Solution: Multidisciplinary Approach to Evaluation, Development and Implementation of a Standardized Infusion Drug Library

Organization: Suburban Hospital

Type: Acute Care

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Identification:
To demonstrate the efficacy and effectiveness for reducing actual or potential infusion errors with a standardized infusion Drug Library containing standard drug concentrations, dosing parameters for initial and maintenance doses, high and low infusion rates and titration and taper guideline

Process:
A multidisciplinary Failure Mode and Effects Analysis (FMEA) team with representatives from nursing, pharmacy, clinical engineering, and the medical staff was convened to review and evaluate the current practice for ordering, preparing and administering IV infusions of vasoactive medications. The Pharmacy Clinical Manager and Pharmacy Consultant for Intensive Care Medicine conducted an in-depth review of all Vasoactive medications used throughout the hospital including critical care and medical surgical areas. The review identified numerous variations in the medication management practice for Vasoactive drugs which contributed to actual or potential medication administration errors for these infusion. A “Draft” of a standardized “Drug Library” was developed, reviewed and approved by the FMEA team members. After numerous iterations of “The final Draft” was subsequently reviewed and approved for acceptance and implementation by the Pharmacy and Therapeutics Committee, Quality and Patient Safety Council, Nursing Leadership and the Medical Executive Staff. Following final approval, all IV pumps (single and triple channel) were programmed individually using a “master” programmed pump. This method was required due to the lack of a wireless system with the current IV pumps in the hospital. Extensive education and training for nursing, pharmacy and medical staff was conducted highlighting the efficacy, safety and accuracy of the standardized Drug Library in reducing the risk for infusion errors.

Solution:
A review of Quality Care Control Reports (QCCRs) revealed a reduction in the number and type of errors occurring with vasoactive drug infusions; development and implementation of standardized Vasoactive Drug Infusion orders; implementation of a “high alert” IV bag sticker sign off process at all “hand over” transitions and the development of a nursing staff competency on the use and programming of the Drug Library.

Conclusions: The nursing staff reports ease and increased efficient with programming a drug by using the pre-program standardized Drug Library. The “high alert” IV bag sticker sign off process at “hand-overs” has increased staff awareness and accountability to assure the accuracy of the ordered infusion. A higher level of confidence has been identified by the nursing and medical staff both in the selection and programming of the infusions due to the reduction of multiple manual entries/calculations of the infusions during the pump programming process.
Further evaluation of the current IV pump system limitations led to a decision to re-evaluate the current technology available which would allow for larger drug libraries, unit specific profiles, wireless technology, enhanced quality data management/reports. The Drug Library will be reviewed and revised as necessary based on evidence based practice and development of newer vasoactive drugs.