OBJECTIVES

- To establish guidelines for the restrictions, exceptions, labelling, storage, and dispensing of electrolytes in order to minimize the risk of medication errors and to prevent harm to patients.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Exemptions

   1.1 This guideline does not apply to the following:

   a) Emergency Medical Services (EMS);

      (i) EMS staff shall continue to follow the AHS EMS Provincial Medical Control Protocols: Adult and Pediatric and any other EMS documents with regard to high-alert medications.

   b) Home Living, Supportive Living, and facilities operated by contracted Long-Term Care Service Providers (refer to the AHS Medication Management Policy [Continuing Care]).
2. **Restricted Products**

2.1 The following select concentrated electrolyte parenteral products are restricted by Accreditation Canada Required Organizational Practice and shall **not** be stored in patient care areas (i.e., wardstock):

   a) calcium (all salts) in concentrations greater than or equal to 10 percent (100 milligrams per millilitre [mg/mL]);
   
   b) magnesium sulfate in concentrations greater than 20 percent (200 mg/mL);
   
   c) potassium (all salts) in concentrations greater than or equal to two (2) millimoles per millilitre (mmol/mL) or two (2) milliequivalents per millilitre (mEq/mL);
   
   d) sodium acetate in concentrations greater than or equal to four (4) mmol/mL;
   
   e) sodium phosphate in concentrations greater than or equal to four (4) mmol/mL; and
   
   f) sodium chloride in concentrations greater than 0.9 percent.

3. **Exceptions**

3.1 When it is necessary for a restricted concentrated electrolyte product to be available in selected patient care areas (i.e., wardstock), an AHS Required Organizational Practice (ROP) Exception Request Form must be submitted to the provincial Pharmacy Services Medication Quality and Safety Team (MQST).

   a) A restricted concentrated electrolyte product may only be stocked in a patient care area if an exception request has been approved.

3.2 Approved Required Organizational Practice exceptions are located through Insite at the Pharmacy Services, Medication Quality and Safety Team, High-alert Medications web page.

4. **Labelling and Storing**

4.1 Electrolyte storage containers and products shall be labelled per Appendix A: *Electrolyte Labelling Requirements*. This is a shared responsibility between clinical departments or programs (e.g., nursing or care settings) and Pharmacy Services. Assignment of responsibility shall be determined by the site.

4.2 Following consultation with the site Pharmacy for further information, dilute formats of concentrated electrolyte products may be stocked in patient care areas (i.e., wardstock).
5. Dispensing

5.1 When an approved Required Organizational Practice exception is not in place, restricted concentrated electrolyte products shall be provided on a patient-specific basis when required.

   a) It is preferable for Pharmacy to provide concentrated electrolyte products in a dilute ready-to-administer format, whenever possible.

5.2 Restricted concentrated electrolyte products (e.g., sodium chloride 23.4 percent (four [4] mmol/mL)), when required for oral use, shall be transferred into an oral container and labelled "For Oral Use Only". Pharmacy may dispense product as patient-specific or as wardstock in this format.

DEFINITIONS

None

REFERENCES

- Appendix A: Electrolyte Labelling Requirements
- Alberta Health Services Governance Documents:
  - EMS Provincial Medical Control Protocols: Adult and Pediatric
  - High-alert Medications: Heparins Guideline (#PS-46-03)
  - High-alert Medications: Narcotics Guideline (#PS-46-04)
  - Management of High-alert Medications Policy (#PS-46)
  - Management of High-alert Medications Procedure (#PS-46-01)
  - Medication Management Policy (Continuing Care) (#HCS-220)
- Alberta Health Services Forms:
  - Required Organizational Practice (ROP) Exception Request Form
- Non-Alberta Health Services Documents:
  - Medication Management Standards (For Surveys Starting After: January 1, 2019) (Accreditation Canada QMentum Program)
**APPENDIX A**

**Electrolyte Labelling Requirements**

<table>
<thead>
<tr>
<th>Cautionary Labels to be used in addition to High-alert Medication Label</th>
<th><strong>Medication Class</strong></th>
<th><strong>Use</strong></th>
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</table>
| **CAUTION IV contains Potassium** | - Potassium chloride intravenous bags:  
  10 mmol/100 mL  
  20 mmol/100 mL  
  40 mmol/100 mL  
- Potassium phosphate intravenous solutions prepared by pharmacy  
- Potassium acetate intravenous solutions prepared by pharmacy |  |
| **CAUTION Concentrated Potassium Fatal if Injected undiluted DILUTE BEFORE USE** | - Potassium chloride intravenous solution: concentrations greater than or equal to two (2) mmol/mL  
- Potassium phosphate (monobasic and dibasic) concentrated intravenous solution (vials)  
- Potassium acetate intravenous solution: concentrations greater than or equal to two (2) mmol/mL | To be affixed to the storage containers and to each product. For products with outer wraps, apply the label to the outer wrap (no need to remove outer wrap). |
| **CAUTION Hypertonic Sodium Chloride** | Sodium chloride intravenous solution: concentrations greater than 0.9 percent (hypertonic sodium chloride) |  |
| **CAUTION Concentrated Sodium Fatal if Injected Undiluted DILUTE BEFORE USE** | - Sodium acetate intravenous solution: concentrations greater than or equal to four (4) mmol/mL  
- Sodium chloride 23.4 percent (four [4] mmol/mL) vial for injection  
- Sodium phosphate intravenous solution: concentrations greater than or equal to four (4) mmol/mL sodium and three (3) mmol/mL phosphate |  |
| **CAUTION Concentrated Electrolyte** | - Calcium (all salts) intravenous solution: concentrations greater than or equal to 10 percent (100 mg/mL)  
- Magnesium sulfate intravenous solution: concentrations greater than 20 percent (200 mg/mL) | To be affixed to the storage containers. |
| **FOR ORAL USE ONLY** | Restricted electrolyte products (e.g., sodium chloride 23.4% (4 mmol/mL) for injection) when required for oral use. Must be re-packaged into a format appropriate for oral use. | Transfer to an oral container and affix label to container. |

Pharmasystems labels can be ordered by calling Pharmasystems Customer Service Toll-Free at 1-888-475-2500

The website can be accessed at [www.pharmasystems.com](http://www.pharmasystems.com).