

Identify and Resolve Recurring Medication Events When Using Smart Pump Technology.

ABSTRACT

Purpose: To identify and resolve issues with medication events associated with smart pump technology that were reported via safety huddles, medication event reports, personal reports, and practice audits.

Framework: National Patient Safety Goal of Medication Safety.

Design: Evidence-based pilot study to investigate medication delivery system issues.

Setting: Midwest Medical Center

Method: After finding a paucity of information in the literature, the smart pump technology support team was questioned as to how their other clients worked out the identified issues. No specific recommendations were provided by the support team. Medication event reports and staff requests were reviewed to identify the top high risk issues. The study incorporated two types of infusion bags used at the institution. Data collected included: primary and secondary color-coded fluid set ups, primary and secondary volumes, secondary rates, occurrence of concurrent flow, head height measurements, volume to flush the secondary fluid through primary line, the time for the flush to occur, and additional observations documented during the pilot. Care was taken to have the eight pumps set up by one clinician to avoid human variation.

Results: Inconsistency in technique to establish needleless port connections was the primary reason for failure to deliver the intermittent medication. Not accounting for overflow and flushing volume was the second reason for intermittent medication events. The volume required to flush the medication through the primary tubing is not accounted for in the current practice. Head height distance had no impact on concurrent flow except at extremely high rates (600 cc/hour and higher).

Implications: Smart pump technology does not eliminate the need for thoughtful clinicians. Review of old practices and their incorporation into new technology is mandatory. New technology demands thoughtful inquiry of all elements of practice and will unveil areas not previously addressed.

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RE: WNA/SNA Annual Convention
Clinical Project

To Whom It May Concern:

The attached abstract, "Identify and Resolve Recurring Medication Events When Using Smart Pump Technology" is submitted as a clinical project by Kari Hamson Kalis, MSN RN; Rebecca Inglis, MSN RN; Karen Caballero Mathis, MSN RN; Kay Zibrowski, BSN RN and Marilyn Zick, BSN RN.

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Respectfully submitted,

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