Crack the code to safer IV drug infusions

By Lori Last, Hospital News, Canada's Health-Care Newspaper News, September 2010 volume 23, Issue 9. p. 2.

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In May 2010, BC Children's Hospital and BC Women's Hospital & Health Centre became the first two hospitals in Canada to implement all three elements of the Alaris® Auto-ID module, a system that incorporates barcodes on patient IDs, clinical staff IDs and IV medications prepared by their shared pharmacy.

This implementation built on a 2007 project where BC Children's and BC Women's replaced all existing IV pumps with Alaris pumps. These modular IV pumps are designed to reduce medication errors at the bedside through the use of a dose error reduction system (DERS) known as Guardrails® software.

The software alerts staff using the IV pump when a setting is programmed outside pre-established limits. "As thrilled as we were with the initial Alaris IV pump project, we knew we could do more," said Pia DeZorzi, professional practice leader, nursing. "A barcoding system that confirms patient, clinician and drug information decreases the risk of programming errors and mistaken identity. This in turn improves patient safety for the women, babies and children in our care."

Each Alaris IV pump has a module called Auto-ID. The Alaris Auto-ID module has a barcode scanner (like at the grocery store) built into it. To unlock the pump, clinicians have to scan their ID. Then they scan the patient wristband to ensure that the Medical Record Number (MRN) matches the one encoded on the IV bag or syringe prepared by pharmacy. This ensures that the pumps aren't tampered with and that the correct medication is given to the correct patient.

"The Alaris Auto-ID module adds two additional checks to the multiple checks clinicians do every day before administering IV medications," added Pia.

"We know medication errors are under-reported. Anything we can do to remove the potential for human error in medication administration is a positive step for our patients."

The planning and implementation of the Alaris Auto-ID module took more than a year and involved a team made up of representatives from a wide range of disciplines including information technology, biomedical engineering, pharmacy, nursing and patient registration.

To ensure a successful launch, the project team developed a comprehensive training and communication program. Clinical staff could attend a 30-minute drop-in training session or participate in specific training on their unit. If they missed the formal training opportunities, they could review a self-paced learning package or turn to their unit's "super user," a colleague who had received additional training on the system.

Patients, particularly youth, were targeted with messages reminding them of the importance of wearing their ID band while in hospital. They were encouraged to ask their care provider to check their ID band before giving them medications, drawing blood, performing any test or transporting them to another part of the hospital. This was an added benefit of the project as Accreditation Canada requires that patients wear an ID band at all times during their stay at the hospital.

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