg/dose IV (max 0.2 mg/dose). May repeat prn to 0.05 mg/kg or 1 mg total, whichever is less.

Non-Depolarizing Muscle Relaxants: **Neostigmine** 0.07 mg/kg IV (max 5 mg total), premed first with glycopyrrolate 5 - 15 mcg/kg/dose IV

Sexual Assault (adolescent)

Ceftriaxone 250 mg IM x 1 OR **Cefixime** 400 mg PO x 1;
Azithromycin 1 gm PO x 1; **Kaletra 400 mg PO x 1: Truvada 1 tab PO x 1. PlanB** 1.5 mg PO x1; Also consider **metronidazole** 2 g PO x 1. Write appropriate outpt prescriptions to continue therapy.

Age, Approximate Body Size, and Airway

Age	Birth	6mth	1 yr	2 yr	3 yr		5 yr	6 yr	8 yr	10 yr	12 yr	14 yr	Adult
Average Weight (kg)	3.5	7	10	12	14	16	18	20	25	30	40	50	70
Approx. BSA (m ²)	0.25	0.38	0.49	0.55	0.64	0.74	0.76	0.82	0.95	1.18	1.34	1.50	1.73
ETT Size (Age + 16) / 4	3-3.5	3.5-4	4	4.5	4.5	5	5	5.5	6	6.5	7	7	7.5-8

PALS medications

Bradycardia:
Epinephrine
IV: (1:10,000): 0.1 mL/kg (0.01 mg/kg) IV/IO q3min
ET: (1:1,000): 0.1 mL/kg (0.1 mg/kg) ET q3min
Atropine 0.02 mg/kg/dose IV/IO (min 0.1 mg/dose, max 1 mg/dose); repeat x 1 prn: ET dose 2 - 10 x IV dose

VF/Pulseless VT:
Epinephrine (see above)
Lidocaine 1 mg/kg IV/IO x1, infusion 20 - 50 mCg/kg/min IV/IO; ET dose 2 - 10 x IV dose

Amiodarone
VF/VT arrest: 5 mg/kg IV/IO (max 300 mg/dose)
Dysrhythmia (unstable): 5 mg/kg IV/IO over 20 – 60 min

PEA/asystole:
Epinephrine (see above)

PSVT:
Adenosine 0.1 mg/kg rapid IV/IO (max 6 mg/initial dose).
If not effective repeat 0.2 mg/kg rapid IV/IO (max 12 mg/dose)

Rapid Sequence Intubation

Premedication:
Atropine (< 7 years): 0.02 mg/kg/dose IV (min 0.1 mg/dose, max 1 mg/dose); repeat x 1 prn
Lidocaine 1 mg/kg IV x1

Anesthetics/Sedatives:
Etomidate 0.3 mg/kg/dose IV
Ketamine 0.5 - 2 mg/kg/dose IV; 3 - 7 mg/kg/dose IM
Lorazepam 0.1 mg/kg/dose IV (max 4 mg/dose)
Midazolam 0.1 mg/kg/dose IV (max 2 mg/dose)
Thiopental 4 - 6 mg/kg/dose IV

Paralytics:
Rocuronium 0.6 - 1.2 mg/kg/dose IV
***Succinylcholine** 1 - 2 mg/kg/dose IV, (2 mg/kg/dose if <1 yo); 3 - 4 mg/kg/dose IM (max 150 mg/dose)
Vecuronium for sustained paralysis post-intubation: 0.05 – 0.2 mg/kg/hr

Blood Products

Albumin (5%) 10 mL/kg = 0.5 g/kg; **Cryoprecipitate** 1 unit/10 kg; **Factor VIIa** 90 mCg/kg/dose, repeat q2h
Factor VIII 15 - 50 units/kg; **FFP** 10 - 15 mL/kg
Packed red cells 10 mL/kg will raise Hct ~ 10%
Platelets 1 unit/10 kg will raise count ~ 50,000

Cardioversion/Defibrillation

SVT or V-tach with pulse: 0.5 - 1 joules/kg synchronized x1; If no response, 2 joules/kg synchronized x1
V-fib or pulseless V-tach: 2 joules/kg x1, 4 joules/kg x2 (adult 200 joules, 300 joules, 360 joules)