WAUSAU HOSPITAL DRUG FORMULARY 2010-2011

The Wausau Hospital Drug Formulary is published by the Pharmacy and Therapeutics Committee and its subcommittee, in cooperation with the Department of Pharmacy. Members of the Pharmacy and Therapeutics Committee include:

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Subcommittees of the P&T Committee include the Antibiotic Utlization Subcommittee (Chair-W. Bowler, MD), and the Nutrition Subcommittee. A special thanks to all of the members of the Subcommittees for their contributions to the function of the P&T Committee.

Policy Information - Index

I. MEDICATION USE POLICIES AND OTHER IMPORTANT INFORMATION

A. Statement of purpose of the drug formulary

The drug formulary represents the official listing of drugs approved for use at Wausau Hospital. The purpose of the drug formulary is to ensure the availability of safe, effective and cost-efficient medications. The drug formulary is established by the medical staff as described in medical staff policy and procedure #4663. Changes to the formulary are communicated on a regular basis in the Dr. Know newsletter.

While the purpose of the formulary is to help ensure the availability of medications, at times there may be external factors that impact inventory levels of certain medications. Problems at the level of the pharmaceutical manufacturer or FDA often impact our ability to procure medications. Shortages of important medication are communicated to the medical staff whenever this occurs.

B. Procedure to request addition of a drug to the formulary

The procedure to request that a medication be added to the official drug formulary is described in medical staff policy and procedure #4663. Requests are to be submitted in writing using a FORMULARY ADDITION REQUEST FORM (available from the pharmacy department, ext. 7-2871). The request, and pertinent supporting material, will be reviewed by the Pharmacy and Therapeutics Committee. Information considered by the Committee includes clinical pharmacology, efficacy, safety, cost, and availability of comparative agents. The requesting physician will be notified as to the date and time that the Committee will review the request. The Committee will vote to accept or not accept the requested medication onto the formulary.

C. Procedure to obtain use of a non-formulary drug

Physicians are encouraged to use those drugs approved and listed in the official drug formulary. These are the drugs that are stocked by the pharmacy and available for immediate use in the hospital. If for some reason there is not a suitable agent on the drug formulary, a physician may prescribe on a patient-specific basis, a drug that is non-formulary. Physicians should be aware that there may be a time delay because the pharmacy often must procure the drug from outside the hospital. The physician may also be asked to assess whether the medication is needed during the hospital stay or can be resumed when the patient is discharged.

The procedure to prescribe a medication that is not listed in the official drug formulary is described in medical staff policy and procedure #4663. When a non-formulary drug order is received, the Pharmacist will contact the Physician with a formulary alternative, if available.

D. Policy on use of generic drugs

Medical staff policy and procedure #3291 describes the approval and use of FDA rated, pharmaceutically equivalent drug products at Wausau Hospital. Drug products that are FDA "A" rated

or otherwise evaluated and approved by the Pharmacy and Therapeutics Committee, will be substituted for brand name products. Physicians may call the pharmacy department to inquire about the generic availability of any particular pharmaceutical agent (ext. 7-2871).

E. Policy on sample drugs and pharmaceutical sales representatives

Medical staff guideline #5071 describes the expected behavior of pharmaceutical sales representatives who visit Wausau Hospital, including display of identification, scheduling of appointments, dissemination of product information, and dissemination of samples. Physicians are encouraged to confirm scientific and cost-effectiveness claims of pharmaceutical sales representatives by calling the pharmacy department. Samples are not allowed in the hospital but may, at the discretion of a physician, be utilized in private physicians' offices.

F. Procedure to report an adverse drug reaction

Reporting of adverse drug reactions is required by both the JCAHO and FDA. Hospital policy and procedure #5237 describes the method by which physicians and other health care professionals may report adverse drug reactions. Adverse drug reactions (ADRs) are now reported via the intranet "Patient Safety and Event reporting" site. The Director of Pharmacy will be notified via e-mail of each event filed. A pharmacist will then follow-up to complete the report. For more information on adverse drug reaction reporting, please call the pharmacy department (ext. 7-2871).

G. Procedure to report a medication occurrence

Reporting of medication events (and errors) is an important function in monitoring and improving patient care at Wausau Hospital. Hospital policy and procedure 7-83-263 describes the method by which health care professionals should report occurrences that occur in the medication use process. In Aspirus-Wausau Hospital medication events (and errors) are reported electronically utilizing the "Patient Safety and Event reporting form located on the organization's intranet web site. Upon discovery of an occurrence, the person with the best knowledge of the event should log onto the intranet and complete the form. Information on medication errors is used to identify ways to improve patient care.

H. Policy on patient's medications from home

Policy and procedure #3074 (ref# 01-83-270) describes the procedure for storage, identification and use of personal medications while a patient is at Wausau Hospital. The use of personal (own) medications by inpatients at Wausau Hospital is discouraged unless absolutely necessary. The liability to the hospital and patient from a possible mix-up is much greater when medications come from a source other than the hospital pharmacy. Patients should be instructed to send own medications home with family members or store such in the locked medication drawer, not to be used until after discharge.

Physicians are required to write specific orders for each and every medication a patient should receive while hospitalized. An order, such as continue medications from home, without specifically

identifying the drug names, dosages and schedules is not a valid medication order (see medical staff policy #2610). Physicians may request a pharmacy consult to help determine what medications a patient was receiving prior to admission.

I. Use of herbal or dietary supplement products.

Alternative medications are those commonly described as "herbals" or "nutritional supplements". Alternative medications that the patient takes at home are allowed in Wausau Hospital but their use must comply with medical staff policy 01-07-508. Alternative medications must be ordered individually by the physician and their administration must be documented as if they were supplied by the hospital pharmacy. The patient will need to use their own medication supply, the pharmacy will not identify or supply these types of medications due to the lack of standardization in these products.

J. Medication administration procedures

Hospital policy #6948 describes important information about administration of medications, including but not limited to who may administer medications, automatic medication stop dates, and standard medication administration times.

Automatic stop dates. Policy #1735 addresses automatic stop dates. Automatic stop dates exist for the following medications. Physicians should renew orders for these agents as necessary prior to the stop date in order to continue therapy.

a) anticoagulants (after 1 day during dosage adjustment)
b) ketorolac (after 5 days)
c) schedule II controlled substances (14 days)
d) schedule III-V controlled substances (14 days)
e) antibiotics (14 days).

Standard medication administration times. Policy #5215 addresses medication administration times. Medications ordered will be administered according to the established standardized times, unless there is a clinical reason to do otherwise (e.g., nitroglycerin), or unless the physician writes a specific order for the administration time. A listing of medications with special considerations around administration time is included in the policy and available from the pharmacy.

K. Policy on STAT and NOW medications

Policy #2036 addresses STAT and NOW orders for medications. Physicians are encouraged to order as STAT only those medications immediately needed to treat or prevent a potentially life-threatening situation. Items ordered STAT will be administered as soon as possible, not longer than 15 minutes after the order. Physicians are asked to order non-emergent therapy as either NOW (to be administered within 2 hours of the order) or ROUTINE (first dose to be given at the next available regular dosing time according to the schedule selected).

L. Procedure for ordering parenteral nutrition

Policy #3887 addresses ordering of parenteral nutrition. Parenteral nutrition (PN) is ordered as a 24 hour 3-in-1 solution that contains amino acids, dextrose and fat emulsion. Physicians are asked to complete the Adult Parenteral Nutrition Order form. After the initial order, the form is to be completed by 12 noon daily by either checking the "renew current formula with no changes" box or writing changes according to patient needs. The Pharmacy will send the completed orders for the next day to the patient care area where the Unit Coordinator will place the order sheet on the chart of each patient receiving PN. This order sheet will supply the current formula and is to assist the Physician in the re-order process. PN will be hung daily at 1800. The back of the order form has guidelines for patient specific nutritional requirements. Pharmacists and Clinical Dietitians are available to assist in completing the PN order form and making specific recommendations about PN.

M. Use of intravenous potassium chloride

Policy #4994 addresses the use of intravenous potassium chloride. Undiluted KCl is never to be administered intravenously and is not available in patient care areas. Intravenous potassium chloride should be administered at a rate not to exceed 10 mEq per hour unless that patient is monitored by telemetry. Premixed KCL/sterile water minibags will be used whenever possible for short-term replacement.

N. High-risk Medication policy

Policy #6873 addresses the identification and management of those medications that bear a risk of causing significant patient harm when used in error. The policy also identifies those medications with names that can potentially be confused with other medications and cause significant patient harm if administered in error.
The management of medications included on this list include such measures as physical separation of stocking locations, development of standardized order sheets to guide prescribing and administration, requiring dual sign-off of administration, and the use of varying letter sizes in the names to help differentiate names.

O. Dangerous Abbreviations for Clinical Documentation

Policy #7465 contains the list of abbreviations which are not allowed for use in clinical documentation. The list contains a number of abbreviations which are considered dangerous and can be misinterpreted when written. Examples include: “U” for units, units should always be spelled out; QD for daily, suggestions are to write daily, or Q day; SC or SQ for subcutaneous, Sub-Q or SubQ is acceptable. The policy contains the procedures to be followed if any of the listed unacceptable abbreviations are used.

P. Availability of clinical pharmacy consulting services and drug information.

In addition to providing pharmaceutical products to patients and health care professionals at Wausau Hospital, the pharmacy department maintains expertise to provide general information and patient specific services related to medication use. Physicians may obtain specific and detailed information about drugs and pharmacotherapy by calling the pharmacy department (ext. 7-2871).

Physicians may request patient-specific consultation from the clinical pharmacy services for a variety of medication-related problems, including but not limited to those listed below.

Patient Medication History Interview. On request, the pharmacist will interview patient and consult other resources as necessary to record prescription and over-the-counter drug use, previous allergic or other adverse reactions, and other important medication history information.

Patient Medication Teaching/Compliance Interview. On request pharmacist will instruct patient about medications prescribed, help patient understand importance of compliance, and provide compliance aids to the patient.

Pharmacokinetic Dosing/Drug Review. On request, pharmacist will review patient specific data parameters, serum drug concentrations, make recommendations for dosage and monitoring for drugs such as aminoglycosides, vancomycin, digoxin, and others as necessary.

Parenteral Nutrition. Working in concert with Clinical Nutrition, pharmacists provide recommendations to prescribers regarding parenteral nutrition formulation, and will participate in monitoring and follow-up of nutrition therapy. On request, the pharmacist will complete the ordering process for the prescriber.

Hyperglycemia management – Physicians may request pharmacists to recommend, write orders and monitor patients for elevated blood glucose readings. Pharmacists will work under the guidelines established by the medical staff approved Hyperglycemia Management policy, #10290. Physicians will need to write an order in the physicians orders asking for pharmacy to manage insulin for their patient.

Drug Information. The department is equipped with resources to provide detailed answers to medication information questions. On request, pharmacist provide drug-related information on a general or case-specific basis including, but not limited to questions concerning unusual adverse effects, information about investigational therapies, and detailed drug dosing or administration information.

Investigational Drug Services. The department will assist researchers working with investigational drugs by providing clinical and administrative assistance with randomization, provision of drug product, inventory control, and other services as requested.

Q. How to contact the pharmacy

Inpatient Pharmacy
- Physician-only line: 847-2351
- Main phone number: 847-2871

Aspirus-Clinics Pharmacy (Plaza Dr)
- Main phone number: 847-2547

MSICU/IMC Pharmacist mobile: 54390

CTU/CICU Pharmacist moblie: 54391

MAP/NICU Pharmacist mobile	54392
SCU/OCU Pharmacist mobile	54748
ORN/REHAB Pharmacist mobile	54746
Night Pharmacist pager:	0181
UW Cancer Center Pharmacy:	7-2870
Jill Michaud PharmD. (Director) pager	5-3175 (1250)
Ivan Lukowski R.Ph. (Operations manager)	5-4967
Tim Nikstad R.Ph. (Clinical Manager)	5-2297
Deb Berndt (Secretary)	5-3132

R. Medication Interchange Policies

Wausau Hospital has multiple therapeutic interchange protocols which are outlined by policy 3015. New as of 12/2007 the pharmacist will place the interchange information on the MAR entry for the respective medication rather than writing a new medication order. The medications approved for interchange are as follows:

LIST OF P&T APPROVED DRUGS FOR THERAPEUTIC INTERCHANGE, UPDATED 07/1/09

SUBSTITUTE	*FOR*	*DATE APPROVED*
Antibiotics (see attached tables)		
Amoxicilin	Ampicillin (oral)	

Erythromycin base	All oral salts	
E-mycin succinate susp	Erythromycin estolate susp.	
Ceftriaxone	Ceftizoxime	6/06
Meropenem	See interchange table	3/08
Piperacilin/tazobactam	Ticarcillin/clavulanate	12/02
Antifungals (topical)	See interchange table	1/02

Misc agents

Sotalol (generic)	Betapace AF	6/02
Maxzide-25 (generic)	Dyazide (any)	1/02
Hextend	Hespan	5/06
Omacor	Omega-3 products	2/07
Paroxetine (generic)	Paxil CR	2/04
Verelan	Verapamil SR	
FloraQ	Probiotics	12/07

Dosing Interchanges/protocols (see attached tables)

Epoetin dosing protocol	12/10
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Iron products	12/07
Magnesium products	12/07
Fosphenytoin – Phenytoin	12/07
Low-molecular weight heparins	12/08

Amoxicillin / Ampicillin oral conversions

	Dispensed Medication
Ampicillin 125 mg Q6h	Amoxicillin 125 mg Q8H
Ampicillin 250 mg Q6H	Amoxicillin 250 mg Q8H

250 mg Q8H	250 mg Q8H
Ampicillin 500 mg Q6H 500 mg Q8H	Amoxicillin 500 mg Q8H 500 mg Q8H
Ampicillin 1000 mg Q12H	Amoxicillin 1000 mg Q12H
If the dosing falls outside of the above dosing, contact the MD to clarify conversion.	

Oral Erythromycin Therapeutic interchange policy

7/05 Wausau Hospital/tpn

Formulary agents are: Erythromycin base enteric coated (EC) capsules 250 mg
Erythromycin base EC tablets 333 mg
Erythromycin ethylsuccinate 200 mg / 5 ml susp.

Ordered Medication			**Dispense using same frequency**		
Erythromycin Stearate tabs	Erythromycin ethylsuccinate tabs (EES)*****	Erythromycin PCE or base tabs (E-Mycin, Ery-Tab, E-base, estolate)	Erythromycin EC base tabs (E-Mycin 333)	**Erythromycin** EC capsules (ERYC)	Erythromycin Ethysuccinate 200 mg/5 ml susp.
250 mg dose	400 mg dose	250 mg		250 mg	
		333 mg	333 mg		
	200 mg				125 mg
500 mg	800 mg	500 mg		2 x 250 mg per dose	
Liquid conversion					
		125			200 mg
		250			400 mg

***** If the dosing falls outside of the above dosing, contact the MD to clarify conversion.
In general for the EES conversions each 200 mg = 125 mg of the estolate or base.

Ceftriaxone – Ceftizoxime Interchange

6/06tpn

Ordered medication	**Dispensed**
Ceftizoxime 1 gm at any frequency	Ceftriaxone 1 gm q 24 hours
Ceftizoxime 2 gm at any frequency	Ceftriaxone 2 gm q 24 hours

Meropenem dosing guidelines

11/07tpn

500 mg every 6 hours for patients with CrCl ≥50 mL/min, per Cockroft-Gault, including those infections caused by Pseudomonas aeruginosa. 500 mg every 8 hours for CrCl between 25-49 mL/min. 500 mg every 12 hours for CrCl between 10-24 mL/min 500 mg every 24 hours for CrCl between <10 mL/min 1000 mg doses should be used with the intervals delineated above but only for the following patients: ♦ Patients with actual body weight greater than 2 times their calculated ideal body weight. ♦ CNS and eye infections ♦ Cystic fibrosis patients
Dialysis Meropenem is removed by hemodialysis. Patients on hemodialysis should be doses 500 mg every 24 hours with the dose administered AFTER the dialysis session. Patients receiving CVVHD or CAVHD should be dosed based upon a CrCl of 50 mL/min

Interchange guidelines are as follows:

Ordered Imipenem	Supplied as Meropenem (adjust for renal function per adopted dosing guidelines)
500 mg q6-8 hours	500 mg q6-8 hours
1 gm q8h	500 mg q6 hours
1 gm q12 hours	500 mg q6h
Doses > 2 gms/day	Contact prescriber with approved dosing guidelines.

Timentin – Zosyn Interchange

12/02 tpn

The pharmacy will only be stocking the frozen Zosyn piggybacks and will be deleting the frozen Timentin bags. The pharmacy will stock a small amount of Timentin as dry powder vials only to be used for documented infections caused by Stenotrophomonas maltophilia.

Upon receiving any order for Timentin write a new order for the corresponding dose of Zosyn from the table below. Check that the patient does not have reported cultures for Stenotrophomonas maltophilia prior to interchanging Zosyn.

DRUG PRESCRIBED	DOSE	ZOSYN IV* DOSAGE TO BE USED
Timentin IV	3.1 grams q 8h	3.375 grams q 8h
Timentin IV	3.1 grams q 4-6h	3.375 grams q 4-6h

*Dosages will be adjusted for decreased renal function

Creatinine Clearance (milliliter/minute)	Subsequent Dose (milligram [mg])
20 - 40	2.25 grams q 6h
< 20	2.25 grams q 6h
Hemodialysis♠	2.25 grams q 8h
CAPD◈	2.25 grams q 8h

♠ Because Hemodialysis removes 30 to 40% of PIPERACILLIN/TAZOBACTAM a supplementary dose of 0.75 grams intravenously after dialysis is recommended (Prod info Zosyn®, 1995)

◈ PIPERACILLIN/TAZOBACTAM is not removed to a significant degree by continuous ambulatory peritoneal dialysis (CAPD), so no dosage adjustment is necessary (Johnson et al, 1992)

Flor-Q probiotic interchange

12/12/2007

Medication ordered	Sample products	Medication Dispensed
Any probiotic product containing: *lactobacillus acidophilus, bifidobacterium, lactobacillus paracasei and streptococcus thermophilus.*	Culturelle Laxtinex Bacid	Flor-Q8 once capsule daily
Flor-Q is a gluten, lactose, peanut and soybean free capsule. This is the only probiotic stocked in the pharmacy.		

TOPICAL ANTIFUNGAL PRODUCTS AND INTERCHANGES

1/26/2002 tpn

This policy calls for the interchange of the approved formulary agent for the agent the physician has ordered. To implement this policy, a Pharmacist upon receiving a non-formulary order will proceed to write a new order for the approved interchange and then send this order sheet to the nursing unit to be placed in the chart. This order will indicate that the interchange was pursuant to a protocol approved by the medical staff. This order will then be transcribed into the medication record and MAR as would any new medication order.

Formulary products are: Nystatin cr, oint., vaginal tabs; Miconazole 2% powder and spray; Miconazole cr & paste; Tolnaftate 1% soln; Terbinafine cr; Nystatin/triamcinolone cr; miconazole and terconazole vaginal cr & supp; clotrimazole troches, nystatin oral susp.

Ordered medication	Trade Names	Dispensed medication
Nystatin (oint, crm)	Mycostatin	Nystatin
Nystatin powder Miconazole powder	Mycostatin Nitrazole 2%	Miconazole (2% powder)
Miconazole cream Clotrimazole Ciclopirox Econazole Haloprogin Ketoconazole Sulconazole Oxiconazole	Micatin, Monistat-Derm Lotrimin, Mycelex-T Loprox Spectazole Halotex Nizoral Exelderm Oxistat	Miconazole 2% cream
Terbinafine cream	Lamisil	Terbinafine cream
Tolnaftate powder Undecylenate	Tinactin Desenex	Miconazole powder (generic Desenex or Micatin)
Miconazole paste	Triple care ointment	Extra Thick Antifungal
Clotrimazole, Haloprogin, Sulconazole solution		Tolnaftate 1% solution
Clotrimazole/betamethasone cr	Lotrisone	Nystatin/triamcinolone (Mycogen II)
Clotrimazole vag supp (100mg) Miconazole 100mg	Gyne-Lotrimin Mycelex Monistat-7	Miconazole 100mg supp same number and freq.
Miconazole 200mg supp Clotrimazole 200mg vag supp	Monistat-3 Gyne-Lotrimin	Miconazole 200mg supp same number and freq.
Terconazole 0.4% vag crm Terconazol 80mg supp	Terazol vag crm Terazol-3	Terconazole 0.4% vag crm Terconazole 80mg supp
Nystatin vaginal tablets	Mycostatin vaginal tablets	Nystatin vaginal tablets
Nystatin oral susp	Mycostatin	Nystatin oral susp.
Clotrimazole oral troches	Mycelex	Clotrimazole oral troches

Epoetin alfa/darbepoetin dosing protocol

12/10tpn

1. Orders for Darbepoetin, on <u>inpatients</u> will be converted to Epoetin according to the table below.
2. Darbepoetin dosing conversion is based on an approximate equivalency ratio of 270 units epoetin to 1 mcg darbepoetin for chronic kidney disease patients.
3. Exclusions to this dosing protocol:
    a. Pediatric and Neonatal patients. Epoetin requirements are much higher in those patients.
    b. Jehovah's witness with acute blood loss – Epoetin (not darbepoetin) may be a reasonable alternative for treating acute anemia due to traumatic or surgical blood loss in those patients

whose religious beliefs do not allow blood products. Recommended dosing in this situation would be Epoetin in conjunction with folate, B12 and iron. Suggested dosing is 300 units /kg TIW x3 doses, then 150 units/kg TIW.[15,16]

Dosing interchange table for Inpatients

Physician order	New order
Epoetin 40,000 units once weekly	10,000 units Epoetin TIW
Epoetin 60,000 units once weekly	20,000 units Epoetin TIW
Darbepoetin orders: (chronic kidney disease)	
a. 25 mcg once weekly	7,000 units epoetin once weekly
b. 40 mcg once weekly	10,000 units epoetin once weekly
c. 60 mcg once weekly	15,000 units epoetin once weekly
d. 100 mcg once weekly	25,000 units epoetin once weekly

Physician override: A physician may override the automatic interchange by indicating "Do not adjust" or similar verbage. However, it is the physician's responsibility to document the reason for maintaining the patient on this therapy and orders for "Do not adjust dose" are subject to review by the Pharmacy and Therapeutics Committee.

Indications in which epoetin alfa has questionable benefit and should be discouraged:

1. Hemoglobin level greater than or equal to 12 mg/dL.
2. Acute bleed
3. Short courses of therapy with no intention to continue as outpatient.
4. Acute renal failure
5. Anemia due to critical illness.
6. Blood conservation for anemic patients prior to non-elective surgery.

H-2 blocker THERAPEUTIC INTERCHANGE POLICY

Wausau Hospital 09/01tpn

This policy calls for the interchange of the approved formulary agent in <u>adult</u> patients for the agent the physician has ordered. To implement this policy, a Pharmacist upon receiving a non-formulary order will proceed to enter the approved product into Epic and place a comment in the Administration instructions of that medication located on the eMAR indicating to the prescriber and nurse that this medications is the approved interchange product.

The approved Histamine -2 blocking agents are:

Parenteral: Famotidine (Pepcid)

Parenteral NICU/surgery: Ranitidine (Zantac)
Oral (solid dosage form): Famotidine (Pepcid)
Oral (liquid form): Ranitidine liquid (Zantac)

Ordered Medication				**Formulary Agent* Dispensed**
	Nizatidine	Cimetidine**	Ranitidine	**Famotidine**
Oral	150 mg bid	300 mg q4-6h	150 mg bid	**20 mg bid**
	150 mg bid	400 mg bid	150 mg bid	**20 mg bid**
	300 mg qd	600-800 mg qd	300 mg qd	**40 mg qd**
	150 mg qd	< 600 mg qd	150 mg qd	**20 mg qd**
	NA	NA	75 mg bid	**10 mg bid**
IV	NA	300 mg q6-8h	50 mg q8h	**20 mg q12h**
	NA	< 900 mg / day	50 mg q12-24h	**20 mg qd**
Infusion	NA	900-1200 mg / 24 hrs	150 mg q24h	**40 mg q24hr**
If the dosing falls outside of the above dosing, contact the MD to clarify conversion.				

***** Famotidine dosage will be adjusted to 20 mg q24h when CrCl < 50 ml/min and no active GI bleeding

** IV Cimetidine will be available for acute allergic reactions if desired

IV (or PO tablets) to LIQUID (enteral route) switching of H-2 receptor antagonists

IV (or PO tablets) - H2RA Dose*	Interchanged Liquid H2RA dose
Famotidine 20 mg q12h	Ranitidine 150 mg syrup BID
Famotidine 20 mg q24h	Ranitidine 150 mg syrup q24h

* In large bore enteral tubes, famotidine may be crushed and administered if desired.

Second Generation H-1 blocker INTERCHANGE POLICY

4/10 tpn

The approved second generation Histamine –1 blocking agents are:
Oral (solid dosage form): Loratadine 10 mg (Claritin OTC)
Oral (liquid form): Loratadine 1 mg/ml syrup
Combination product Loratadine 5 mg/ pseudoephedrine 120 mg 12-hr tablet.

Product ordered	*Product dispensed*
Cetirizine 10 mg once daily Desloratadine 5 mg once daily Fexofenadine 60 – 180 mg daily	Loratadine 10 mg once daily. (use syrup if order is for syrup)
Fexofenadine 60 mg/ Pseudoephedrine 120 mg – 12-hour tablet.	Loratadine 5 mg/Pseudoephedrine 120 mg – 12 hour tablet. Using tablet for tablet interchange and frequency
Cetirizine (in patients less than 11 years) Desloratadine Fexofenadine	Loratadine: > 5 yrs = 10 mg daily 2-5 yrs = 5 mg daily Less than 2 years, contact physician**.**

Hydrocodone Product Interchanges

8/09tpn

Drug Ordered (Hydrocodone/ APAP)	Product dispensed	Interchange	Dose
Lortab 2.5	**0.5 tab of 5/325**	0.5 tab per 1 dose	Same frequency
Vicodin, Lortab-5 (hydrocodone 5 mg and any amount of acetaminophen)	**5 mg Hydrocodone / 325 mg APAP**	1 tab per tab	Same frequency
Lortab, Lortab-7.5, Vicodin ES, Zydone 7.5 (7.5 mg hydrocodone and any amount acetaminophen)	**7.5 mg Hydrocodone / 325 mg APAP**	1 tab per tab	Same frequency
Norco, Lorcet-10, Zydone-10 (10 mg hydrocodone with any amount acetaminophen)	**10 mg Hydrocodone / 325 mg APAP**	1 tab per tab	Same frequency
Vicoprofen	**7.5 mg Hydrocodone** **200 mg Ibuprofen**	No interchange	No interchange

- Interchange is based on the amount of hydrocodone per tablet. (e.g. All products which contain 7.5 mg hydrocodone will be dispensed as the 7.5/500 combination regardless of acetaminophen content.)

Hypnotic Interchange Policy

12/7/05 tpn

Formulary agents are: Temazepam, Estazolam and Zolpidem

Ordered medication	**Approved interchanged medication**

Eszopiclone (Lunesta) 1-2 mg Zapelon 5 mg Zolpidem CR (Ambien CR) 6.25 mg	Zolpidem 5 mg same frequency
Eszopiclone (Lunesta) 3 mg Zapelon 10 mg Zolpidem CR (Ambien CR) 12.5 mg	Zolpidem 10 mg same frequency
Flurazepam 15 mg Triazolam 0.125 mg	Temazepam 15 mg same frequency
Flurazepam 30 mg Triazolam 0. 25 mg	Temazepam 30 mg same frequency

Insulin Interchange protocol

10/09tpn

Formulary Insulin products:

Regular human insulin (Novolin)

NPH

NPH/regular 70/30 mix

Aspart Insulin (Novolog)

NPH/Aspart 70/30

Glargine insulin (Lantus)

Humulin 50/50

Dispensing:

1. Humulin 75/25 is not stocked and Novolog 70/30 will be interchanged on a unit per unit basis.
2. Regular insulin in vials will be retain for IV compounding
3. Glargine insulin will be dispensed on a per dose basis in a syringe prepared by pharmacy in a clean environment.
4. Doses larger than 80 units will need to be divided evenly into two syringes. Enter a comment into administration instructions of MAR for RN to use two syringes to administer total dose.
5. Teaching supplies: pharmacy will supply a vial of 0.9% saline to the patient for teaching purposes.

*LAXATIVE PRODUCT INTERCHANGE POLICY**

The following stool softeners/stimulant laxatives are on formulary:
Surfactants: Docusate 100 mg cap, Ca-240 mg cap, and 100 mg/10 ml liquid
Stimulant agents: Senna 8.6 mg tab, Senna liquid 8.8 mg/5ml, Bisacodyl 5 mg tab, 10 mg supp,
Stimulant-surfactant combination: Senokot-S (8.6 mg/50 mg)

Agent ordered	Agent dispensed – equivalency
Surfactant agents	
Docusate 50 mg capsules Docusate 100 mg capsules Docusate potassium (Dialose)	Docusate 100 mg capsules
Docusate sodium 250 mg Docusate calcium 240 mg	Docusate Ca 240 mg capsules
Stimulant – Surfactant combination	
Casanthranol / docusate (Peri-colace) Doxidan Modane plus Ex-lax combinations Feen-a-mint combination Dialose plus Peri-Colace liquid	Senna / docusate (Senokot-S) Interchange capsule per capsule same frequency. Senokot liquid 5 ml plus Docusate 100 mg liquid
Stimulant laxatives	
Feen-a-mint tablets, Correctol, Modane Aromatic cascara fluidextract 5 ml MOM concentrate / cascara - 15 ml of comb.	Bisacodyl 5 mg tabs Senokot syrup 5 ml (as the casacara component of any orders) Senna syrup 5 ml plus MOM 30 ml.

* Table is not inclusive of all products. If product is not listed in table Pharmacists will interchange bisacodyl for solid entity dosage forms and senna syrup for liquid dosage forms products based on the following equivalencies: Senna 8.6 = Casanthanol 30 mg = Bisacodyl 5 mg

Aromatic cascara fluidextract 5 ml = senna 8.8 mg syrup = cascara sagrada 5 ml

BULK-FORMING LAXATIVE INTERCHANGES*

Medication ordered	Medication dispensed
Fiberall POWDER, Hydrocil, Konsyl, Serutan, Modane Bulk	Metamucil orange (Sugar free) same dose and frequency

	(At patient request may substitute Citrucel)
Maltsupex , Unifiber, Perdium	Citrucel
Polycarbofil products Fiberall tablets Fibercon Mitrolan	Fibercon tablets 2 Fibercon per fiberall with the same frequency. Fibercon same dose and frequency
Mira lax (polyethylene glycol 3350)	Mira lax

Oxycodone product dosing chart

Interchange is based on the amount of oxycodone per tablet. (e.g. All products which contain 5 mg oxycodone will be dispensed as the 5/325 combination regardless of acetaminophen content.)

Proton Pump Inhibitor Interchange

6/2006 tpn

The approved Proton pump inhibiting agents are:

Parenteral: Esomeprazole 40 mg IV

Drug Ordered	Product dispensed	Substitute	Dose
Percocet Percocet-5 Tylox, Roxicet	Oxyocdone 5 mg / 325 mg APAP	1 tab per tab/cap	Same frequency
Percocet 7.5 (oxycodone 7.5 mg and APAP 325 mg)	Oxycodone 7.5 mg / 325 mg APAP	No interchange	No interchange
Percocet –10 (oxycodone 10 mg and APAP 325 mg)	Oxycodone 5 mg / 325 mg APAP	2 tabs per 10 mg dose ordered	Same frequency
Oxycodone Roxycodone (5 mg IR* tablets)	Oxycodone 5 mg tabs	No interchange	No interchange
Oxycontin® tab (SRT** formulation)	10 or 20 mg SRT	No interchange	8-12 hour dosing
Roxycodone liquid	5 mg per 5 ml oxycodone	No interchange	No interchange

Oral (solid dosage form): Omeprazole 20 mg capsules
Enteral: Lansoprazole Solutabs

Medication

Medication ordered					Dispensed
Pantoprazole (Protonix®)	Lansoprazole (Prevacid®)	Omeprazole (Prilosec®)	Rabeprazole (Aciphex®)	Esomeprazole (Nexium®)	Omeprazole (Prilosec®)
20 mg daily	15mg daily	10mg daily		20mg daily	**20 mg daily**
40 mg daily	30mg daily	20mg daily	20mg daily	40 mg daily	**20 mg daily**
40 mg BID	30mg BID	20mg BID	20mg BID	40 mg BID	**20 mg BID**

If the dosing falls outside of those listed, contact the MD to clarify conversion.

Levalbuterol (Xopenex) Interchange

12/2008tpn

Drug ordered	Drug dispensed
Levalbuterol 1.25 mg SVN	Albuterol 2.5 mg using same ordered frequency
Levalbuterol 0.63 mg SVN	Albuterol 1.25 mg using same ordered frequency

Serevent – Foradil Interchange

12/2008tpn

Drug ordered	Drug dispensed
Serevent 50 mcg BID	Foradil 12 mcg BID

Formulary vitamin and multivitamin interchange policy

The therapeutic substitution follows the therapeutic interchange protocol outlined by policy 01-06-23. Vitamins, vitamin-mineral combinations, and hematinics are placed into groups defined by the Facts & Comparison's classification system. All orders received for hematinics, vitamins and vitamin-mineral combinations will be placed in the appropriate grouping. The formulary agent will be sent in it's place. If the vitamin can not be placed in one of the groupings, the Physician will be contacted. Below is a chart that outlines the grouping scheme and gives some EXAMPLES of substitutions that may occur.

Vitamin and vitamin-mineral classordered	Examples	Medication dispensed
MULTIVITAMIN (includes all B-complex vitamins, B-complex with and without vitamin C except mega dose B-complex therapeutic dose vitamins)	Unicap, Stresstab, One-A-Day Allbee with C, Theragran, Vi-Daylin	Multivitamin With Minerals (A-Z) with Iron (i.e. Certagen)
MULTIVITAMIN WITH MINERALS (includes all multivitamins with iron or other minerals (regular or therapeutic strength))	Myadex, Centrum (all varieties), Vicon, Mi-Cebrin, Z-Bec, Eldercap, Stresstabs with minerals Theragran-M	Multivitamin with Minerals (A-Z) with Iron (i.e. Certagen)
Prenatal with folate (0.8-1mg (includes all prenatal vitamins with or without minerals)	Prenatal 1+ 1, Materna, Natalans Stuartnatal Plus,	Prenatal vitamin with minimum 0.8 mg folic acid, calcium, and iron (Prenatal vitamin with iron and folic acid)
Iron with vitamins (Use when iron is > 30 mg. NOTE: This includes 1 mg folic acid.)	Niferex-150 Forte, Stuartinic, Fero-Grad-500, Geritol, Iberet-Folic-500	Niferex-150 Forte (with 1 mg folic acid and iron > 30 mg)

Vitamin and vitamin-mineral classordered	Examples	Medication dispensed
B-Complex mega dose (Hexavitamins or B- Vitamins with/without vitamin C)	B-50, Mega-B, B Complex-150	Multivitamin with Minerals (A-Z) with Iron (i.e. Certagen)
Pediatric multivitamin drops	Poly-Vi-Sol, Vi-Daylin	Pediatric Multiple Vitamin Drops --1 dose

Pediatric multivitamin with iron (drops, chewable tabs)	Poly-Vi-Sol with iron, Tri-Vi-Sol with Iron, Vi-Daylin with Iron	Pediatric Multiple Vitamin Tab *Or* one dose of drops PLUS Ferrous Sulfate Drops (10 mg iron per dose)
Pediatric multivitamin chew tabs	Poly-Vi-Sol, Vi-Daylin	Pediatric Multiple Vitamin Chew Tab (May crush.)
Adult Multivitamin Liquid (includes all orders for multiple vitamins and minerals-regular or therapeutic strength)	Kenwood therapeutic liquid, Geritol	Multiple vitamin liquid (NOTE: 5 ml = 1 daily dose)
Ophthalmic vitamin (with antioxidants)	Ocuvite, I-cap, Ocuvite Preservision	Ocuvite (one tab per dose) same frequency.
Renal multivitamin (Renal formula without oil soluble vitamins or minerals)	Dialyvite, Nephro-Vite	Renal Multivitamin
Parenteral Multivitamin (adult)	MVI-12, Infuvite	Infuvite adult
Parenteral Multivitamin (pediatric)	MVI-Peds, Infuvite Peds	Infuvite Peds

Formulary Calcium products and interchanges

Table is not inclusive of all products, it is merely acting as a guide using the more common agents.
Other calcium salts: Pharmacist to clarify order for calcium carbonate based on elemental calcium content of non-formulary agent.

*Formulary magnesium products and interchanges**

9/24/2007 tpn

Calcium ordered	Trade name examples	Product dispensed
Calcium $\leq$200 mg elemental (Calcium carbonate, gluconate, and lactate salts)	Tums, Os-Cal	Calcium carbonate chewable tablet 500 mg (200 mg elemental Ca^{+})
Calcium carbonate 500-600 elemental (1200-1500 mg)	Os-Cal 500, Posture-500, Caltrate 600	Calcium carbonate 1250 mg (500 mg elemental calcium)
Calcium carbonate with Vitamin D 250 mg/125 units 500 mg/200 units 600 mg /200 units	Os-cal D 500, Os-Cal D 250, Posture-D	Calcium 500 mg with Vitamin D 200 units (One tab per two 250 tabs or a minimum of 1 daily. (eg Oscal D 250 bid = Oscal D 500 1 qd).
Calcium Citrate 950 mg Calcium citrate with Vitamin D	Citracal Citracal-D	Citracal, Citracal-D
Calcium Glubionate syrup (1.8 gms/5ml)	Calcionate, Calciquid	Calcium Glubionate 1.8 gm/5ml

Medication ordered	Sample products	Medication dispensed
Magnesium oxide(or any supplement containing over 100 mg up to 250 mg elemental Mg.)	Mag-200(elemental) Mag-Ox 400(salt)	Magnesium Oxide 500mg (250 mg elemental)
Magnesium chloride (any magesium product that contains 100 mg elemental Mg or less.)	Slo-Mag Magnesium gluconate	Mag. chloride SR (64 mg elemental) tab per tab

*table is not inclusive of all the substitutions, it is merely acting as an example using the most widely used products

Formulary Iron products and interchanges*

9/24/2007tpn

Medication ordered	Sample products	Medication Dispensed
Ferrous sulfate and fumarate 160, 300, 325 mg	Feosol, Femiron Slow-Fe, Niferex	Ferrous sulfate 325 mg tablet for tablet

Medication ordered	Sample products	Medication Dispensed
(all sulfate, fumerate salts containing 60 mg elemental or less)	Mo-Iron Feostat	
Ferrous Gluconate^ 300mg; 325 mg (gluconate salts containing 40 mg elemental or less)	Fergon Simron	Ferrous gluconate 325 (With physician order may use in patients intolerant of ferrous sulfate)
Hematinics (containing 61 mg elemental or more)	Hematinic, Fero-Grad, Fero-Folate, Iberet	Niferex-150 Forte
Polysaccaride-iron complex 150 mg (elemental)	Niferex-150 Nu-iron	Niferex-150

*table is not inclusive of all the substitutions, it is merely acting as an example using the most widely used products

Phenytoin administration policies

12/07tpn

1. Change all orders for IV phenytoin sodium to IV fosphenytoin.
    a. Equivalent phenytoin sodium dose changed to equal dose of fosphenytoin expressed as PE (phenytoin equivalent)
2. Change all orders for Dilantin Oral suspension to be delivered via feeding tube to Phenytoin sodium injection.
    a. Converting parenteral dose to enteral, use same ordered total daily dose of phenytoin divided into two administrations per day.
    b. Orders for Dilantin oral suspension will be changed to phenytoin sodium using same mg dose and frequency.
    c. Dose administration as follows:
        i. No holding of tube feeds.
        ii. Each dose diluted in 30 mL of 0.9% saline.
        iii. Feeding tube flushed before and after dose with 30 mL water.

LMWH Therapeutic Interchange Dosing Guidelines

- Dispense Fondaparinux (Arixtra) as written.
- Pharmacy to adjust dalteparin dose for renal function. (For patients with CrCl <30 and dialysis patients, the recommendation is to use UFH. If dalteparin is used, recommendation is to decrease dose by 50%)
- Peak Anti-Xa levels are recommended for pregnant patients and may be appropriate for obese patients (> 150kg) and those with impaired renal function (CrCl <30). No max dose for patients up to 190 kg (actual body weight).
- No adjustment of prophylaxis doses for CrCl < 30 mL (non-dialysis patient)

Type of Surgery or Medical Condition	Dose of Enoxaparin (Lovenox®) ordered	Converted to Dalteparin (Fragmin®)
Orthopedics: (DVT prophylaxis) Hip replacement/Hip fracture	40mg SubQ daily **OR** 30mg SubQ q12h 12-24 hours after surgery	2500 Units SubQ 6-8 hours after surgery, followed by 5000 Units SubQ daily on subsequent days. If patient received spinal anesthesia, initial doses are coordinated with anesthesia recommendations.
Knee replacement	30mg SubQ q12h 12-24 hrs after surgery	2500 Units SubQ 6-8 hours after surgery, followed by 5000 Units SubQ daily on subsequent days. If patient received spinal anesthesia, initial doses are coordinated with anesthesia recommendations
General or Abdominal Surgery:* *(DVT prophylaxis)* Moderate risk	40mg SubQ daily after surgery	2500 Units SubQ daily
High risk or very high risk	40mg SubQ daily after surgery	5000 Units SubQ daily
Bariatric Surgery: * (DVT prophylaxis**)**	40mg SubQ q12h	2500 Units SubQ 2 hours pre-op, 2500 Units SubQ at 2100 day of surgery, then 5000 Units SubQ daily
Malignancy: (DVT prophylaxis)	30mg SubQ q12h	5000 Units SubQ daily
Spinal Cord Injury: (DVT prophylaxis)	30mg SubQ q12h DAW (acute phase)	Enoxaparin 30 mg SubQ q12h DAW
	40 mg SubQ once daily (Rehab)	Dalteparin 5,000 units SubQ daily
Trauma:* (DVT prophylaxis)	30mg SubQ q12h DAW	Enoxaparin 30 mg SubQ q12h DAW
	40 mg SubQ once daily	Dalteparin 5,000 units SubQ daily
General Medical: (DVT prophylaxis)	40mg SubQ daily	5000 Units SubQ daily
Treatment of Venous Thromboembolic Disease: **Includes: DVT, PE, ischemic stroke, atrial fibrillation**	1mg/kg SubQ q12h (inpatient/outpatient) 1.5 mg/kg SubQ daily (outpatient)	****Please use table attached**** 200 Units/kg SubQ q24h (<100kg) 100 Units/kg SubQ q12h (≥100kg)
Unstable Angina/Non Q-wave MI:	1mg/kg SubQ q12h	*120 Units/kg SubQ q12h*

No consensus standard. Consider increasing prophylaxis dose in obese patients by 25-50%. (BMI > 35)

*** DAW= Dispense as written***

S. Medication guidelines

PHOSPHORUS REPLENISHMENT RECOMMENDATIONS

****(For patients with normal renal function)****

SERUM LEVEL	DOSE mM/KG (IDEAL BODY WEIGHT)
< 0.5 mg/dl and symptomatic	0.15-0.3 mM/kg IV give over 4-6 hours (max rate 5 mM/hour)

	repeat serum level in 12 hours, repeat dose prn
0.5 - 1.5 mg/dl	0.08 - 0.25 mM/kg repeat serum levels in 24 hours, repeat dose prn
1.5 - 2.0 mg/dl	oral replacement if able(see products above) to provide 30 - 60 mM of phosphorus daily. OR 10-15 mM IV over 6 hours repeat serum levels in 24 hours, repeat dose prn

RECOMMENDED DILUTION AND ADMINISTRATION RATES FOR IV PHOSPORUS

1.) Maximum rate of phosphorus administration regardless of concentration or IV access site is 5 mM per hour. The slow rate of administration is to prevent phosphorus intoxication and Ca-PO4 precipitation.
2.) Phosphate salts can be diluted in either D5W or 0.9% NaCl
3.) POTASSIUM PHOSPHATE (KPO4)
 a.) Peripheral IV site - 15 mM/ 250 mL (concentration equivalent to 10 mEq/100 mL)
 b.) Central IV site - 15 mM/250 mL; fluid restriction 25 mM/100 mL (conc equivalent to 20 mEq/50 mL)
4.) SODIUM PHOSPHATE (NaPO4)
 a.) Peripheral or Central IV site 15 mM/250 mL ; fluid restriction 15 mM/100 mL

Available Phophate containing products

PRODUCT	PHOSPHORUS	POTASSIUM	SODIUM
K-Phos Neutral	8 mM	1.1 mEq	13 mEq
K-PHOS Original (tab)	3.7 mM	3.7 mEq	None
FLEET'S PHOSPHO-SODA	4 mM per mL	0	4.8 mEq per mL
KPO4 (IV)	3 mM per mL	4.4 mEq per mL	
NaPO4 (IV)	3 mM per mL		4 mEq per mL

Neutra-Phos and Neutra-Phos K are to be diluted in 2.5 oz of water of juice for each capsule. The K-Phos Neutral tablets are to be taken with a full glass of water of juice.

Guidelines for Appropriate Use of Meperidine (Demerol®) in Adults

Meperidine is one of the most widely used medications in the treatment of pain. However, problems specific to meperidine have caused unnecessary adverse effects and inadequate pain management in certain patients. Disadvantages of meperidine include short duration of action (2-3 hours), conversion to the toxic metabolite, normeperidine, which can cause severe neurological effects, and extensive first pass metabolism, requiring very high doses of oral meperidine and increasing concentrations of normeperidine. The following guidelines serve as a tool to help select appropriate patients and indications for the use of meperidine.

Appropriate Indications for Meperidine in Adult Patients

1. Acute episodes of moderate to severe pain in patients with a history of adverse reaction or treatment failure to other opioids given in adequate doses

2. Prevention or treatment of drug-induced or blood product-induced rigors

3. Conscious sedation used prior to procedures

4. Neuraxial analgesia for acute pain management (administered by anesthesiology service)

Meperidine has not shown any unique benefit in patients with biliary colic or acute pancreatitis.

The American Pain Society (APS) recommends limiting meperidine to 600 mg per 24 hour period and to 48 hours duration in patients with normal renal function. Doses should be reduced in patients with decreased renal or hepatic function, and in older patients.

Meperidine is contraindicated in patients with renal insufficiency (creatinine clearance less than 50 mL/min), untreated hypothyroidism, Addison's disease, benign prostatic hypertrophy, urethral stricture, and those receiving monoamine oxidase (MAO inhibitors).

Meperidine should be used with extreme caution in patients with convulsive disorders or patients receiving drugs known to increase the risk of seizures. Even patients with no risk factors can develop neurological side effects from meperidine. Meperidine should be discontinued at the first sign of tremor, twitching or jerking, anxiety, agitation, illusions, hallucinations, or confusion. Naloxone does **not** reverse the effects of normeperidine, and, therefore, should not be used to treat neurotoxic effects.

Post-operative Nausea and Vomiting Guidelines

The Pharmacy and Therapeutics Committee with input from members of the Surgery and Anesthesiology Departments has approved guidelines for the treatment of post-operative nausea and vomiting (PONV). These guidelines are designed to aid in the identification of patient risk factors for PONV.

Risk Factors for PONV (*indicates high risk)

*Previous history of nausea and/or vomiting peri-operatively
*Hiatal hernia and/or gastroesophageal reflux

*Intra-abdominal procedure (laparoscopy, laparoscopic cholecystectomy or hernia)
*Microscopic ear procedures (mastoidectomy, tympanoplasty)
*Eye procedures (extraocular muscle surgery, stabismus surgery)
*ENT surgery (where blood secretions may be swallowed)
*Neurosurgery
Obesity (BMI > 30)
Diabetes
Extreme pain/anxiety
Previous gastric or esophageal surgery
Inguinal/umbilical hernia repairs, orchiopexy
Peri-menstrual females

Some studies show no difference in efficacy between ondansetron (Zofran®) and other antiemetic agents such as droperidol (Inapsine®) or metoclopramide (Reglan®) for the treatment of PONV while other studies demonstrate superiority of ondansetron. These differences appear to be dependent on patient history of PONV and type of surgery. For low to moderate risk patients, other agents may be more cost-effective (equal efficacy with lower cost) than ondansetron. An agent similar to ondansetron has recently been added to the formulary on a 6-month trial basis. The new agent, dolasetron (Anzemet®), has a similar mechanism of action and side effect profile. The recommended dosing of dolasetron is 12.5 mg IV for prevention or treatment of PONV. For more information on dolasetron, contact the pharmacy department for a complete monograph.

Patient Risk for PONV	Options for Prevention	Options for Treatment
Low or Moderate	a. Omit prophylaxis b. Metoclopramide 10 mg IV c. Droperidol 0.625 mg IV d. Prochlorperazine 5-10 mg IM/IV	a. Repeat preventative agent b. Ondansetron 4 mg IV push
High or History of PONV	a. Metoclopramide 10 mg IV b. Droperidol 0.625-1.25 mg IV c. Ondansetron 4 mg IV push	a. Ondansetron 4 mg IV

Cost of Antiemetic Agents at Wausau Hospital

Medication	Dosage	Cost/dose
Droperidol (Inapsine®)	0.625-1.25 mg IV tid-qid prn	$ 2.91
Metoclopramide (Reglan®)	10 mg IV q4-6h prn	$ 0.57
Prochlorperazine (Compazine®)	5-10 mg IM/IV tid-qid	$1.53
Promethazine (Phenergan®)	12.5-25 mg IM/IV q4h prn	$0.63
Ondansetron (Zofran®)	4 mg IV	$0.27

Fluoroquinolones – Preferred agent status

The preferred fluoroquinolones at Wausau Hospital are moxifloxacin for RESPIRATORY indications and ciprofloxacin for non-respiratory indications. Moxifloxacin is NOT indicated for urinary tract infections.

Moxifloxacin has lower in vitro MICs against Streptococcus pneumoniae in comparison to levofloxacin and gatifloxacin. Moxifloxacin also maintains concentrations in epithelial lining fluid, 24 hours post dosing, 5-20 times higher than the in vitro MICs against S. pneumoniae. It is felt that this

will help to reduce the occurrence of resistance of S. pneumoniae to fluoroquinolones here in Wausau that is appearing in case reports in other areas of the country.

Ciprofloxacin was chosen for non-respiratory indications due to its pharmacodynamic advantages in the treatment of severe gram-negative infections including Pseudomonas aeruginosa. Also, ciprofloxacin is now available as a generic at a significantly lower cost.

Both moxifloxacin and ciprofloxacin are cost effective alternatives to levofloxacin. Please consider using one of the preferred fluoroquinolones in place of Levofloxacin for your patient

Recommended dosing:

Moxifloxacin 400 mg IV/PO daily. No adjustment for renal dysfunction.

Ciprofloxacin 250 mg BID for uncomplicated UTI

500 mg -750 mg PO (400 mg IV) q8-12 hours depending upon indication with adjustment for renal dysfunction

Non-formulary quinolones: Gatifloxacin, Norfloxacin, Sparfloxacin, Ofloxacin, Gemfloxacin.

Medication protocols with preprinted orders sheets:

Unfractionated Heparin infusion orders for DVT/PE
Parenteral Hyperalimentation orders
Adult Insulin Infusion orders
Diabetic Ketoacidosis
Subcutaneous Insulin Management
Argatroban infusion orders
Epoprostenol inhalation for PAH/ARDS
Drotregcogin for sepsis syndrome
Amiodarone infusion protocol
Hypertonic Saline with Furosemide in decompensated heart failure.
Patient Controlled Analgesia (PCA)
Dexmedetomidine for sedation in critical care
Zosyn continuous infusion
Continuous Infusion Amphoteracin B for Blastomycosis