

NOTES

1. High-alert medications require additional safeguards including independent double-checks, specific storage instructions, and label requirements to enhance patient safety and reduce errors that may lead to the possibility of serious harm.

The Shared Health Provincial Clinical Standard for High-Alert Medications (HAM) has been developed to promote the safe prescribing, labelling, packaging, storage, preparation, administration, and monitoring of high-alert medications. This clinical standard and HAM list are applicable to all provincial clinical areas, including ERS (H03.1).

- 2. For the purposes of this protocol:
 - a. **Injection** means the administration of a medication from a syringe over a few minutes by the intravenous (IV) or intraosseous (IO) route. This is sometimes referred to as "bolus injection or "push", and is referred to as "IV direct" in the Provincial clinical standard.
 - b. **Infusion** refers to the administration of a medication over a longer period of time through an infusion pump or directly from an IV bag ("IV drip") by the IV, IO, or subcutaneous (SC) route. This is sometimes referred to as "continuous infusion".
- 3. An independent **double-check** is mandatory when preparing and administering a high-alert medication, including a double-check of all calculations performed (especially for pediatric dosing). The double check must always include visual as well as verbal verification. The paramedic who will be administering the high-alert medication must be one of the two individuals who perform the independent double-check.
- 4. If a paramedic is working alone, they must perform a **self-check** when preparing and administering a high-alert medication. If possible, they should perform another unrelated task between the initial calculations, medication preparation, and self-checking. This is referred to as a **time-out**.
 - NOTE: The double-check, self-check, and time-out can be omitted during an emergency or time-sensitive situation, such as cardiac arrest, if the time needed to perform these would delay administration of a life-saving treatment (appendix A).
- 5. When administering any medication, the double-check / self-check must include the correct patient; the correct medication and dose; the correct concentration (if a solution); the correct route of administration; and the correct time (if applicable).
- 6. When diluting a medication for administration, the double-check / self-check must include the correct drug and amount required; the initial concentration (if a liquid); the correct type and volume of diluent; and the correct concentration and volume of the final solution.

The diluted medication must be properly labelled including the drug name, dose or volume; the patient's name; and the initials of both paramedics (if double-checked) or one paramedic (if self-checked). If administration will be delayed, it should also be labelled with the date and time of preparation.

- 7. When establishing an infusion, the double-check / self-check must also include the correct pump setting and the correct administration set. The double-check / self-check should be repeated whenever the rate or dose is changed, or the infusion container is changed
- 8. The paramedic who prepared the medication and the paramedic who performed the double-check must both sign the patient care record (PCR).

LINKS

- H03.1 Shared Health Provincial Clinical Standard for High-Alert Medications
- H03.2 Provincial High Alert Medications List
- H04 Safe Medication Administration

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VERSION CHANGES (refer to X01 for change tracking)

- Addition of ACP work scope indicator
- Addition of advanced work scope medications
- Revised language consistent with Shared Health Provincial clinical standard

APPENDIX A: HIGH ALERT MEDICATION IN SHARED HEALTH ERS		
AGENT	EXCEPTIONS	
Amiodarone (M14)	Emergency situation	
Calcium chloride (M26)	Emergency situation	
Dextrose (M06.2)	Bolus injection, or continuous infusion and concentration less than 20%	
Diltiazem (M10)	Emergency situation	
Enoxaparin (M43)	Prefilled syringe	
Epinephrine IV	• Emergency situation(M05.1, M05.2, M05.5, M05.6, M05.7)	
Esmolol (M23.2)	Emergency situation	
Fentanyl (M03.2)	ADULT ONLY: Bolus injection and vial contains 100 mcg or less	
Fosphenytoin (M35)	Loading dose only	
Hydralazine (M19)	• None	
Hydromorphone (M03.3)	ADULT ONLY: Bolus injection and vial contains 2 mg or less	
Hypertonic saline (M12)	• None	
Insulin (M20)	• None	
Ketamine (M17)	Continuous infusion and concentration less than 10 mg / ml	
Labetalol (M23.1)	Emergency situation	
Lidocaine (M25.2)	Emergency situation	
Lorazepam (M07.2)	ADULT ONLY: Oral	
Magnesium sulfate (M24)	Bolus injection, or continuous infusion and concentration less than 20%	
Metoprolol (M23.3)	Emergency situation `	
Midazolam (M07.1)	Bolus injection (ADULT ONLY)	
Morphine (M03.1)	 ADULTS Bolus injection and vial contains 115 mg or less (ADULTS) PEDIATRIC: Bolus injection & vial contains 2 mg or less 	
Nitroglycerin (M21)	Sublingual or transdermal	

Norepinephrine (M31)	• None
Phenylephrine (M32)	Prefilled syringe
Propofol (M36)	ADULT ONLY: Bolus injection
Sodium bicarbonate (M18)	Emergency situation