Pharmacy and Therapeutics Committee Approvals, April 2014

P&T Date: April 1, 2014

AGENDA ITEM	P&T COMMITTEE DECISION
Dolutegravir (Tivicay®) Added to formulary	Indication: for use as part of a combination regimen with other antiretroviral medications in treatment-naïve and treatment-experienced patients with HIV-1 infection Usual dose: 50 mg daily. Dose increased to 50 mg BID indicated when co-administered with efavirenz, fosamprenavir/ritonavir, tipranavir/ritonavir, and/or rifampin Adverse effects: Most common: headache, insomnia, nausea, and diarrhea Precautions: Pregnancy category B. Hypersensitivity reactions (rash, fatigue, fever, chills) necessitate immediate discontinuation and patients should never be re-challenged. Patients with underlying hepatitis B or C may be at risk for rises in liver enzymes. Concurrent use with dofetilide is contraindicated; avoid concurrent use with nevirapine, carbamazepine, oxcarbazepine, phenobarbital, phenytoin, and/or St. John's Wort.
FORMULARY CHANGES	**Traumeel® Ointment -** Addition of Traumeel® – X and removal of Traumeel® (no longer available) **Memantine (Namenda®) immediate release 5 mg and 10 mg tablets** – No longer available; remove from formulary - Add memantine extended release (once daily preparation) (Namenda® XR) 14 mg, 21 mg, and 28 mg tablets to formulary **Chlorhexidine gluconate oral rinse {alcohol-containing} (PerioGard®)** – remove from formulary. - Add Chlorhexidine gluconate oral rinse {alcohol-free} Paroex® to formulary **Atorvastatin (Lipitor®) 80 mg** – add to formulary for ACS (Code White) patients not concurrently receiving interacting medications or on atorvastatin 80 mg prior to admission. Other atorvastatin strengths will remain non-formulary **Progesterone capsule (Prometrium®) 100 mg and 200 mg** – add to formulary **Cyclosporine Ophthalmic Emulsion 0.05% (Restasis®)** – add to formulary for continuation of therapy for patients on this agent for chronic dry eye disease prior to admission only **Modafinil (Provigil®) 100 mg and 200 mg** – add to formulary **Multivitamin Adult Oral Solution** – add to formulary
PROTON PUMP INHIBITOR INITIATIVE	Progress for this initiative was presented. The following additional criteria for for Med/Surg were approved: • Patients on anticoagulant therapy/chronic NSAIDS around-the-clock **and** aspirin • Patients with gastritis or esophagitis For bariatric surgery order sets: • Remove pantoprazole option for sleeve gastrectomy or laparoscopic gastric band  PPI - autoDC Guideline.pptx
VANCOMYCIN PER PHARMACY PROTOCOL UPDATE	The 2009 IDSA Guidelines recommend a goal trough of 15-20 mcg/ml for bacteremia. The vancomycin per pharmacy protocol was approved with the new goal of 15-20mcg/ml for bacteremia.
TITRATION GUIDELINE	In an effort to standardize infusions and the titration of ICU medications, the ICU Titration Guideline was updated. Additionally, the default titration range was revised **Drip** / **New Dose Range Default button for Titrations** / **Current Dose Range Default button for Titrations** Diltiazem: 2.5 -15mg/hr (keep start dose of 5mg/hr) / 5 – 15 mg/hr Nicardipine: 2.5-15mg/hr (keep start dose of 5mg/hr) / 5 – 15 mg/hr Phenylephrine: 20-400mcg/min (keep start dose of 50 mcg/min). / 50-400 mcg/min  Titration table 02 14.pdf

2013 BOXED WARNINGS LIST	2013 BBW recommendations 03
PEDIATRIC OUTPATIENT PARENTERAL ANTIBIOTIC THERAPY (OPAT) ORDER FORM	This form was approved for pediatric patients ≤ 14 years of age. 11126 Peds OPAT.pdf
2014 LASA RECOMMENDATIONS	The following look-alike sound-alike (LASA) medications were added to the 2014 LASA list: 1. ValGANciclovir/valACYclovir – add CS-Link comments 'Look Alike Error Potential' 2. DOPamine/DOBUTamine – add TALLman lettering in CS-Link and Pyxis csmc-look-alike-soun d-alike-medications-lis

Requests for full monographs or questions regarding this listing may be addressed to the Drug Information Center at **(310) 423-3784**

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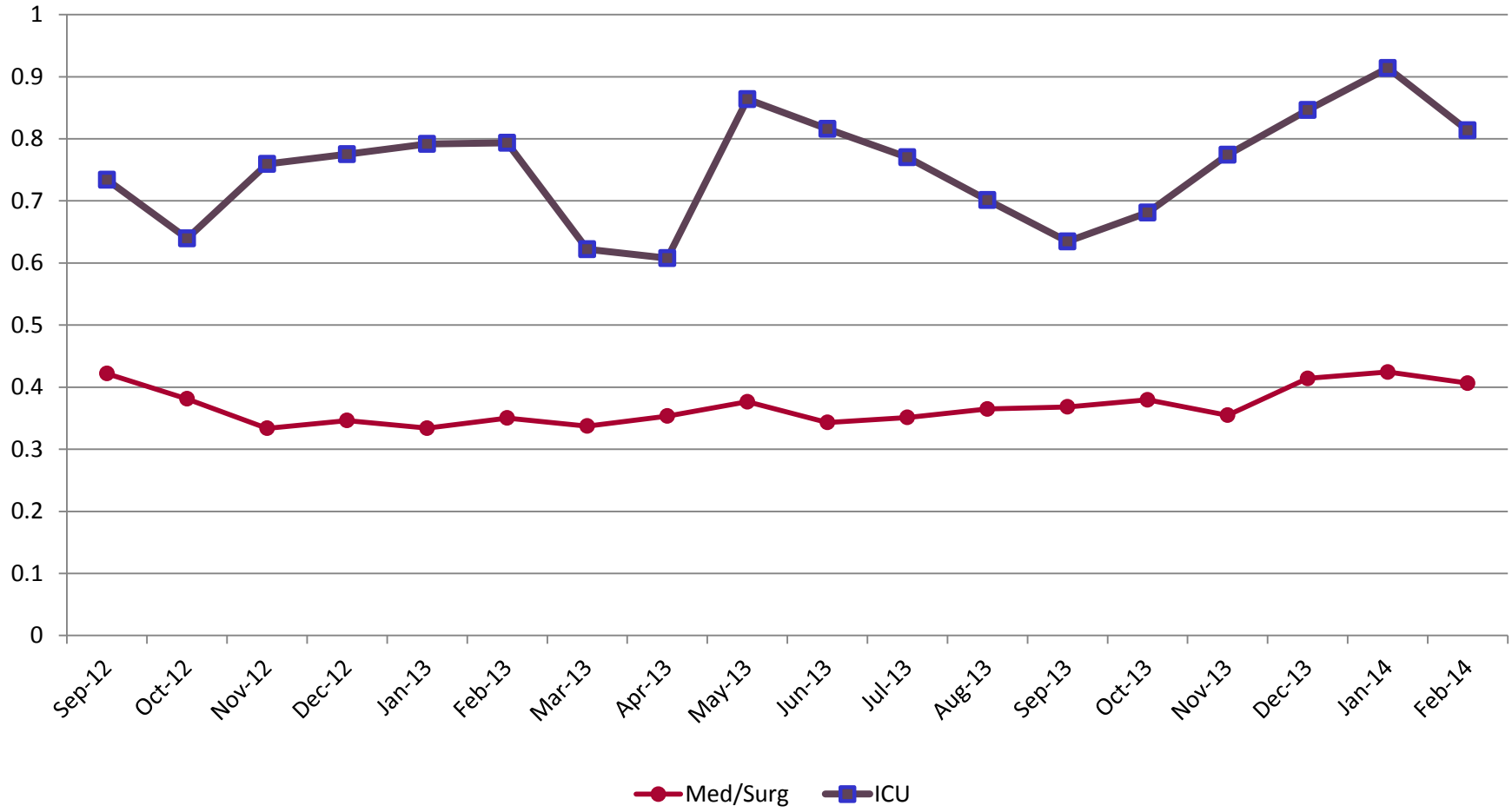
Proton Pump Inhibitors Initiatives

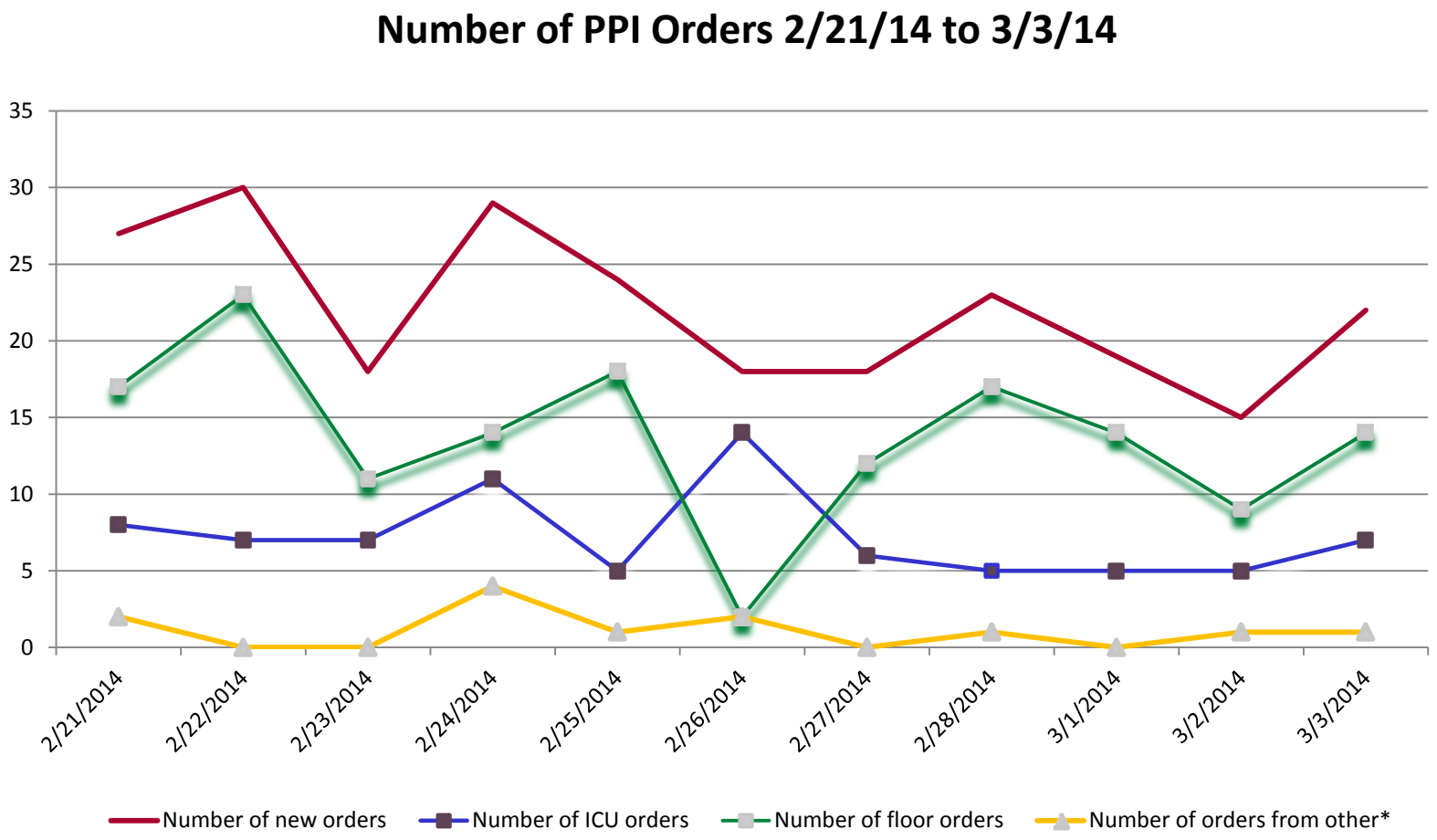
- Best Practice Alert - Implemented 10/22/13

- Automatically discontinue scheduled PPI orders for patients newly admitted to a non-ICU location or transferred from the ICU to a non-ICU location based on approved criteria - Implemented 2/12/14
  - Patient is being actively treated for a gastrointestinal bleed, gastro-esophageal reflux disease, peptic ulcer disease (per chart notes)
  - Patient is on clopidogrel /chronic NSAID ATC and aspirin[4,5,6]
  - Patient is receiving chronic steroids[7,8,9]
  - Transplant patients[10-14]
  - Platelet < 100,000
  - Jehovah's witness
  - Post-esophagectomy
  - TBI – Rx to discuss with team during round

PPI Days of Therapy / Patient Day



Post Implementation Results



Proton Pump Inhibitors: Next Step

- Add the following PPI criteria for use :
  - Patient is on anticoagulant therapy /chronic NSAID ATC **and** aspirin[4,5,6]
  - Gastritis
  - Esophagitis

- Remove PPI from the Bariatric Surgery Order Set

1. American Society of Health-System Pharmacy 2004; 61:588. 2. *Am J Health-Syst Pharm* 1999; 600. 3. *EAST* 2008. 4. *J Am Coll Cardiol* 2009; 54:2205. 5. *Circulation.*2008;118:1894 –1909. 6. *Circulation.* 2010;122:2619 –2633. 7. *Arthritis Rheum.* 2011;63(2):346-51. 8. *Am J Epidemiol* 2001;153:1089–93. *9. N Engl J Med* 1983;309:21-24. 10. *Eur Respir J* 2008; 31:707–713. 11. *CHEST* 2003; 124:1689–1693 12. *Transplant Int* 2005;18:643–650. 13. *Transplantation Proc* 2007;39:2397-2400. 14. *Transplantation Proc* 2007;39:2311-13.

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Recommendations for Medications being Titrated (Updated 25/321/143)

Clinical judgment supercedes all recommendations and/or any titrations made that may be clinically appropriate

If maximum infusion rate achieved call physician for further orders

Drug Class and Drugs	Standard Concentration	Diluent /Source	Dosing & Titration Guidelines
Cardiac			
Dobutamine HCl[1,4,6]	500mg / 250 mL	Commercially available in D_5W	Usual starting dose 1-2.5 mcg/kg/min; Increase/decrease rate by minimum of 0.51 mcg/kg/min at intervals no longer than Q 630 minutes to goal. (Max infusion rate: 20 mcg/kg/min).
Dopamine HCl[1,4,6]	800mg / 250 mL	Commercially available in D_5W	Usual starting dose 1-5 mcg/kg/min; Increase/decrease rate by minimum of 1 mcg/kg/min at intervals no longer than Q 630 minutes to goal. (Max infusion rate: 30 mcg/kg/min).
Epinephrine HCl[1,4,6]	8 mg/250 mL	Default in D_5W	Usual starting dose 1-4 mcg/min; Increase/decrease rate by minimum of 1mcg/min at intervals no longer than Q 5 minutes to goal. (Max infusion rate: 10 mcg/min).
Esmolol HCl[1,4,6]	2.5gm / 250 mL 2gm / 100 mL	Commercially available in NS Concentrated requires central line	Loading dose of 500 mcg/kg IV over 1 minute followed by infusion of 50 mcg/kg/min. If necessary, rebolus after 4 mins with 500 mcg/kg over 1min followed by increasing infusion by 50 mcg/kg/min at intervals no longer than Q10 minutes. (If bolus NOT implemented increase rate at intervals no longer than Q30 minutes) (Max infusion rate: 300 mcg/kg/min).
Milrinone[1,4,6]	20mg / 100 mL 40mg / 100 mL	Default in D_5W Concentrated requires central line	*Bolus* 50mcg/kg IV over 10 minutes, then 0.25-0.375 mcg/kg/min Increase/decrease by minimum of 0.125 mcg/kg/min at intervals no longer than Q 6 hours to goal. (Max infusion rate: 0.75 mcg/kg/min).
Nicardipine[1,2,3,4]	50mg / 250 mL 125mg/ 250 mL	Default in NS Concentrated requires central line	Usual starting dose of 5 mg/hr. Increase by 2.5 mg/hr Q 5 minutes (for rapid titration) to Q 15 minutes (for gradual titration) but at intervals no longer than Q 60 minutes, or decrease dose by 3 mg/hr at intervals no longer than Q 60 minutes. Minimal increment of titration of 0.5 mg/hr. (Max infusion rate: 15 mg/hr).
Nitroglycerin[1,4,6]	50mg / 250 mL	Commercially available in D_5W	**CHF:** Usual starting dose 5 mcg/min; Increase/decrease rate by minimum of 5 mcg/min at intervals no longer than Q 5 minutes. If no response is seen at 20 mcg/min, increase by increments of 10 mcg/min. **Angina:** Usual starting dose 10 mcg/min; Increase/decrease rate by minimum of 10 mcg/min at intervals no longer than Q 5 minutes. **HTN emergencies:** Usual starting dose 10 mcg/min; Increase/decrease rate by minimum of 10 mcg/min at intervals no longer than Q 15 minutes **Pulmonary Edema:** Usual starting dose 10 mcg/min; Increase/decrease rate by minimum of 5 mcg/min at intervals no longer than Q 5 minutes. (Max infusion rate: 300mcg/min)
Nitroprusside[1,4,6]	100mg/250 mL	Default in D_5W	Usual starting dose 0.3-0.5mcg/kg/min; Increase/decrease rate by minimum of 0.15mcg/kg/min at intervals no longer than Q 15 minutes to goal. (Max infusion rate: 10 mcg/kg/min).
Norepinephrine[1,4,6]	8mg/250 mL	Default in D_5W	Usual starting dose 1-10 mcg/min; Increase/decrease rate by minimum of 12mcg/min at intervals no longer than Q 15 minutes to goal. (Max infusion rate: 40 mcg/min).
Phenylephrine[1,4,5,6,8]	100mg/250mL	Default in D_5W	Usual starting dose 50-100 mcg/min; Increase/decrease rate by minimum of 10 mcg/min at intervals no longer than Q 15 minutes to goal. (Max infusion rate: 400 mcg/min).
Vasopressin	100 units/100 mL	Default in D_5W	0.01 - 0.04 unit/min IV infusion
Opioids			
Fentanyl Citrate[1,4,6]	2500mcg/250 mL 5000mcg/250 mL	Default in D_5W	Usual starting dose 25-50 mcg/hr; Increase/decrease rate by minimum of 25mcg/hr at intervals no longer than Q 630 minutes to goal. (Max infusion rate: 300 mcg/hr).
Hydromorphone HCl[1,6]	50mg / 250 mL 125/250 mL 250 mg/250 mL	Default in D_5W	Per physician orders
Morphine Sulfate[1,6]	50mg / 250 mL 125 mg/250 mL 250 mg/250 mL	Default in D_5W	Per physician orders

Miscellaneous			
Cisatracurium[1,4,6]	100 mg /100 mL	Default in D_5W	Usual starting dose: 0.15 mg/kg IV bolus over 15 seconds, then 2.5-3 mcg/kg/min; Increase/decrease rate by minimum 0.5 mcg/kg/min at intervals no longer than Q 1 hour to goal (Max infusion rate: 10 mcg/kg/min
Vecuronium Bromide[1,4,6]	100mg/100 mL	Default in D_5W	Usual starting dose: 0.1 mg/kg IV bolus over 1-2 minutes, then 0.8-1.2 mcg/kg/min; Increase/decrease rate by minimum of 0.33 mcg/kg/min intervals no longer than Q 1 hour to goal (Max infusion rate: 2 mcg/kg/min).
Furosemide[1,4,6]	150mg / 150 mL	Default in D_5W	Usual starting dose 2-10 mg/hr; Increase/decrease rate by minimum of 10 mg/hr at intervals no longer than Q 4 hours to goal. (Max infusion rate: 100 mg/hr).
Bumetanide[4,6]	25 mg/100 mL		Usual starting dose 0.5-1 mg/hr, Increase/decrease by minimum of 0.25 mg/hr (Max infusion rate: 2 mg/hr)
Diltiazem[4,6]	125mg/125 mL	Default in D5W	Bolus dose of 0.25 mg/kg IV over 2 minutes, then 5 mg/hr; Increase/decrease rate by minimum of 2.5 mg/hr at intervals no longer than Q4 hours to goal (Max infusion rate: 15 mg/hr).
Midazolam[4,6]	125 mg/250 mL 250 mg/250 mL	Default in D5W	Usual starting dose 2 mg/hr; Increase/decrease rate by minimum of 1 mg/hr at intervals no longer than Q ~~63~~0 minutes to goal (Max infusion rate: 20 mg/hr; Contact MD if higher doses are required) (Prolonged sedation can occur if continued >24-48 hrs)
Lorazepam[4,6]	100 mg/50 mL		Bolus 2 mg IV over 1 minute, then Usual starting dose 2 mg/hr; Increase/decrease rate by minimum of 1mg/hr at intervals no longer than Q 4 hours to goal. (Max infusion rate: 20 mg/hr; Contact MD if higher doses are required))
Insulin, Regular[1,6]	100units/100 mL	Default in NS	Per ICU specific insulin nomogram orders
Propofol[1,4, 6]	500mg / 50 mL	Commercially available	Usual starting dose 10 mcg/kg/min; Increase/decrease by minimum of 5 mcg/kg/min at intervals no longer than 5 minutes (Max infusion rate 75 mcg/kg/min)

(Resources: **1**=Laurence A. Trissel; **2**=Manufacturer; **3**=Facts & Comparisons; **4**=Micromedex; **5**=Kings Parenterals **6**= CSMC IV Policies and Procedures **7**=Bonfiglio MF, Dasta JF, Gregory JS, et al. High-dose phenylephrine infusion in the hemodynamic support of septic shock. DICP Ann Pharmacother. 1990; 24: 936-9. 8=MacLaren R, Rudis M and Dasta J. Use of Vasopressors and Inotropes in the Pharmacotherapy of Shock. In Talbert R (Ed.), *Pharmacotherapy: A Pathophysiologic Approach, 7th edition* (pp. 426). China: McGraw-Hill Companies)

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Boxed Warnings Update

April 2014

CEDARS-SINAI

2013 FDA Boxed Warning Updates

- Dabigatran Etexilate Mesylate (Pradaxa®)
- Codeine Products
- Valproate and Divalproex Products (Depakene®, Depakote Sprinkle®)
- Idursulfase (Elaprase®) Injection
- Immune Globulin Products (Human)
- Ketoconazole (Nizoral®)
- Rivaroxaban (Xarelto®)
- Ofatumumab (Arzerra®) Injection
- Acetaminophen (Ofirmev®) Injection
- Rituximab (Rituxan®) Injection
- Ezogabine (Potiga®) Tablets
- Nilotinib (Tasigna®) Capsules
- Tigecycline (Tygacil®) Injection
- Enoxaparin (Lovenox®) Injection
- Hydroxyethyl Starch (HESPAN®) Injection
- Oral Contraceptives
- Alvimopan (Entereg®) Capsules
- Natalizumab (Tysabri®) Injection
- Estradiol Transdermal (Vivelle-Dot®), Estradiol/Norethindrone Acetate Transdermal (CombiPatch®)

Valproate and Divalproex Products

- Boxed Warning
  - — Hepatic failure resulting in fatalities has occurred in patients receiving valproate; usually during the first six months of treatment
  - — Patients should be monitored for these symptoms.
    - Serum liver tests should be performed prior to therapy and at frequent intervals thereafter, especially during the first six months
- Recommendation
  - — Pharmacist to order LFTs at initiation of therapy (for new and continuation of outpatient regimens) if LFTs have not been obtained during current admission

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DEPARTMENT OF PHARMACY SERVICES

PEDIATRIC (≤14 years) OUTPATIENT PARENTERAL ANTIBIOTIC ORDER FORM

PATIENT I.D.

PATIENT NAME			D.O.B.	MRN
HEIGHT	TOTAL BODY WEIGHT	Ideal BW IF APPLICABLE	Adjusted BW IF APPLICABLE	LOCATION PROCEDURE CENTER
DIAGNOSIS				
ALLERGIES ❑ NKDA ❑ Other:				

ANTIBIOTIC ORDERS (Choose all that apply)

❑ Acyclovir*: _____mg (____mg/kg) IV every _____ hours for_____ days

❑ Cefepime*: _____mg (50 mg/kg) IV every _____ hours for _____ days (max daily dose: 6g)

❑ Cefazolin*: _____mg (____ mg/kg) IV every _____ hours for _____ days (max daily dose: 6g)

❑ Ceftriaxone: _____mg (____mg/kg) IV every _____ hours for _____ days (max daily dose: 4g)

❑ Clindamycin: _____mg (____ mg/kg) IV every _____ hours for_____ days (max daily dose: 2.7g)

❑ Ertapenem*: _____mg (15 mg/kg) IV every _____ hours for _____ days (max daily dose: 1g)

❑ Gentamicin*: _____mg (____ mg/kg) IV every _____ hours for _____ days

❑ Liposomal amphotericin B (Ambisome®): _____mg (____ mg/kg) IV every _____ hours for _____ days

❑ Tobramycin*: _____mg (____ mg/kg) IV every _____ hours for _____ days

❑ Other: _____IV every _____ hours for _____ days

*Requires dose adjustment based on renal function

LABORATORY ORDERS (Choose all that apply)

❑ BMP ❑ CBC ❑ CBC with manual differential ❑ CPK ❑ LFTs ❑ CRP ❑ ESR ❑ Blood culture from line

❑ Order Frequency: _____ Please specify day(s) of the week.
Note: Infusions are NOT done on weekends

❑ Draw _____ trough level immediately prior to _____dose.

❑ Draw_____ peak level _____minutes after the _____ dose.

❑ Draw _____ random level prior to the _____dose.

❑ Hold the dose if the _____ level is more than _____ mg/L and notify the physician.

PREMEDICATIONS (Choose all that apply)

PREMEDICATIONS

❑ Acetaminophen 15mg/kg PO x 1 (max: 650mg/dose)

❑ Diphenhydramine x 1 (max: 50mg/dose): ❑ 6.25mg ❑ 12.5mg ❑ 25mg ❑ 37.5mg ❑ 50mg ❑ IV or ❑ PO

❑ May repeat _____ every _____ hours x _____ dose(s)

Other Orders:_____

PHYSICIAN I.D. NUMBER	SIGNATURE OF PHYSICIAN M.D.					DATE	TIME
SIGNATURE OF TRANSCRIBER	INIT.	TITLE	DATE	TIME	SIGNATURE OF NURSE (NOTED) R.N.	DATE	TIME

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2014 CSMC Look Alike / Sound Alike (LASA) List

- Safety strategies are in place to prevent errors associated with LASA medications. For example, TALLman letters are used in electronic systems such as CS link, Pyxis, and Alaris system

- Providers should take extra care when storing, dispensing, prescribing and administering LASA medications.

Cephalosporins (ceFAZolin, ceFEPime, cefoTAXime, cefoTEtan, cefUROXime)	**HYDROmorphone inj / morphine inj**
hydrALAZINE / hydrOXYzine/ hydroCHLOROthiazide / haloperidol	**PACLitaxel / DOCEtaxel**
HYDROcodone / oxyCODONE	**levOCARNitine / levETIRAcetam/ levofloxacin**
oxyCONTIN / oxyCODONE	**DOPamine / DOBUTamine**
LABEtalol inj / METOprolol inj	**valGANciclovir / valACYclovir**

Most up-to-date version is available on the Medication Safety Intranet page - http://web.csmc.edu/clinical/clinical-resources/medication-safety/rn---rx-safety-tools.aspx