

ISMP Canada Safety Bulletin Supplement

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Learning from Reports of Errors with Elastomeric Pumps

An elastomeric pump (Figure 1) is a medical device with a balloon-like reservoir that is used to continuously deliver medication over a set period of time. ISMP Canada has received reports of elastomeric pumps delivering medications more quickly or more slowly than expected, leading to patient concerns, the need for extra monitoring, and reported side effects.



FIGURE 1. Depiction of an elastomeric pump as it delivers medication over time.

KEY LEARNINGS

- Patient knowledge gaps regarding medication delivery:
 - Poor understanding of the effects of heat and how to position the pump for daily activities
 - Uncertainty about the length of time (and reasonable variations) it should take for the medication to be emptied from the pump
 - Lack of awareness about when to seek advice from the health care team or the emergency department
- Limited investigation into patient concerns about pumps that emptied too quickly or too slowly.
- Inadequate communication to alleviate concerns after patients or caregivers have described issues with an elastomeric pump.

RECOMMENDATIONS

Care teams are encouraged to take the following steps to optimize the safe use of elastomeric pumps:

- Review written instructions with patients and caregivers.
- Address, in a timely manner, any knowledge gaps identified through discussion with patients.
- Provide supplemental information (e.g., links to videos) that patients can consult at home.
- Investigate concerns raised by patients, and promptly communicate outcomes and next steps.
- Segregate the pump when delivery rates are found to be outside acceptable variation, and follow organizational procedures (e.g., send to the manufacturer for investigation).
- Report differences in expected rates of delivery to the organization's medical device incident reporting program and to [Health Canada](https://www.healthcanada.ca/).

The consumer newsletter on this topic is available:
<https://safemedicationuse.ca/newsletter/elastomeric-pumps.html>