

# ISMP Canada Safety Bulletin

Volume 17 • Issue 10 • December 7, 2017

## Alert: Polyethylene Glycol and Propylene Glycol Mix-up Causes Harm

ISMP Canada received a report describing a mix-up between **polyethylene glycol** and **propylene glycol** that resulted in patient harm. The report is shared here to heighten awareness of the risk of a selection error between these 2 products and the **need for safeguards**.

### Incident Description

A patient called a pharmacy to request polyethylene glycol (PEG) in preparation for a colonoscopy. The pharmacy ordered and provided 2 litres of propylene glycol. Within hours after ingesting 500 mL of the solution, the patient experienced nausea and vomiting that necessitated a hospital visit. Further investigation showed severe metabolic acidosis requiring hemodialysis.

### Background and Analysis

PEG 3350 is a form of polyethylene glycol that is used as a laxative. This medication is also available with electrolytes, which is often recommended in preparation for a colonoscopy.

In contrast, propylene glycol is not used therapeutically. It might be available in a pharmacy because of its use as a solvent during some compounding processes. Severe complications, such as metabolic acidosis, can arise when propylene glycol is ingested in large quantities,<sup>1</sup> such as those

intended when PEG 3350 is used for colonoscopy preparation.

The following are some of the contributing factors identified in this case example:

- The warning on the propylene glycol bottle “*For Rx compounding*” is in small print and might be missed.
- There was no pharmacist intervention when the product was ordered, packaged or picked up at the pharmacy.
- Polyethylene glycol and propylene glycol are names that look alike and sound alike; therefore the products can be confused.

Look-alike/sound-alike (LASA) product names are problematic and have contributed to serious medication errors.<sup>2</sup> Many factors can contribute to errors associated with LASA names, including unfamiliarity with the medications, and similar labelling and packaging.<sup>2</sup>

### Recommendations

#### *Manufacturers*

- Provide clear and more prominent warning messages on the inner and outer labels/packaging.<sup>3</sup> A Safety Data Sheet (SDS) should be provided with the product.

### Wholesalers and distributors

- Add warning flags in electronic ordering systems for products intended for compounding use only.

### Pharmacies

- Question patient requests to purchase products used primarily or exclusively for compounding. Ask for the indication or reason for use and involve the pharmacist.
- Confirm the product with the patient, both at the time of the request and during counselling at pick-up. This is similar to the intake and handoff process for prescription products and would create additional verification opportunities.
- Store compounding supplies in a separate area of the pharmacy.
- Ensure SDS documents are available and accessible for all compounding products stored in the pharmacy.

### Prescribers

- Provide patients with written instructions for products to be purchased in preparation for medical procedures such as bowel cleansing, that includes the product name and directions for use.

### Acknowledgements

*ISMP Canada gratefully acknowledges the expert review of this bulletin by the following individuals (in alphabetical order):*

Tracy Gallina BScPhm BA Psych RPh, Clinical Director, Pharmacy Services, HealthPRO Procurement Services Inc., Mississauga, ON; Nancy Giovinazzo RPh, Senior Clinical Director, Pharmacy Services, HealthPRO Procurement Services Inc., Mississauga, ON; Catherine Lyder, BScPharm, MHSA, Director, Members and Programs, Canadian Society of Hospital Pharmacists, Ottawa, ON.

### References

1. Safety data sheet. Propylene glycol USP. Medisca; [revised 2015 Jul; cited 2017 Nov 10]. Available from: [https://www.medisca.com/NDC\\_SPECS/MUS/0510/MSDS/0510.pdf](https://www.medisca.com/NDC_SPECS/MUS/0510/MSDS/0510.pdf)
2. Look-alike/sound-alike drug names: Can we do better in Canada? ISMP Can Saf Bull. 2004 [cited 2017 Nov 10];4(2):1-2. Available from: <https://www.ismp-canada.org/download/safetyBulletins/ISMPCSB2004-02DrugNames.pdf>
3. Death Due to Pharmacy Compounding Error Reinforces Need for Safety Focus. ISMP Can Saf Bull. 2017[cited 2017 Nov 26];17(5):1-5. Available from: <https://www.ismp-canada.org/download/safetyBulletins/2017/ISMPCSB2017-05-Tryptophan.pdf>



## Med Safety Exchange Webinar Series

**Wednesday, December 13, 2017**

Join your colleagues across Canada for complimentary monthly 60 minute webinars to share, learn and discuss incident reports, trends and emerging issues in medication safety!

For more information, visit [www.ismp-canada.org/MedSafetyExchange/](http://www.ismp-canada.org/MedSafetyExchange/)

## Canada's National Incident Data Repository for Community Pharmacies



The **Canadian Medication Incident Reporting and Prevention System** (CMIRPS) is a collaborative pan-Canadian program designed to reduce and prevent harmful medication incidents in Canada. Reporting, sharing and learning from medication incidents helps to reduce their recurrence, mitigate patient harm and support a safer healthcare system. ISMP Canada, along with Health Canada, the Canadian Institute for Health Information (CIHI) and the Canadian Patient Safety Institute (CPSI) including Patients for Patient Safety Canada (PFPS), are key partners in the CMIRPS program.

ISMP Canada established a national incident data repository for community pharmacies through its community pharmacy incident reporting program. Community pharmacies in several provinces are already contributing to this national repository for continuous quality improvement, and pharmacies in other provinces are considering participation in this effort as well. The repository is helping to create a more cohesive information-sharing system that will facilitate better understanding of medication incidents and the development of more robust strategies to prevent harm.

We look forward to continued collaboration with all stakeholders and building on the success of the reporting and prevention system for safer patient care. Find out how community pharmacies can contribute to this data repository and share learning from medication incidents by contacting [info@ismp-canada.org](mailto:info@ismp-canada.org)

*This segment of the bulletin describes a recent SafeMedicationUse.ca publication from ISMP Canada's Consumer Program.*

October 2017 - Newsletter:

### Keep Your Vaccinations Up to Date

Consumers were reminded about the importance of vaccines and keeping their vaccinations up to date. The newsletter also informed consumers that some pharmacists are able to administer many vaccinations, including the annual influenza vaccine and selected travel vaccines.

#### Tips for Practitioners:

- Identify target population groups for specific vaccines.
- Share with these patients the risks and benefits associated with vaccination, so they are able to make an informed decision.

For up-to-date information about Health Canada's vaccine recommendations, visit: <https://www.canada.ca/en/public-health/topics/immunization-vaccines.html>



Consumers Can Help Prevent  
Harmful Medication Incidents

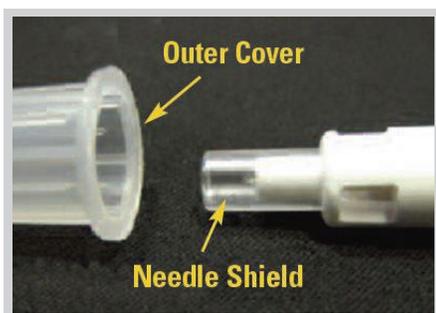
SafeMedicationUse.ca

## Severe Hyperglycemia with Incorrect Use of Insulin Pen

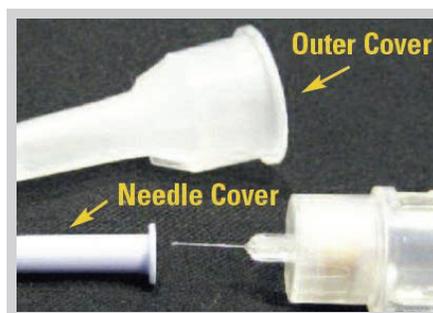
The National Alert Network (NAN) in the United States recently issued a safety alert about a risk for severe hyperglycemia, based on several reports to ISMP (US) of patients failing to receive their insulin because of incorrect use of the insulin pen.<sup>1</sup> The latest event resulted in a death, when a recently discharged patient did not know to remove the cap from the pen needle before attempting to administer her insulin. As a result, she did not receive the intended doses of insulin, diabetic ketoacidosis occurred, and the patient later died. This alert is being shared with Canadian readers because a similar risk may exist in Canada.

There are 2 main types of insulin pen needles: safety needles and standard insulin needles. With safety needles (Figure 1), the needle is automatically re-covered and locked once an injection has been completed; they are often used in hospitals to prevent needlestick injuries. **The needle is hidden throughout the administration process, so a patient may not see the needle either during or after the injection.** Standard insulin needles (Figure 2) are commonly used in the community and at home. Unlike safety needles, standard needles do not have needle shields that automatically retract after administration. **To use these needles, both the outer protective covering and the inner needle cover must be removed before use.**

**Figure 1:** Example of a pen with a needle shield that automatically retracts upon injection and locks over the needle when withdrawn from the skin.



**Figure 2:** Example of a standard insulin needle commonly used at home. Both the outer cover and the needle cover must be removed before injection.



### Recommendations

The following are select recommendations from the NAN alert to minimize the risk for similar errors:

- *[Healthcare providers in hospital settings].* Confirm the type of pen and needle that the patient will be using at home. Show patients how to properly prime and administer insulin using their home set-up. A “teach-back” technique may help in verifying patients’ understanding.
- *[Community pharmacists and other community providers].* Demonstrate and confirm appropriate administration technique using the pen dispensed for home use.
- Encourage patients to question the community pharmacist if the insulin pen and needles being dispensed are different from what was expected or different from what they have been taught to use while in hospital.
- Remind patients to regularly monitor their blood glucose levels and to follow up with their healthcare providers if glucose levels are elevated after insulin administration.

<sup>1</sup> Alert adapted and pictures included with permission from the Institute for Safe Medication Practices (ISMP). The full alert is available here: <http://www.ismp.org/NAN/files/NAN-20171012.pdf>

## Submit Reports of Dangerous Abbreviations, Symbols, and Dose Designations

The use of some abbreviations, symbols, and dose designations has been identified as an underlying cause of serious, even fatal medication errors. These abbreviations, symbols, and dose designations, which constitute ISMP Canada's list of [Do Not Use: Dangerous Abbreviations, Symbols, and Dose Designations](#), can be easily misinterpreted and should be avoided in medication-related communications.

If you have encountered any dangerous abbreviations, symbols, or dose designations in your practice, whether on the list or not, please report your concern/incident to ISMP Canada at: [https://www.ismp-canada.org/err\\_ipr.htm](https://www.ismp-canada.org/err_ipr.htm) **Reported incidents submitted before January 19, 2018 will form one source of data to be considered in the upcoming revision of the ISMP Canada list.**

Tag with **\*\*DO NOT USE abbreviation\*\*** in the first line of the "Incident Description/How Discovered" field under the "Incident" tab.

1* Incident	2* Outcome	3* Medication(s)	4 Follow Up	5 Patient	6* Reporter	7 Contributing Factors
<b>*Indicates Required Fields</b> (Total of nine required fields.)						
Date of Incident:	<input type="text" value="dd/mm/yyyy"/>					
Time of Incident:	<input type="text"/>					
<b>Incident Description / How Discovered:</b> *	<b>**DO NOT USE abbreviation**</b> Case description here					

For more information about the list, please visit:  
<https://www.ismp-canada.org/dangerousabbreviations.htm>

If you have any questions, please contact Ambika Sharma at: [asharma@ismp-canada.org](mailto:asharma@ismp-canada.org)



The Canadian Medication Incident Reporting and Prevention System (CMIRPS) is a collaborative pan-Canadian program of Health Canada, the Canadian Institute for Health Information (CIHI), the Institute for Safe Medication Practices Canada (ISMP Canada) and the Canadian Patient Safety Institute (CPSI). The goal of CMIRPS is to reduce and prevent harmful medication incidents in Canada.



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



The Institute for Safe Medication Practices Canada (ISMP Canada) is an independent national not-for-profit organization committed to the advancement of medication safety in all healthcare settings. ISMP Canada's mandate includes analyzing medication incidents, making recommendations for the prevention of harmful medication incidents, and facilitating quality improvement initiatives.

## Report Medication Incidents

(Including near misses)

**Online:** [www.ismp-canada.org/err\\_index.htm](http://www.ismp-canada.org/err_index.htm)

**Phone:** 1-866-544-7672

ISMP Canada strives to ensure confidentiality and security of information received, and respects the wishes of the reporter as to the level of detail to be included in publications. Medication Safety bulletins contribute to Global Patient Safety Alerts.

## Stay Informed

To receive ISMP Canada Safety Bulletins and Newsletters visit:

[www.ismp-canada.org/stayinformed/](http://www.ismp-canada.org/stayinformed/)

This bulletin shares information about safe medication practices, is noncommercial, and is therefore exempt from Canadian anti-spam legislation.

## Contact Us

**Email:** [cmirps@ismp-canada.org](mailto:cmirps@ismp-canada.org)

**Phone:** 1-866-544-7672

©2017 Institute for Safe Medication Practices Canada.