Improving quality in patient safety

Ontario
CRITICAL Incident Learning

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Distributed to:

- Chief executive officers
- Chiefs of staff
- Board chairs
- Quality/patient safety leads
- Directors of pharmacy
- Directors of nursing

Suggested action items:

- Refer bulletin to pharmacy and therapeutics committee and nursing leadership committees with a recommendation to examine the use of insulin pens for inpatients
- Circulate bulletin to physicians and front-line staff
- Use bulletin, in addition to other tools such as the insulin pen e-Learning module, as an educational resource in your hospital's safety huddles or rounds

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Sharing Insulin Pens is a High-Risk Practice

Insulin pens are injection devices that are designed to help patients administer their own insulin with greater ease, convenience, and accuracy relative to the traditional insulin vial, needle, and syringe.[1] These advantages have led to a rise in the popularity of insulin pens in facilities, which has been paralleled by an increase in concerns about the high-risk practice of sharing insulin pens between different patients.[2] Since insulin cartridges and reservoirs can be contaminated with blood and other biologic material after their first use, sharing insulin pens carries the potential for transmission of blood-borne pathogens (e.g., HIV, hepatitis B, hepatitis C).[2,3]

ISMP Canada, with support from the Ontario Ministry of Health and Long-Term Care, led a knowledge translation[4] project to develop evidence-based interventions and resources promoting the safe use of these devices. A key resource developed is the "Safe Use of Insulin Pens" e-Learning module. The module is intended to help healthcare providers recognize the advantages and disadvantages of insulin pens, understand the risks associated with the use of these devices, and develop best-practice administration techniques while learning to use insulin pens safely.[5]

Call to Action for Hospitals

Make system-based changes to ensure insulin pens are used safely:

- Prohibit the sharing of insulin pens between patients.
- Dispense insulin pens with cartridges already inserted.
- Label insulin pens with pharmacy-generated, patient-specific labels, for single-patient use only.
- Place patient-specific labels on the barrel of the insulin pen, not on the cap.
- Use insulin cartridges only with an insulin pen. Do not use a needle and syringe to withdraw insulin from a cartridge.
- Use educational tools such as the ISMP Canada e-Learning module, along with hands-on training, to educate healthcare providers on the potential risks associated with using these devices, as well as on best-practice techniques.

Sustain high-quality practice:

- Ensure that staff members have access to relevant information about best-practice techniques and potential risks of insulin pens at all points of care.
- Reinforce safe insulin practices by providing education on an ongoing basis.
- Perform regular audits to assess compliance with best-practice administration techniques and recommended labelling practices and provide feedback to staff by sharing audit results.
- Actively seek feedback from insulin pen users as part of continuous quality assessment.
- Report medication incidents related to insulin pens internally and to patient safety organizations (e.g., ISMP Canada).
- Develop a long-term medication safety plan that uses high-leverage risk-reduction strategies to ensure that insulin products are not shared amongst multiple patients.

Sharing of an insulin pen occurs when a new needle is placed on an insulin pen that has been used for one patient, and the pen is then used to deliver a dose to a different patient. Sharing can also occur when a dose is withdrawn, using a needle and syringe, from an insulin cartridge previously used on a different patient.

Sharing insulin pens is a high-risk practice because insulin cartridges and reservoirs are not considered sterile after their first use. Following an injection, the cartridge or reservoir can be contaminated by backflow of blood and biologic material.[2,3] If the same cartridge or reservoir is then used to administer insulin to other patients, there is a risk of transmitting blood-borne pathogens between patients. This risk exists even if a new needle is attached to the insulin pen or is used to withdraw a dose.[6]

Interactive diagrams and a case-based scenario are used in the e-Learning module to introduce healthcare providers to the types of insulin pens available and outline the risks of sharing insulin pens between different patients.

The module is designed to be delivered in tandem with hands-on training about the specific type of insulin pen used at the particular hospital. Education should also be combined with higher-leverage risk mitigation strategies,[7] as determined by individual facilities, that prevent sharing of insulin pens on a long-term basis (e.g., standardization of insulin products, independent double checks before administration, forcing functions, and bar-coding technology).

Insulin pens provide a convenient method of delivering multiple doses of insulin. However, they should never be shared between patients, and safeguards are needed to prevent this high-risk practice. Key prevention strategies include consistent delivery of education on the safe use of insulin pens in combination with system-based, high-leverage risk mitigation strategies. Healthcare providers are encouraged to review their respective organizations' insulin management processes and to use resources provided by ISMP Canada to support safe and effective care.

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Collaborating parties of the Ontario Critical Incident Reporting program

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