IV Ibuprofen Formulary Review

IV ibuprofen (Caldolor®) was reviewed and will be added to the MLH adult formulary.

Clinical Pearls:

Dosing:
- **Per the package insert:** 400 mg to 800 mg IV every 4-6 hours as needed.
- **Per MLH:** Standardized to 800 mg every 8 hours (Max of 3 doses, and max duration 24 hours)

Administration: Patients should be well hydrated before administration. IV ibuprofen must be diluted prior to intravenous infusion to a final concentration of 4mg/mL or less. Diluted solutions are stable for up to 24 hours at room temperature. The MLH standard preparation will be 800 mg in 250 mL of 0.9% sodium chloride, and will be prepared by pharmacy. Infusion time is over at least 30 minutes.

Monitoring: Monitor blood pressure, renal function, and signs and symptoms of GI bleeding during course of therapy. Monitor CBCs closely in patients with coagulation disorders or receiving anticoagulation.

Most Common Adverse Effects: Nausea, vomiting, headache, edema, and dizziness.

Contraindications: Hypersensitivity to NSAIDs and use during the perioperative period in the setting of coronary artery bypass graft (CABG) surgery.

MLH Restrictions: Ordering limited to surgery and anesthesiology and no telephone or verbal orders will be allowed. Patient must be NPO, not undergoing a CABG and not receiving any other PO medications. The order must be reviewed by a pharmacist before it is dispensed. At the time of order verification, the pharmacist will:
- View the patient’s profile for PO orders and ensure that the patient is not actively receiving PO medications. If the patient is receiving PO medications when IV ibuprofen is ordered, the pharmacist may discontinue the order for IV ibuprofen per policy/MEC approved protocol and if the patient does not have an active order for a PO NSAID at this time, the pharmacist may automatically convert the order from IV ibuprofen to PO ibuprofen (same dose and frequency) for a duration of 3 doses only.

The tentative implementation date for this is December 11, 2012. The pharmacy department will perform a Medication Use Evaluation (MUE) 12 months after implementation to evaluate use of IV ibuprofen.
Levalbuterol MUE
Based on findings from a levalbuterol MUE (50% of levalbuterol orders did not meet our current criteria), the following recommendations were proposed and accepted:

1) Maintain levalbuterol on formulary and edit criteria for use to: failure of albuterol or patient on levalbuterol at home. (these choices will be the only 2 options for physicians to enter)
2) Maintain the pharmacist’s ability to automatically convert to albuterol if not justified
   a. Conversion chart will be updated to reflect proper dose conversions from levalbuterol to albuterol (2x Levabuterol = Albuterol dose)
3) Pharmacist will be permitted to change PRN albuterol orders to PRN levalbuterol if scheduled order for levalbuterol is accepted
4) Performance will be re-evaluated in 1 year by pharmacy

   Tentative implementation date is December 11, 2012

Warfarin MUE
Upon review, 91% of warfarin patients across the four adult Methodist hospitals were managed by pharmacy and the pharmacy dosing service was associated with more therapeutic INRs at discharge compared to physician dosing. Based on this, it was recommended to continue to promote the use of the pharmacy-run warfarin dosing service.

Brief Updates
I. Critical Drug Shortage: Sodium Bicarbonate and Propofol
   During the shortage of sodium bicarbonate, all orders will be followed up on by the pharmacist with the prescriber to determine if an alternative may be utilized. For propofol, practitioners should consider alternative therapy where possible for ventilated patients. CPOE order alerts are currently active for both sodium bicarbonate and propofol. Sodium bicarbonate and propofol levels will be monitored daily by the drug shortage team.

II. Orderset/Protocol reviews that were accepted:
   a. Liver and Kidney Transplant Post Op Plan
   b. VTE Ortho Prophylaxis Surgical Plan
   c. ED Sickle Cell Pain/ Pain or SOB with History of Sickle Cell Orders
   d. Sickle Cell Outpatient Infusion Center Orders
   e. Cardiac Surgery Pre Op, Post Op, and Transfer Plans
   f. Hydroxyurea Outpatient Protocol

Recently Implemented:
The new standard epidural for post-operative pain in the adult patients at Methodist LeBonheur Healthcare was approved to be fentanyl 5mcg/mL with ropivicaine 0.2% in September. This change was implemented on November 27, 2012.

Upcoming P&T Agenda Items:
Formulary reviews: IVIG, Daliresp, Suprep, Nebivolol
MUEs: Hydromorphone/Naloxone
Next P&T Meeting: December 6, 2012