

Patient Safety Tip of the Week

March 5, 2024

2 ISMP's Update High Alert Medication Lists

ISMP has updated its list of high-alert medications, the first update since 2018 ([ISMP 2024](#)). And ISMP Canada has developed its own high-alert medications list ([ISMP Canada 2024a](#)). As you'd expect, the lists are quite similar. But you may find the user guide that comes with the Canadian list to have additional information you can use.

ISMP (US) uses several sources to develop its list, including reports submitted to the ISMP National Medication Errors Reporting Program (ISMP MERP), clinical and safety literature, input from US medication safety experts, and results from a survey ISMP conducted on high-alert medications in acute care settings.

The one specific medication added is tranexamic acid injection (actually added in 2023). That certainly is not a surprise to us, since we've done multiple columns on inadvertent spinal administration of tranexamic acid (see list below).

ISMP does note that there were larger increases from respondents for several high-alert medications received compared to 2018:

- sterile water for injection, inhalation, and irrigation (excluding pour bottles) in containers of 100 mL or more
- potassium phosphates injection
- epoprostenol (e.g., Flolan), IV
- methotrexate, oral, nononcologic use
- oxytocin, IV
- EPINEPHrine, IM, and subcutaneous

We've also done multiple columns on the mistaken use of oncologic dosing of methotrexate in patients for whom non-oncologic dosing was indicated (see list below).

The full updated list can be found on the [ISMP website](#). The list actually includes 2 sections. One is for general categories or classes of medications, and the other is for specific medications.

ISMP hopes you will use this list to determine which medications require special safeguards to reduce the risk of errors in your organization. Examples of such safeguards include:

- limiting access to high-alert medications
- employing clinical decision support and automated alerts
- standardizing the ordering, storage, preparation, and administration of these products
- using redundancies such as automated or independent double checks when necessary
- using auxiliary labels
- improving access to information about these drugs

ISMP Canada's January 2024 Safety Bulletin ([ISMP Canada 2024](#)) describes why and how they developed the [Canadian high-alert medication list](#). But probably the most useful document is the [user guide](#) that accompanies the list. It reiterates the steps each organization should go through to adopt and customize the list for their own setting. It has a table of the types of errors that often contribute to medication errors with these drugs. And it has a table of system safety strategies to prevent or mitigate the risks associated with high-alert medications. The list is organized in conjunction with the [hierarchy of effectiveness](#) that we hope you are all familiar with.

As we noted above, the 2 lists are fairly similar. One interesting category on the Canadian list is "Injectable or depot medications with long-acting effects". Examples given are denosumab, depot-progesterone, and leuprolide. The rationale is that these have extended and nonreversible effects.

Once again, the two ISMP's have done a nice job of addressing the high-alert medication problem that remains a major patient safety concern.

Some of our prior columns on inadvertent spinal administration of tranexamic acid:

June 4, 2019	"Medication Errors in the OR – Part 3"
July 9, 2019	"Spinal Injection of Tranexamic Acid"
June 14, 2022	"Spinal Tranexamic Acid Again!"
February 21, 2023	"Tranexamic Acid Errors Just Won't Go Away"
August 8, 2023	"Another Spinal Injection of Tranexamic Acid"

Our prior columns related to methotrexate issues:

- July 2010 ["Methotrexate Overdose Due to Prescribing Error"](#)
- July 2011 ["More Problems With Methotrexate"](#)
- February 2016 ["Avoiding Methotrexate Errors"](#)
- June 21, 2016 ["Methotrexate Errors in Australia"](#)
- October 18, 2022 ["Methotrexate Again, With a Twist"](#)
- May 2023 ["ISMP Medication Safety Best Practices for Community Pharmacy"](#)

References:

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<https://www.ismp.org/resources/high-alert-medication-list-acute-care-settings-updated-2024>

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