

PHARMACY AND THERAPEUTICS NEWSLETTER

VOLUME 14.3 4th Quarter 2010 EDITORS: Alina Lopo, M.D., Ph. D. Susan Wee, Pharm. D.

<http://www.tarzanacme.com/pharmacy/pharmacy.html>

PHARMACY AND THERAPEUTICS COMMITTEE ACTIONS

FORMULARY:

Additions:

- Prothrombin Complex Concentrate (Profilnine® SD): **Restricted** to warfarin related intracranial hemorrhage and must be ordered using pre-printed form
- Aliskiren (Tekturna®): Direct renin inhibitor
- Nebivolol (Bystolic®): Beta-blocker
- Acebutolol (Sectral®): Beta-blocker for pregnant patients (Pregnancy Rating B)
- Ranolazine (Ranexa®): Treatment of angina
- Oxaliplatin (Eloxatin®): Anti-neoplastic agent

Restriction: Abciximab (Reopro®) – only for dialysis patients

Deletions: Therapeutic substitutions for the cardiovascular class and diabetic class will NOT be implemented until the medication reconciliation process has been finalized.

- **Topical Wound Products:** Becaplermin 0.01% (Regranex®), calcipotriene 0.005% (Dovonex Cream®), doxepin 5% (Prudoxin®), Zinc Oxide & Benzoic Acid (Balmex®)
- **Antipsychotics:** Perphenazine, Trifluoperazine
- **Analgesic Class:** Buprenorphine (Buprenex®), carisoprodol/ASA (Soma® Compound), carisoprodol/ASA/Codeine (Soma® Compound & Codeine), etodolac (Lodine®), levorphanol (Levo-Dromoran®) injection, orphenadrine/ASA/caffeine (Norgesic® Forte), oxaprozin (Daypro®), oxycodone/aspirin (Percodan®), Paregoric, pentazocine (Talwin®), pentazocine/naloxone (Talwin NX®), propoxyphene (Darvon-N®),

propoxyphene & acetaminophen (Darvocet-N®100)

- **Cardiovascular Class:** Atorvastatin (Lipitor®), rosuvastatin (Crestor®), Omega-3-acid (Lovaza®), fosinopril (Monopril®), moexipril (Univasc®), quinapril (Accupril®), trandolapril (Mavik®), candesartan (Atacand®), irbesartan (Avapro®), telmisartan (Micardis®), amiloride, indapamide (Lozol®), methazolamide (Neptazane®), timolol, bisoprolol (Zebeta®), mexiletine, isradipine (DynaCirc®), prazosin (Minipress®)
- **Anti-Diabetic Class:** Acarbose (Precose®), glyburide micronized (Glynase® PresTab), insulin NPH & aspart (NovoLog Mix® 70/30), rosiglitazone (Avandia®).

POLICY UPDATE:

Therapeutic Substitution Policy

When Ordered	Substituted With
Chlorzoxazone (Parafon F & DSC®), Metaxalone (Skelaxin®), Methocarbamol (Robaxin®), Tizanidine (Zanaflex®)	Cyclobenzaprine (Flexeril®) PO 10mg tid
Mylanta Liquid	Maalox Liquid

IV Administration Guideline Metoprolol (Lopressor®) has been revised to add Med/Surg units to the areas approved for administration with the following restrictions:

- Patient must be on telemetry monitoring
- Medication given by IVPB only
- Patient is NPO either stabilized on IV from Critical Care units or previously stabilized on oral route

IV to PO Conversion Policy

The clinical pharmacist will identify patients on approved intravenous medications eligible for conversion to oral route as per following criteria. The pharmacist will write an order to convert the route to oral as per protocol.

Criteria:

- Able to tolerate oral or tube feeding x 24 hours or able to take other oral medications.
- Trend in clinical improvement of conditions
 - Afebrile or temperature trend down x 24 hours
 - WBC normalizing
 - Patient is not septic
 - Improving or stable radiographic findings.

Exclusion:

- Neutropenia
- Meningitis
- Infective endocarditis
- Abscess, undrained
- Osteomyelitis, initial treatment

Medications (all approved medications have excellent bioavailability):

ampicillin, azithromycin (Zithromax®), clindamycin (Cleocin®), famotidine (Pepcid®), fluconazole (Diflucan®), levofloxacin (Levaquin®), linezolid (Zyvox®), metronidazole (Flagyl®), metoclopramide (Reglan®), ranitidine (Zantac®)

ESA REMS (Erythropoietin Stimulating Agent Risk Evaluation and Mitigation Strategy) at PTMC:

- Healthcare providers who prescribe ESA (Procrit®, Epogen®, Aranesp®) for patients with cancer must be certified through the Amgen™ APPRISE Oncology Program.
- The ESA APPRISE Oncology Patient and Healthcare Professional Acknowledgement form must be signed by the patient and the physician prior to ESA administration.
- For oncology patients, epoetin alfa should not be initiated at hemoglobin levels $\geq 10\text{g/dL}$.
- Healthcare providers who prescribe ESA for non-oncology purposes do not need to enroll in the APPRISE Oncology Program.
- All patients must be provided with an ESA Medication Guide prior to the medication administration.

ADVERSE DRUG REACTIONS

3rd Quarter ADR Report 2010:

The rate for the 3rd quarter was 3.7% compared to 3.5% in the 2nd quarter. These three classes (analgesics, anti-diabetics, and antibiotics) continue to be most frequently associated with ADRs. There were no inpatient anticoagulant associated ADRs for the third quarter.

Severity L2 or greater ADR medications:

- L2: Hydromorphone IM – altered mental state
- L2: Lorazepam and morphine - bradycardia

RENAL DOSE MEDICATION ADJUSTMENT

There are several methods to estimate patient's renal function when a direct way to measure GFR (glomerular filtration rate) is not practical. The most widely used methods are the Cockcroft-Gault equation and the MDRD (Modification of Diet in Renal disease) equation. Unfortunately the two methods often do not correlate (20 – 36% discordance).

The FDA recommends the Cockcroft-Gault equation to adjust medication doses¹. The MDRD equation may result in subtherapeutic medication therapy for patients with CRD stage IV or V disease and suprathreshold therapies for CRD stage III disease. MDRD equation also significantly over estimates renal functions in patients older than 70 years (15%), males (10%), diabetics (10%) and patients with comorbidity (17%)².

At Providence system, when the serum creatinine (Scr) value is less than 1 mg/dL, it is rounded up to 1mg/dL in the Cockcroft-Gault equation if a patient is older than 65 years of age. This is because using a decimal value of Scr in the denominator of the equation will result in exaggerated estimate of GFR over 200 mL/min for elderly patients sometimes.

Since the methods of estimating GFR were studied in stable patients, for those patients with rapidly changing clinical situation, a direct measurement is recommended. Clinicians should continue to consult with pharmacists and assess all factors involved with renal function before making a decision for drug dosing.

1. AM J Health Pharm 2009;66:154-61
2. Nefrologia 2002;22(5):432-7

**DIRECTOR,
PHARMACY SERVICES**
Krist Azizian, Pharm. D.