ERRATUM:

Fluconazole: IV/ PO Load 6 mg/kg x 1 dose then, 3-12 mg/kg/day (once daily)
Metoclopramide: IV/ PO acute 1 mg/kg x 1 dose then, 0.5 mg/kg q6h. Delayed N/V: 0.5 mg/kg q6H; Give Diphenhydramine to prevent EPS.

Children's Hospital Boston, Massachusetts

Hematopoietic Stem Cell Transplant/Oncology Reference Card

CHEMOTHERAPY TRIVIA

Key: h-hepatic excretion,r-renal excretion,u-route of excretion unknown,d-degraded
boldface indicates dose limiting and/or life threatening toxlcities

Emetogenic agents (acute symptoms):

Severe emetogenics	Moderate emetogenics	Mild emetogenics	Nonemetogenics
Cisplatin (>40mg/m2)	anthracyclines	bleomycin	asparaginase
hd* cyclophosphamide**	carboplatin	etoposide	mercaptoputrine
hd cytarabine**	cisplatin (<40mg/m2)	paclitaxel	low dose METHOTREXATE
dacarbazine	cyclophosphamide (ld-md)	procarbazine	IT METHOTREXATE
dactinomycin	IT cytarabine	teniposide	steroids
hd ifosfamide**	hd METHOTREXATE	topotecan	thioguanine
meclorethamine	nitrosureas	vinblastine	vincristine

*high dose; **emetogenicity is dose dependent

Chemotherapeutic agents		Things to follow pre/during	Types of Cancer used with
Actinomycin D/(h) (Dactinomycin)	-Give IVP into freshly cannulated vessel or cvl Toxicities:**myelosuppression** (nadir 7-20d, recovery hepatotoxicity, **tissue necrosis if extravasates**	**-CBC for all except as noted*** LFT's prior	-Wilms, Rhabdomyosarcoma Ewing's sarcoma
Anthracyclines doxorubicin (adriamycin)_ daunorubicin (daunomycin)	-Give IVP into freshly cannulated line or cvl Toxicities:**myelosuppression** (nadir 7-10d recovery 14-21d), **cardiomyopathy** (acute/chronic) red urine, alopecia, n/v, mucositis, hepatotoxicity, **vesicant**	-Echocardiogram-pre-1st dose Total/direct bili - prior mucositis - prior	-ALL, AML, Osteosarcoma Ewing's, Neuroblastoma NHL, Hodgkin's
Cytarabine (d) (Ara-C, cytosine arabinoside)	-Give IV in standard or high dose, IT with filter Toxicities: myelosuppression (nadir 10-14d, recovery 21-28d), n/v, fever, ataxia, nystagmus, alopecia, rash,diarrhea, conjuctivitis with HD, hepatotoxicity	-Remember eye gtts with HD Neuro exam - ataxia/ nystagmus- before each dose LFT's prior	-AML, ALL, CML, NHL Hodgkin's
Asparaginase	-Given IM. Toxicities: **hypersensitivity reaction**, hypoalbuminemia,**pancreatitis**, hypercholesterolemia, coagulopathy,**cns thrombosis** or bleed, encephelopathy, azotemia	-Check glucose/amylase prior to each dose No CBC needed	-ALL, AML, NHL
Nitrosureas(r) Carmustine (BCNU) & Lomustine (CCNU)	-Give IV over 1-2h via cvl or freshly cannulated vein Toxicities: **myelosuppression** (nadir 4-6 wks, recovery 6-8 wks). n/v, **pulmonary fibrosis**, nephropathy, cellulitis if extravasates	-LFT's, BUN/CR	-Brain tumors, Myeloma Hodgkin's, NHL
Bleomycin(r)	-Give IV.Toxicities: mucositis, alopecia, rash, **pulmonary fibrosis**,hyperpigmentation	-PFT's prior to every other dose	-Hodgkin's, mixed germ cell,some sarcomas
Carboplatin(r)	-Give slow IV; does not require mannitol or hydration,inactivated by contact with aluminum,Toxicities: myelosupression, less nephropathy and neuropathy than cisplatin, potentiates toxicity of aminoglycosides, mild hepatotoxicity.	-Audiogram - pre 1st dose LFT's, BUN, CR	-NHL, Relapsed Wilms,Hepatoblastoma
Cisplatin(r) (CDDP)	-Toxicities: myelosuppression, **renal tubular nephropathy** with Mg wasting, **high frequency hearing loss, N/V*****,**peripheral neuropathy.	-Audiogram pre-each dose, Mg, K, creatinine - prior. watch I/O closely	-Germ cell, Brain tumors,Osteosarcoma, Neuroblastoma
Cyclophosphamide (Cytoxan) (r,h)	-Give IV over 30-60 minutes or PO with good hydration.Toxicities: **myelosuppression** (nadir 8-14d, recovery 8-25d),n/v, **Hemorrhagic cystitis**(diminished by MESNA), SIADH,alopecia, myocardial necrosis, immunosuppression.	-Urine S.G. of <1.010 to start,follow lytes, urine output,hematuria,LFT's prior	-Neuroblastoma, Ewing's - Rhabdomyosarcoma, NHL,Hodgkin's, retinoblastoma
Dacarbazine(r) (DTIC)	-Give IV into freshly cannulated vein or CVL, phenobarbital and dilantin can change metabolism,Toxicities: n/v, myelosuppression, hepatotoxicity, pain at IV site	-LFT's prior	-Germ cell tumor, Hodgkin's,Neuroblastoma
Epipodophyllotoxins Etoposide (VP-16) Teniposide (VM-26) (r)	-Give by slow infusion, monitoring closely for hypotension,Toxicities: **myelosuppression** (nadir 7-14d0, hypotension if given too rapidly, n/v, secondary malignancy	-Monitor BP closely	-Ewing's, osteosarcoma,AML, neuroblastoma,Brain tumors
Ifosfamide (r)	-Give IV with hydration (similar to cyclophosphamide), Toxicities: **Hemorrhagic cystitis** (must be given with MESNA),altered mental status, SIADH, CNS effects, myelosuppression	-Monitor urine output, Fanconi's syndrome, hematuria	-Neuroblastoma, Ewing's,Osteosarcoma
Mercaptopurine (6-MP) Thioguanine (6-TG)(r)	-Give PO preferably at bedtime (IV investigational use only),Reduce 6-MP dose by 25% when given with allopurinol. (Not necessary to reduce 6-TG with allopurinol or liver disease).Toxicities: hepatotoxicity, myelosuppression, n/v, mucositis.6-TG has has mild GI effects	-LFT's prior	-ALL, AML, CML, NHL,Hodgkin's
Methotrexate (r)	-Give IV high, intermediate dose,low dose IV,IT,PO,IM, wide dose ranges for different uses, dose reduce with renal disease, avoid use of ASA, sulfonamides, tetracycline,chloramphenicol,dilantin,NSAIDS. Leukovorin rescue (antidote) required with high/intermediate dose.Toxicities: n/v, **myelosuppression**(nadir7-14d,recovery14-21d),hepatotoxicity,nephrotoxicity,osteoporosis,pneumonitis,alopecia,**mucositis**,cns side effects with IT.	-Cr pre-high dose LFT's prior, follow LFT's especially with ascites,decreased renal status,mucositis-prior. -METHOTREXATE levels,urine PH-during high/intermediate dose infusion.	-ALL,AML,NHL, Rhabdo.Osteosarcoma, Hodgkin's
Prednisone (r)	-Give PO.(IV form methylprednisolone).Toxicities: hypertension,osteoporosis,immunosuppression, gastritis,pancreatitis,mental status changes,adrenal suppression,hyperglycemia.	-No CBC needed.	-ALL,AML,NHL, Hodgkin's
Procarbazine (r)	-Give PO. Toxicities:Myelosuppression(nadir25-36d,recovery 30-50d),n/v,peripheral neuropathy,hypertension(drug interaction),confusion.	-No MAO's during.	-Hodgkin's, Brain tumor
Paclitaxel (r) (Taxol)	-Give as IV infusion. Toxicities:acute hypersensitivity,bradycardia,hypotension, myelosuppression(nadir 10d,recovery 18d), mucosisits, myalgias,alopecia,n/v	-LFT's prior	
Topotecan (r)	-Given IV. Toxicities: **dose limiting neutropenia**, (nadir 10-12d,recovery 15-21d),prolonged thromboocytopenia,n/v/d,alopecia,HA,fever,fatigue.	-LFT's prior.	
VinCRIStine (h) (oncovin)	-Give IV via freshly cannulated vein or CVL. **Max dose 2mg. LETHAL IF GIVEN INTRATHECAL.** Toxicities: alopecia, constipation,peripheral neuropathy**, tissue necrosis if extravasates,**SIADH.	-LFT'S, T.Bili. NO CBC needed. Monitor constipation, peripheral neuropathies.	-ALL, Neuroblastoma, Rhabdo, Ewings, osteosarcoma, Wilm's.
VinBLASTine (h) (Velban)	-Give IV freshly cannulated vein or CVL. Toxicities: myelosuppression(nadir 7-9d,recovery 14-21d),n/v peripheral neuropathy(rare),**cellulitis if extravasates**.	-CBC,LFT's- prior. Exam for peripheral neuropathy.	-Hodgkin's, Histiocytosis, NHL.

BSA calculation:

$$\sqrt{\frac{\text{ht (cm)} \times \text{wt (kg)}}{3600}}$$

ONCOLOGY / SCT CARD

Dana-Farber Cancer Institute – Children's Hospital

Medical Directors

SCT – Leslie Lehmann, MD	632-4923	pg# 44023
ONC - Jennifer Mack, MD	632-6818	pg# 42860
JFC – Lewis Silverman, MD	632-5285	pg# 44034

Useful Numbers	**DFCI**	**CH**
Blood Bank		355-6260
Chemistry Lab		355-6733
Hematology Lab		355-6639
Heme/Path DF	632-3268	
Jimmy Fund Clinic	632-3293	
Lab Control		355-6351
Medical Records	632-3225	355-7546
Microbiology Lab		355-7485
Page - Direct	632-2337	355-7243
Page - Operator	632-3352	355-6363
Pharmacy (JFC/CH)	632-3785	355-8935
Pharmacy (24hr CH)		355-6807
Oncology/ HSCT CH pharmacist		pg# 0494
Pedi Psych-Soc Service	632-5425	

TUMOR LYSIS THERAPY:

Alkalinization; **D5W w/HCO3 75 mEq/L @ 3000 mL/m2/day (2xmaint)**
Goal= urine ph 7-8, adjust as needed
Hyperuricemia: Allopurinol: <6yo: 50 mg PO TID/ >6yo: 100 mg PO TID
IV needs pre-approval: 100 mg/m2 IV q8h- 3.3 g/kg IV q8h
Rasburicase 0.15-0.2 mg/kg x 1dose (max 5 doses)-evaluate daily

ANALGESICS (starting dose)

PCA: Pain SVC attending signs 1st order – onc resident orders adjustments
Codeine*- 0.5-1mg/kg/dose PO q4-6h
Fentanyl*- 0.5-2 mcg/kg/dose q1h- *consult Pain Team for PCA use*
Hydromorphone (Dilaudid)- 0.015 mg/kg/dose IV/SQ q3-4h
0.06 mg/kg/dose PO q3-4h
Meperidine*(Demerol) 1-1.5 mg/kg/dose IV/PO q3-4h
Methadone 0.1mg/kg/dose PO q4h x 2-3doses,
then q6-12h PRN (MAX: 10mg/dose)
Morphine* 0.1-0.2 mg/kg/dose IV/SQ q2-3h or 0.3 mg/kg/dose PO q3-4h
Morphine SR (MS Contin) (15mg &30mg tabs): daily **morphine IR** dose/BID
Oxycodone <50 kg: initial: 0.2 mg/kg q 3-4 h
≥50 kg: Moderate to severe pain: initial: 10 mg q3-4 h
Oxycodone SR (10mg & 20mg tabs): **daily oxycodone IR** dose ÷BID

Conscious sedation:
Fentanyl* 1 mcg/kg/dose x1-2/ rare 3rd. (MAX/dose 100 mCg)
Midazolam (versed) 0.05 - 0.1 mg/kg/dose IM/IV- may repeat x1 (MAX single dose: 2mg. MAX total dose: 6mg)
...reversal agents
Opioids: Naloxone (Narcan) 0.05-0.1 mg/kg/dose IM/IV/SQ/ET Q2-3min. Reversal w/ severe pain, dilute 1:10 / give in increments
Benzodiazepines: Flumazenil (Romazicon) 0.01 mg/kg/dose IV (MAX 0.2m repeat qmin to MAX 1mg/repeat q20min to MAX 3mg/hr)*Requires renal adjustment (consult formulary for calculations)

ANTIHYPERTENSIVES

Amlodipine:0.1 mg/kg PO QDAY. (MAX 10 mg/day)
Clonidine: PO 5-10 mcg/kg/day/BID-TID. (MAX 900 mcg/day)
Transdermal = total daily dose (100;200,300 mcg patch)-change q7day
Hydralazine*: starting PO: 0.25 mg/kg/dose q4-6h prn (MAX 100 mg/day)
Starting IV:0.1-0.2 mg/kg/dose IV q4-6h prn. (MAX 3.5 mg/kg/day)
Minoxidil: <12yo: 0.1-0.2 mg/kg/day QDAY. (MAX 5 mg/day-↑ q3 days)
>12 yo: initial dose: 5 mg PO QDAY- ↑ q3 days
Usual dose: 10-40 mg QDAY. (MAX 100 mg/day)
Nifedipine: 0.25-0.5 mg/kg/dose SL q 4-6h prn.
(MAX 10mg/dose)
Nifedipine SR**(Procardia XL)** (tabs 30 & 60 mg):daily nifedipine prn dose

ANTIMICROBIALS

Acyclovir (HSV) IV 750 mg/m2/day/q8h or
PO 80mg/kg/day/q6h. (MAX 1Gm/day)
(VZV) IV 1500mg/m2/day/q8h or PO 80 mg/kg/day/QID(MAX 4 Gm/day)
Ambisome: (liposomal amphotericin: IV 3-5 mg/kg q24h
Atovaquone: PO (1-3mo & >24mo) 30 mg/kg QDAY ;(4-24mo) 45 mg/kg QDAY
Aztreonam: IV 120 mg/kg/q6h. (MAX 8 Gm/day)
Cefepime*: IV 150 mg/kg/day/q8h (MAX 6 Gm/day)
Ceftriaxone: IV 50-75 mg/kg/day q24h. (Max 2 Gm/day; CNS 4 Gm/day - q12h)
Cephalexin: PO 25-100 mg/kg/day/q6h. (MAX 4G/day)
Ciprofloxacin: PO/IV 20-30/kg/day +q12h PO/IV . (MAX PO 2G/day; IV 800mg/day)
Clindamycin: PO 10 -30 mg/kg/day/q8h (MAX 1.8 Gm/day)
IV 24 -40 mg/kg/day/q8h (MAX 2.7 Gm/day)
Dapsone: PO 2 mg/kg QDAY (MAX 100 mg/day) or 4 mg/kg qWk (MAX 200mg/dose)
Famciclovir*: PO- adults dosage: 1500 mg/day/q8h
Fluconazole*: O/P/esophageal candidiasis: IV/PO Load: 6 mg/kg x1 dose
Gentamicin*: IV (≥1mo <10yo) 7.5 mg/kg/day/q8h;
(>10yo) 6mg/kg/day/q8h (√ levels)
Meropenem* IV 60-120 mg/kg/day/q8h (MAX 6 Gm/day)
Metronidazole IV/PO 30 mg/kg/day/q6h (MAX 4 Gm/day); C.diff:20 mg/kg/day/q6h (MAX 2 Gm/day)
Micafungin: IV 3-4 mg/kg/day/q24h (MAX:150 mg)
Pentamidine:* Rx:
IV 4 mg/kg/day/q24h; PCP ppx: IV 4 mg/kg/day/q24h x 3 doses then-4 mg/kg/day q2wks; Neb:300 mg/day q2wk SCT -or Q mo
Trimethoprim-sulfamethoxazole: Rx IV 20 mg/kg/day/q6h (MAX 4 Gm)
PCP ppx: PO 5 mg/kg/day/BID (MAX 320 mg TMP/day):
Val**GAN**cyclovir:* <15kg Induction: PO 30-40 mg/kg/day/q12
maintenance: PO 15-20 mg/kg/dose/Q24h
>15kg induction: PO 1 Gm/m2/day/q12 (MAX 900 mg/DOSE)
maintenance: PO 500 mg/m2/DOSE/q24h (MAX 900mg/DOSE)
Val**A**cyclovir:* 40 -50 mg/kg/day/q8h (MAX 1G/dose)
ppx: 15 mg/kg/day/q24h (MAX 1 Gm/dose)
Vancomycin:* IV 40-60 mg/kg/day/q8h (MAX 1G/dose) (√ trough)
C.diff PO 500 mg/day/q6h (MAX 2 Gm/day)
Voriconazole:* IV 12 mg/kg/day/q12 (x 1day) then, 8 mg/kg/day/q12 (√ levels)
PO <40kg: 400 mg/day/q12 (x 1 day) then, 200 mg/day/q12 (√ levels)
≥40kg: 800 mg/day/q12 (x1day) then, 400 mg/day/q12 (√ levels)
Renal adjustment required (consult formulary for renal dosage)

BLOOD PRODUCTS: All blood products must be irradiated, leuko-reduced

Platelet transfusions : infuse over 60 minutes
0 - <12 kg: 1 unit 36- <96 kg: 4-8 units
12-36 kg: 2-3 units > 96kg: call blood bank
PRBC 10-15 mL/kg (250-300 mL/unit) @ MAX rate: 5 mL/kg/hr

CONSTIPATION MEDS

...Maintenance
Docusate(Colace): PO (*10 mg/mL OR 50 & 100 mg/tab)*
10 x age (yrs)/QDay or QID (MAX 500 mg/day)
Lactulose: child: 2.5-7.5 mL PO QDay after breakfast
Adult: 15-30 mL/day PO QDay. (MAX 60 mL/day)
Miralax PO dosage: 0.3 Gm/kg/QDay (MAX17 Gm <30kg)
Senokot(Senna) PO dosage:
43.6 mg/mL (1.76 mg/mL sennoside) OR 187 mg/tab (8.6 mg/tab sennoside)
<6yo: 2.5-5mL(1 tab)/QDay or BID
6-12yo: 5-10mL(1-2 tabs) /QDay or BID
>12yo :10-15mL(2-3 tabs)/QDay or BID(MAX 30mL or 8 tabs/day)
...Evacuation
"*Chocolate Bomb*" PO: senna liquid 15-30 mL (adult MAX 90 mL) + mineral oil 5-15mL (≥5yo)+ Milk of Magnesium 5-30 mL (adult MAX 60mL) mixed in 4oz ice cream
Lactulose PO infants: **1-3 mL/TID** child: **15-30 mL/TID** adult: **30-45mL q2h prn**
Magnesium Citrate (oral) : <6yo: 2 mL/**kg x1 dose**
6-12yo: 100-150 mL x1dose >12yo: 150-300 mL x1 dose
Mineral Oil (oral): 5-11yo 5- 20 mL >12 yo 15-45 mL x1 dose
Miralax: 10-30kg 8.5gm (MAX bid); adults 17gm (MAX bid)
Senokot(Senna) oral: <6yo: 20-30 mL**(4-6 tabs)** x1dose
6-12yo: 30-45 mL**(6-9 tabs)**x1dose >12yo: 60-90 mL**(12-18 tabs)**x1dose

GUT PROTECTION/ ANTACIDS

Maalox (200 mg MgOH; 225 mgALOH per 5 mL): PO 5-10 mL TID prn
Mylanta Cherry (400mg CaCO3- MgOH 135mg per 5mL): **400mg TID prn** (MAX 2.4 Gm/day)
Mylanta gelcaps: (550 mg CaCO3 125 mg MgOH per cap): 1-2 **PO TID prn**
Pantoprazole: 0.5 – 1 mg/kg/day/q24h (MAX 80 mg/day)
Ranitidine: PO 2mg/kg/dose q12h (MAX 300 mg/day)
IV 3-5mg/kg/day/q8h Adult: IV 150mg/day/8h.
Sucralfate(Carafate): 10-20mg/kg/dose PO q6h. (MAX 4 Gm/day)

MISCELLANEOUS

Benzytropine(Cogentin): IV/PO <3yo not recommended.
>3yo 0.02-0.05 mg/kg/dose QDAY or BID. (MAX 8 mg/day)
Cyclosporine (Neoral): conversion: 1mg IV = 2-2.5 mg PO
Magnesium supplements: 10-20 mg ELEM Mag/kg/dose PO BID-QID
Mg Gluconate: 500 mg tab- 27 mg ELEM Mag (2 meq Mag)
Mg Oxide: 400 mg tab- 241 mg ELEM Mag (20 meq Mag)
Mg Sulfate: 500 mg/mL- 49 mg ELEM Mag (4 meq Mag)
Potassium Iodide 1 Gm/ mL (SSKI) **(pre-MIBG)**
1gtt TID x5days (1 day before/ 4 days after injection)
Tacrolimus conversion: 1mg IV = 2mg PO
Alteplase (tPA): instill, draw back @1-4h,may repeat x1
Conc: 2mg/2mL; dose by line volume (see tPA chart)
Ursodiol: PO 7.5 mg/kg BID (MAX 300mg BID)
VZIG:1 vial/10 kg (max:5 vials) IM w/in 96h of exposure **round up**

MOUTH CARE: (begin if PMH mucositis/thrush)
Nystatin suspension **100,000 unit/mL** 2-5 mL/dose PO BID to QID
Clotrimazole troches 10 mg troche/dose PO 3-5 x per day

SUPPORTIVE CARE:

Filgrastim SQ 5 mCg/kg/day ÷ QDAY (24-36 hr post chemo/continue until post-nadir)
Pegfilgrastim SQ 6mg/QDAY x 1dose (>45kg only)

ANTIEMETIC ALGORITHM

Acute N/V- N/V from chemo/xrt) on Rx day & 24-48 hrs after
Delayed N/V- N/V from chemo/XRT >48 hrs after Rx

PROPHYLAXIS OF ACUTE SYMPTOMS:

Highly emetogenic: ondansetron, dexamethasone, lorazepam, scopolamine patch
Moderately/Mildly emetogenic: ondansetron

RESCUE FOR ACUTE SYMPTOMS: advance up ladder-

1. Ondansetron	5. Dronabinol
2. Dexamethasone	6. Metoclopramide
3. Lorazepam	**(w/ scopolamine or diphenhydramine)**
4. Scopolamine patch	7. Pentobarbitol

PROPHYLAXIS OF DELAYED SYMPTOMS:

Highly emetogenic: ondansetron, dexamethasone (w/ wean)
Moderately emetogenic: none. As above if breakthrough w/in 24h
Mildly emetogenic: none

TREATMENT OF DELAYED SYMPTOMS:

1. Dexamethasone	3. Lorazepam
2. Metoclopramide (w/ diphenhydramine)	4. Dronabinol

ANTIEMETIC DOSING:

Aprepitant: use w/ ondansetron >45kg: 125 mg/day 1 then, 80mg Qday x 2days
Dexamethasone (Decadron): **Contraindicated w/ pulmonary XRT*
Day1: <1m2: 10 mg/m2; ≥1m2: 10-20 mg IV/PO QDAY
Subsequent doses:max 16 mg/day,consider BID
Diphenhydramine : - 0.5-1mg/kg PO/IV q6h. (MAX 50MG)
Dronabinol (Marinol): 2.5-5mg/m2/dose PO q3-4h
NB: *Contraindicated in <6yo,clinical depression;caution 6-12yo)*
Lorazepam: 0.025mg/kg IV/PO q6h (rare 0.05mg/kg). (MAX 2mg/dose)
Metoclopramide: **acute**: IV 1 mg/kg x1**dose**, then 0.05 mg/kg q4-6h
delayed: 0.5 mg/kg/dose **IV/PO** q4-6h **(w/ diphenhydramine prn EPS)**
MAX: 7 mg/kg/day Give benadryl x 24h if >1dose/24h period
Ondansetron (Zofran): IV/PO unit dosing guidelines

Discontinue 48h post chemo vs. ineffective

Weight	24h dose	8hr dose
<5 kg	2mg	0.15mg/kg/dose (round)
5-10 kg	4mg	
10-15kg	6mg	2mg
15-20kg	8mg	
20-25kg	10mg	4mg
25-30kg	12mg	
30-40kg	16mg	6mg
40-50kg	18mg	
>50kg	28mg	8mg

Pentobarbitol (nembutal): 2mg/kg IV/PO q4-6h
Adult 50-100mg/ (MAX 100mg)
Scopolamine Patch: >40kg: 1.5mg patch behind ear q72h
*Requires renal adjustment (consult formulary for correct adjustments)

Electrolyte Replenishment Guidelines

Electrolyte (salt form)	Dosing	Rate of administration	Concentration for PIV administration*	Concentration for CVL administration*	Monitoring
Potassium chloride **Potassium Phosphate** **Potassium Acetate** **** refer to hospital formulary**	Continuous infusion: 0.5 mEq/kg/hr (15 mEq/hr)	Continuous infusion: 0.5 mEq/kg/hr or 15 mEq/hr whichever is not to exceed 900 *mOsm/L*)	Continuous infusion: 80 mEq/L or 200 mEq/L	✓ potassium ✓ frequent plasma ✓ Continuous ECG ✓ monitor Vital sign monitoring**	
Potassium phosphate and Sodium phosphate	Maintenance infusion: 0.5 – 1.5 mmol/kg/day	Max rate: 0.06 mmol/kg/h	Continuous infusion: 50mmol Phos/L (equiv. to: 70 mEq/L of K+ or 65 mEq/L of Na+)	Continuous infusion: 50mmol Phos/L (equiv. to: 70 mEq/L of K+ or 65 mEq/L of Na+)	Not to be infused with any Calcium containing intravenous including Parenteral Nutrition
Calcium gluconate and Calcium chloride	100 mg/kg/dose (usual max 2 gram/dose)	Max 100 mg/min	Max continuous: 0.05 mEq/mL of Ca++	Max continuous: 0.05 mEq/mL of Ca++	Must be administered over at least 2 hours (infusion: Cardiac ICU = 1 hour) ✓ Potassium plasma level prior to start of infusion ✓ 1 hour after completion of infusion
	Intermittent infusion: 0.08 - 0.36 mmol/kg	Infuse at a rate of 0.06 mmol/kg/hr	Intermittent infusion: 0.05mmol/mL Phos (equiv. to: 0.07 mEq/mL of K+ or 0.05 mEq/mL of Na+)	Intermittent infusion: 0.12 mmol/mL Phos (equiv. to: 0.17 mEq/mL of K+ or 0.12 mEq/mL of Na+)	
Magnesium Sulfate	25-50 mg/kg/dose (max 2 g/dose)	Infuse over 2 hours	Intermittent infusion: 200 mg/mL	Intermittent infusion: 200 mg/mL	Magnesium conversion: 500 mg = 4 mEq
			Not recommended to be given via peripheral access	Max for intermittent: Gluconate = 50 mg/mL chloride = 20 mg/mL	
				Max continuous: Gluconate: 50 g/L chloride = N/A	Not to be infused with any phosphate containing intravenous fluids including parenteral nutrition
				Max continuous: Gluconate: 50 g/L chloride = N/A	