The Institute for Safe Medication Practices Canada (ISMP Canada) is an independent national nonprofit agency established for the collection and analysis of medication error reports and the development of recommendations for the enhancement of patient safety.

The Healthcare Insurance Reciprocal of Canada (HIROC) is a member-owned expert provider of professional and general liability coverage and risk management support.

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Morphine Ampoule Look-Alike Packaging ALERT

Two incidents resulting from substitution errors with morphine have been reported to ISMP Canada. Both involved the inadvertent administration of 10 mg morphine from the 10 mg/mL ampoule instead of 2 mg from the 2 mg/mL ampoule. In one case the dose was given intravenously; the patient required treatment with naloxone. In the second case, the patient received the dose by subcutaneous injection and was managed with additional monitoring.

Figure 1. Morphine 2 mg/mL and Morphine 10mg/mL ampoule packaging.

Figure 2. Section of morphine outer packaging torn away to facilitate access was identified as a contributing factor in one of the reported incidents.

SABEX INC. (soon to be the sole supplier of morphine in ampoules) has been very responsive to information about the reported errors. Their morphine 10 mg/mL package and ampoule label have been redesigned to better differentiate the product from the morphine 2 mg/mL product. The new packaging and labels will be available to hospitals in the near future.

In the interim:

1. Hospitals are urged to review all narcotic ward stock and carefully assess their need to stock more than one concentration of morphine.
2. Alert nurses to the potential for substitution errors between the 2 mg/mL and 10 mg/mL morphine ampoules and advise of the **significant added risk for error when sections of outside packaging are torn away to facilitate narcotic counts** (as illustrated in Figure 2 above).
3. Hospital pharmacies are urged to consider adding an auxiliary alert label to the morphine 10 mg/mL package until the new packaging is available from SABEX INC. This will heighten the awareness of the "look-alike packaging", for pharmacy technicians, pharmacists, and nurses.
4. Restrict the availability of injectable morphine in paediatric patient care areas to the 2 mg/mL product.
5. In general, avoid stocking high potency concentrations of any narcotic product in patient care areas.
6. If it is determined necessary to stock a high potency narcotic product, consider storing the item separately from other narcotic stock, e.g., in a separate locked drawer.
7. On an ongoing basis, evaluate the contents of the narcotic stock drawer or cupboard for look-alike products and packaging.
8. Take steps to reduce risk for error by re-assessing stock needs and adding alert labels when optimal.
9. Remind hospital staff to keep ampoules in their original packaging in all storage areas, because the ampoules are small, with small print labels and, by their nature, look alike in size and shape.
10. Consider the use of automated dispensing machines to safeguard access to narcotics and other high alert

medications. Automatic dispensing units allow only one narcotic to appear at a time, allow for alerts to be added to the selection screens, and have other safety features as well.

It is not enough to caution healthcare providers to be careful and to read labels three times.[1] The recommendations above illustrate the need for a multi-pronged approach to error prevention, including careful review of products available for selection and the manner of their storage, in addition to optimal label designs.

References:

1 Senders J. PhD, Prof. Emer., Faculty of Applied Sciences, University of Toronto. Personal Communication May 28, 2003.

ISMP Canada is a national voluntary medication incident and 'near miss' reporting program founded for the purpose of sharing the learning experiences from medication errors. Implementation of preventative strategies and system safeguards to decrease the risk for error-induced injury and thereby promote medication safety in healthcare is our collaborative goal.

To report a medication error to ISMP Canada: (i) visit our website www.ismp-canada.org, or (ii) e-mail us at info@ismp-canada.org, or (iii) phone us at 416-480-4099. ISMP Canada guarantees confidentiality and security of information received. ISMP Canada respects the wishes of the reporter as to the level of detail to be included in our publications.

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