P&T COMMITTEE ACTIONS

PTMC Policies

IV Acetaminophen Guideline: revised to add pediatric indication for pain and fever. The ONLY adult indication remains post-op pain.

All patients must be:
- NPO/NPR
- Unable to use IV ketorolac or PO NSAID
- Duration of therapy limited to 24 hours

Pediatric IV Pump Medication Additions

The Medfusion pediatric IV pump was updated to include the following medications:

- Dexmedetomidine: procedural sedation & PICU mechanical ventilation x 24 hours
- Propofol: procedural sedation & PICU short term for weaning from mechanical ventilation.
- Vecuronium: PICU mechanical ventilation

Vancomycin and Aminoglycoside Pharmacist Consult Policy: P&T recommends the medical staff consult with a pharmacist when ordering vancomycin and aminoglycosides. The benefits of pharmacist pharmacokinetic consult services has been well documented in the literature and includes decreased adverse effects, faster target serum levels, and decreased length of treatment as well as decreased length of hospital stay.

EPIC Optimization March-15

- Per CMS requirement, all antibiotic orders in Epic now requires an indication.
- Zosyn® in the order-sets defaults to a 4-hour extended infusion with the new ECO release. Pharmacists will change all extended Zosyn® infusions to a 30 minute IVPB per PTMC EPIC exception policy. PTMC preference list Zosyn® will remain a 30-minute IVPB.

Providence System Medication & Therapeutics Committee (MTC)

The function of the system MTC is to make formulary decisions. System MTC decisions will be communicated and implemented through the local P&T and MEC.

MTC Approvals January 2016

5HT3 Antagonists Class – Formulary: Granisetron (Kytril®)-restricted to pediatric patients, ondansetron (Zofran®)

Bone density regulators Class - Formulary: Pamidronate (Aredia®), zolendronic acid (Reclasts®, Zometa®), calcitonin (Miacalcin®)

New Formulary agents:
- Sacubitril/valsartan (Entresto®): Novel CHF agent
- Idarucizumab (Praxbind®): Reversal agent specifically for dabigatrin (Pradaxa®)

Non-formulary:
- Ceftolozane/tazobactam (Zerbaxa®), Ceftazidime/avibactam (Avycez®)

DRUG SHORTAGE!!

Current Shortages
- Zosyn® injection
- Integrilin® injection
- Amicar® injection
- Cyclomydrid® Ophthalmic

The ASHP Drug Shortage “QuickLinks” is on the front page of the hospital intranet: http://www.ashp.org/DrugShortages/Current/
MEDICATION SAFETY

Heparin IV Protocol MUE

The MUE (Medication Utilization Evaluation) conducted from August to October 2015 found decreased compliance rate in adjustment of heparin infusion rate within 30 minutes of Anti-Xa level result. The delay in rate adjustments may have contributed to fewer patients reaching therapeutic Anti-Xa level (83% vs. 93%) compared to 2013. Ordering Anti-Xa per protocol improved significantly (96% vs. 84%) compared to 2013. 56% of patients also could have used enoxaparin (Lovenox®) instead of heparin IV infusion.

P&T committee recommends:
1. Nursing education of timely heparin IV infusion rate adjustment
2. Medical Staff education of Lovenox® as the preferred parenteral anti-coagulant unless the patient has the following risks:
   - Dialysis
   - Invasive procedure scheduled less than 12 hours from dose time.

Lovenox® has the following benefits over heparin IV infusion:
- No intensive monitoring required
- Predictable response from a dose

Antimicrobial Stewardship

CMS (Center for Medicare Services) has collaborated with the CDC (Center for Disease Control) and new standards will include antibiotic stewardship as part of condition to participate. This aligns with the recommendations from the President’s Council of Advisors on Science and Technology (PCAST) that a regulatory requirement for antibiotic stewardship be in place by the end of 2017. California passed SB-1311 in 2014 that requires hospitals to have an antimicrobial stewardship program.

PTMC has had an antimicrobial stewardship team in place since 2008 when IDSA published guidelines for an institutional program of antimicrobial stewardship.

The EPIC March 15th 2016 implementation of requiring an indication for antibiotic will meet one of the CMS and CDC antimicrobial stewardship initiatives to improve antibiotic prescribing and monitoring. During the year 2015, the PTMC antimicrobial stewardship team reviewed and recommend optimal antimicrobial therapy including interventions for de-escalation of antibiotics to narrower spectrum antibiotics; probiotics per protocol; and 48 hours antibiotic time out. PTMC met the system goal of decreasing 10% of broad spectrum antibiotic use measured by DOT (day of therapy)/1000 patient days from baseline.

The PTMC Procalcitonin protocol, implemented in January 2015 has been used to guide clinicians to discontinue antibiotics when non-bacterial infection is suspected or the infection has resolved. Physician education has been successful and resulted in most procalcitonin levels ordered by physicians other than the stewardship team.

How long to hold Anti-coagulants and Anti-platelet agents before elective Surgery?

<table>
<thead>
<tr>
<th>Anticoagulant</th>
<th>Days to Hold Prior to Surgery¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dabigatran (Pradaxa®)</td>
<td>1 – 2 days (3 – 5 days CrCl&lt;50 mL/min)</td>
</tr>
<tr>
<td>Rivaroxaban (Xarelto®)</td>
<td>1 day</td>
</tr>
<tr>
<td>Apixaban (Eliquis®)</td>
<td>2 days (High risk procedure) 1 day (Low risk procedure)</td>
</tr>
<tr>
<td>Endoxaban* (Savaysa®)</td>
<td>1 day</td>
</tr>
</tbody>
</table>

* Non-formulary

Restart when patient has adequate hemostasis¹.
- High bleed risk²: 48-72 hours after surgery
- Low bleed risk²: 24 hours after surgery

<table>
<thead>
<tr>
<th>Antiplalet</th>
<th>Days to Hold Prior to Surgery¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopidogrel (Plavix®)</td>
<td>5 days</td>
</tr>
<tr>
<td>Prasugrel (Effient®)</td>
<td>7 days</td>
</tr>
<tr>
<td>Ticagrelor (Brilinta®)</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Restart when patient has adequate hemostasis¹.

References:
1) Package insert 2) UptoDate: Perioperative management of patients receiving anticoagulants

Adverse Drug Reaction (ADR)

PTMC 3rd Quarter 2015

The ADR rate for the fourth quarter of 2015 was 2.1% which is slightly lower than the 3% of the 4th quarter of 2014. Anti-diabetic medication continues to be the class with the most ADR reports. Only one severe reaction was reported and it was from Dilaudid® IV. There were no inpatient anti-coagulant ADRs reported. All outpatient anti-coagulant ADRs were from warfarin.

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