Disposable Pain Pumps: Safe Dispensation and Administration

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IDENTIFICATION:
Implementation of a new product: Elastomeric Pain Pumps at the University of Maryland Medical Center

Multiple problems have been identified by ISMP (refer to July 16, 2009 issue) that can result in patient harm. These problems include:
1. No staff education
2. No pharmacy involvement
   a. Preparation of the pump in the O.R. setting instead of in the pharmacy setting using aseptic technique
   b. No profiling of orders
3. Use of medications other than local anesthetics in the pump
4. Multiple local anesthetics at varying concentrations used in the pump
5. Unlabeled pumps
6. Extended duration of use

PROCESS:
An interdisciplinary team, comprised of representatives from pharmacy, anesthesiology, periop, and pain service nursing, met on a regular basis to sort out the process for use of the elastomeric disposable pain pump prior to implementation. Based upon the ISMP information and hospital standards for safety and education, the elastomeric disposable pain pump was implemented in a safe manner.

SOLUTION:
1. Extensive education was provided to nursing staff via PowerPoint and online tutorials.
2. Pharmacy management was involved with the development of PowerPlans (via CPMOE) from the trial period up to implementation of the new device. The pump is filled in the pharmacy using aseptic techniques and cannot be filled outside of the pharmacy setting.
3. Only Ropivacaine 0.2% is indicated for use in the pump at UMMC.
4. Pumps are labeled by the pharmacy department on a patient-specific basis and are not dispensed without a patient-specific label.
5. The pumps are only dispensed to O.R. nurses, therefore, cannot be ordered once the patient is discharged to home or on a nursing unit. This helps to eliminate the possibility of extended duration of use.
6. Policy and Procedure was written and used for additional staff education.
7. Pharmacy technicians and pharmacists were trained on the appropriate method of filling the elastomeric disposable pain pump using aseptic technique and a repeater pump.

**OUTCOMES:**

We continue to analyze data post-implementation to ensure prescribers are placing orders via CPMOE. This further ensures that documentation is done on the eMAR and the nurse is aware the patient is on an elastomeric disposable pain pump.

Additionally, new staff is educated on the process for both pharmacy and nursing. Providers have been happy with the availability of the pump.

Future plans:
The process continues to be updated, as this is a new process. The CPMOE PowerPlan is being embedded into different order sets for certain post-op surgical plans. As the pain services nurses continue to analyze the use of the pumps, UMMC may move toward a fixed rate pump instead of a variable rate pump we are currently using.