

ISMP Canada Safety Bulletin

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Death Associated with Inadequate Reassessment of Venous Thromboembolism Prophylaxis at and after Hospital Discharge

For acute care facilities: Incorporate a standard process for reassessment of all medications, including VTE prophylaxis, before discharge from the acute care setting.

For LTC facilities, primary care and home care practitioners: Conduct medication reconciliation with each admission/ readmission in a timely manner. Reassess the risks and benefits of VTE prophylactic regimens at transfer points (e.g., acute care to long term care) and periodically thereafter.

Venous thromboembolism (VTE) prophylaxis, also known as thromboprophylaxis, reduces the risk of deep vein thrombosis, pulmonary embolism, and associated complications, including death, in high-risk patients. VTE prophylaxis is recommended for acutely ill, hospitalized medical patients at risk of thrombosis.¹

Anticoagulants, the pharmacologic agents of choice to prevent VTE, are considered high-alert medications. By definition, therefore, anticoagulants bear a heightened risk of causing significant patient harm when they are used in error.² As part of ongoing collaboration with a provincial death investigation service, ISMP Canada received a report of a fatal incident that involved continuation of VTE prophylaxis with enoxaparin for a patient discharged to a long-term care (LTC) facility from an acute care setting. The findings and recommendations from this

case are shared to highlight the need to build routine reassessment of VTE prophylaxis into the process for discharging patients from the acute care setting and upon transfer to another facility or to primary care.

Medication Incident

An elderly woman with a history of falls was admitted to acute care from a retirement home for treatment of a urinary tract infection. This admission followed several hospital stays over the preceding months during which enoxaparin 40 mg subcutaneously daily had been prescribed for VTE prophylaxis because of decreased mobility, and then appropriately discontinued when the patient was discharged from hospital. During the most recent hospital stay, enoxaparin at the same dose was again prescribed for VTE prophylaxis. After approximately 3 weeks, the patient was discharged to an LTC facility. The enoxaparin was continued as a result of its inclusion on the discharge medication list from the acute care facility.

Within the first few weeks at the LTC home, the patient experienced 2 unwitnessed falls. After the first fall, she suffered a bleeding scalp wound, which prompted transfer to the local emergency department for assessment. The wound was glued, but head computed tomography (CT) was not performed. The patient was transferred back to the LTC facility without any recommendations to change her medications; in particular, the enoxaparin was continued. Over the next week, the patient became

more agitated and aggressive resulting in pharmacologic treatment of her behavioural symptoms with regularly scheduled and as needed psychotropic medications. She then experienced a second unwitnessed fall and was again transferred to acute care. On investigation, a large intracranial hemorrhage was found and the patient died later that day in hospital; anticoagulation was deemed to be a contributing factor.

Background

The American College of Chest Physicians (ACCP) guidelines for prevention of VTE in nonsurgical patients recommends thromboprophylaxis with anticoagulants for acutely ill, hospitalized medical patients at increased risk of thrombosis.¹ Known risk factors for VTE in this population include the presence of certain comorbid conditions (e.g., active cancer, heart and respiratory failure), previous thromboembolism, reduced mobility, and known thrombophilia.¹

When prophylaxis is required, the recommended anticoagulants are low-molecular-weight heparins (LMWH), including enoxaparin, dalteparin, and tinzaparin, as well as low-dose unfractionated heparin or fondaparinux.¹

The Padua Prediction Score is an assessment tool that incorporates these known risk factors and helps define the risk for VTE in hospitalized medical patients.³ A similar risk stratification tool has been developed for use in LTC; however the LTC assessment tool has yet to be validated.⁴ Without further evidence of benefit for VTE prophylaxis following acute care, the American College of Chest Physicians recommends against continuing VTE prophylaxis in immobile, nonsurgical patients after their acute hospital stay.¹

Discussion

An analysis of the incident summarized above identified the following potential contributing factors:

- The discharging hospital included enoxaparin on the discharge medication list. It was not clear if an assessment of the patient's medications (including enoxaparin) occurred prior to discharge.
- The LTC facility continued the patient's enoxaparin after transfer back from acute care. It is unclear if a medication review occurred after transfer.
- Pharmacologic management of her behavioural symptoms in long-term care likely increased the patient's risk for falling, resulting in the head injury.
- After evaluation in the emergency following the first fall, a head CT was not done to rule out a more serious head injury. There was no indication that enoxaparin was to be discontinued. In addition to enoxaparin, the patient was also on acetylsalicylic acid 80 mg daily for stroke prophylaxis, both of which may have increased the risk of bleeding and contributed to the intracerebral hemorrhage.
- It is unclear if the continued use of enoxaparin was re-assessed by the LTC facility after return from the emergency department.
- Limited evidence exists concerning the best way to manage VTE risk in medical patients after discharge from acute care,¹ requiring practitioners to make decisions on a case-by-case basis.

Recommendations

The following recommendations are intended to reduce the risk of similar incidents, specifically for patients discharged from an acute care setting, although these learnings may also be applicable to rehabilitation and complex continuing care units.



A transition toolkit such as the one developed by ISMP Canada www.ismp-canada.org/transitions/, offer a checklist approach that can be used to facilitate medication reassessment and patient engagement for selected discharges at the acute care facility. Such toolkits aim to decrease the frequency of therapeutic duplications and omissions and the use of unnecessary medications, as well reduce confusion for patients and/or caregivers.

Acute Care Setting

- Incorporate a standard process to facilitate medication reassessment before a patient leaves the acute care setting. An example of such a process is the preparation of a Best Possible Medication Discharge Plan (BPMDP).⁵ The BPMDP can assist with reconciliation of medications, such as those used for VTE prophylaxis, and improve communication with the receiving facility or practitioners, when a patient is transferred to another facility or returns to home.⁵
- If VTE prophylaxis is recommended to be continued, outline the rationale in the discharge plan.

LTC Facilities, Primary Care, and Home Care Practitioners

- Conduct medication reconciliation for all new admissions and readmissions to LTC facilities, as well as for patients returning to a primary care or home care practice in a timely manner. A Best Possible Medication History should be completed and the need to continue each medication carefully evaluated. Ideally, an indication is listed with each medication to strengthen communication between all care providers.
- If there is an indication for thromboprophylaxis, this should be clearly captured as part of the resident's/client's documentation and a specific review date of the need for ongoing VTE prophylaxis should be scheduled and conducted if a defined period of use is not clearly prescribed.
- Consider a medication-related cause whenever a fall occurs or if there is any change in the clinical status or behaviour of the resident/client.

Conclusion

The incident described in this bulletin highlights the importance of continually reassessing the need for VTE prophylaxis, especially at transitions of care, such as discharge from an acute care setting. Evidence and guidelines confirm the benefits of VTE prophylaxis in certain patients during a hospital stay for an acute illness, but the balance of benefits and risks may become unfavourable once the patient is discharged. Clear documentation from the acute care

facility can assist the receiving facility and healthcare providers, as well as family caregivers, when determining whether thromboprophylaxis is still warranted. Until clear guidance to continue thromboprophylaxis after acute care is available, healthcare organizations and practitioners across the spectrum of care are urged to share and consider the strategies presented in this bulletin to ensure the safe use of VTE prophylaxis and improved communication among healthcare providers.

ISMP Canada will be integrating the learning from this case in an update of the Hospital Self-Assessment for Anticoagulant Safety. This assessment is available on a complimentary basis to all facilities across Canada after sign up at <https://mssa.ismp-canada.org/hsasas/>

Medication Reconciliation Getting Started Kits/Guides

provide implementation strategies, approaches for closing the gaps between various care providers, and methods for measuring performance.

- [Primary Care Med Rec Guide](#) (supported by Health Quality Ontario)
- [Acute Care Getting Started Kit](#) (English) (français)
- [Long-Term Care Getting Started Kit](#) (English) (français)
- [Home Care Getting Started Kit](#) (English) (français)

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Important Information from Health Canada about Acetaminophen Safety

Health Canada has announced new action to improve acetaminophen safety and minimize the risk of liver damage. This action is in light of a Health Canada review that assessed acetaminophen and liver injury in the Canadian context. ISMP Canada is working with Health Canada to co-chair a Steering Committee of stakeholders that is initiating a collaborative educational approach to remind consumers about safe use of acetaminophen. Health Canada has also announced that additional steps to improve acetaminophen safety will be taken in the upcoming months. This will include strengthening the acetaminophen labelling standard for non-prescription products. For complete information, including [Health Canada's Information Update](#), a [summary of the acetaminophen safety review](#) and an [information page on acetaminophen](#), visit the Health Canada website.

Additional information on acetaminophen safety is also available on ISMP Canada's consumer website, [SafeMedicationUse.ca](#) under [Spotlight on Acetaminophen](#).

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

June 2015 - Newsletter:

Navigating Safely through a Sea of Health Information

The increasing availability of health information has pros and cons. Many sources do provide credible information, but others may be inaccurate or may be based on hidden motives, including financial gain. Patients who make decisions on the basis of incorrect information can put their health at risk.

SafeMedicationUse.ca recently received a report from a consumer who became anxious after reading that one of the medicines she was taking could cause cancer. The consumer decided to visit her doctor to express her concerns—a wise decision. Healthcare providers like pharmacists, nurses, and doctors are in the best position to assess the accuracy and reliability of medical information that patients read and hear about.

Tips for Practitioners:

- **Ask patients and caregivers whether they have any questions** about medical conditions, medications, and other treatments.
- **Actively listen to patients' concerns.** Help them to assess the reliability of their health information using patient-friendly language.
- **Provide credible resources (including internet sites) to patients and caregivers** for further learning.

Tips to Share with Consumers:

- Patients can ask themselves the following questions to determine whether a source is reliable:
 - **How often is the information updated?** Reliable sources will be updated frequently as new details become available.
 - **Is the source trying to sell a product?** If yes, the information may be less reliable.
 - **Are the claims based on reliable research studies** published in well-known medical or scientific journals? Ideally, they should be. Healthcare providers can help to determine whether claims are based on reliable research.

For additional information on reliable health information practices for consumers and practitioners, read the complete newsletter at: www.safemedicationuse.ca/newsletter/newsletter_NavigatingInfo.html



Consumers Can Help Prevent
Harmful Medication Incidents

SafeMedicationUse.ca



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

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.

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www.ismp-canada.org/stayinformed/

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