Strengthening Med Safety in Long-Term Care

ISMP CANADA

Med Safety Signal

Risks in medication safety reported by LTC Homes in Ontario

Volume 2 • Issue 2 • April 2023

Hydromorphone dosing confusion

Reported Incident (details are modified to ensure confidentiality of the home and reporter)

A resident was receiving hydromorphone 2 mg/mL by subcutaneous injection on a palliative basis. Staff contacted the on-call physician to request an increase in the hydromorphone dose to address perceived resident discomfort. The nurse told the physician that the resident had been receiving **1 mL** of hydromorphone subcutaneously every 4 hours. The doctor misinterpreted the information as **1 mg** subcutaneously every 4 hours and ordered an increase to **2 mg** subcutaneously every 4 hours. The nurse interpreted the new dose as **2 mL** and verbally confirmed the increase to "2" subcutaneously every 4 hours.

During the nursing second check, another nurse realized that the original dose had been 1 mL, which is equivalent to 2 mg of hydromorphone (given the concentration of 2 mg/mL), and noted that an increase to 2 mL, equivalent to 4 mg of hydromorphone, every 4 hours seemed excessive. Staff contacted the prescriber, and the error was discovered.

Disclaimer: ISMP Canada staff determined the following key contributing factors and considerations for improvement. It is the responsibility of medication safety leaders in long-term care to determine what, if any, actions for improvement are needed in their medication management processes.

Key Contributing Factors:

- Misinterpretation of the dosing units led the prescriber to order a higher dose of hydromorphone than was warranted.
- The nurse verbally confirmed an increase to "2" without specifying the unit of measure, which led the prescriber to acknowledge the "read-back".
- A second check by another nurse led to the error being caught and corrected before harm could occur.
- Verbal communication regarding medication adjustments.

Considerations for Improvement:

- When communicating medication information, clearly convey the intended units by using the full name of the unit (e.g., milligrams, millilitres).
- Restate the entire order, including units, when confirming or reading back the order, e.g., "increase hydromorphone to 2 milligrams which is equivalent to 1 millilitre subcutaneously every 4 hours."
- Ensure robust checking procedures for controlled substances and high-alert medications.
- Ensure that all labelling indicates both the strength and the equivalent volume, e.g., "Inject **2 mg** (= 1 mL) subcutaneously every 4 hours."
- Prescriber order entry and bidirectional electronic communication technology.

Resource: Model Policy 2 for Testing: High-Alert Medications (https://ismpcanada.ca/wp-content/uploads/LTC-Model-Policy-2-High-Alert-Medications.pdf)

Report an incident to ISMP Canada https://ismpcanada.ca/report/

Views expressed are the views of ISMP Canada and do not necessarily reflect those of the Province of Ontario.