DEPARTMENT OF HEALTH
GOVERNMENT OF NUNAVUT

Policy for Control, Distribution and Administration of Potassium Chloride (KCl) for Infusion

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Policy Reference #: Pharmacy K-1
Section: Pharmacy
Responsibility: Hospital Pharmacist

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Approved by: Medical Advisory Committee

1.0 PURPOSE

It is the policy of the Pharmacy Department to minimize the risk to patients from errors occurring with concentrated potassium chloride and pre-mixed potassium chloride for infusion by limiting their access in patient care areas and establishing guidelines for use.

2.0 APPLICATION

This policy applies to all patient care areas of Iqaluit Health Services, Nunavut Health Centres and the Regional Pharmacy Departments.

3.0 PRINCIPLES

This policy is based on the following principles:

3.1 Potassium Chloride Pre-mixed Bags

a) Commercially pre-mixed bags **must be used** for intravenous administration of potassium chloride.
b) The Pharmacy Department maintains a supply of commercially pre-mixed bags of standardized concentrations.
c) Potassium chloride pre-mixed bags are to be stocked in a secure medication room in the Emergency and Inpatient Departments of QGH and the Community Health Centres. They will be stored in separate and distinct areas from other infusion solutions.
d) Pre-mixed Potassium bags are to be discarded after 24 hours of infusion.

Pre-mixed Infusion Solutions Available from the Pharmacy Department:

Large Volume Infusion Solutions		
HOSPITAL STOCK		**HEALTH CENTRE STOCK**
KCl 20 mmol/L D5W	KCl 40 mmol/L D5W	KCl 20 mmol/L NS
KCl 20 mmol/L NS	KCl 40 mmol/L NS	
KCl 20 mmol/L 2/3-1/3	KCl 40 mmol/L 2/3-1/3	
KCl 20 mmol/L D5NS	KCl 40 mmol/L D5NS	
KCl 20 mmol/L D5½NS	KCl 40 mmol/L D5½NS	
KCl 20 mmol/L RL		

(1 mmol KCl = 1 mEq KCl)

Small Volume Infusion Solution
HOSPITAL STOCK
KCl 10 mmol in 100 mL sterile water

Note: At QGH KCl 10 mmol in 100 mL sterile water is considered a high-alert medication and therefore requires an independent double-check and double signature on the Medication Administration Record (MAR) prior to administration.

3.3 Oral Potassium Supplements

a) Oral supplements are to be used, if possible, for mild hypokalemia (3.1 to 3.5 mmol/L).
b) Oral potassium chloride products on the formulary:

Potassium Salt	Strength	Elemental Potassium Content	Hosp	HC
Potassium Chloride slow-release tablet (Slow K®, Apo K®, Euro-K600®)	600 mg	8 mmol	•	-
Potassium Chloride sustained-release tablet (K-Dur®, Euro-K20®)	1500 mg	20 mmol	•	B
Potassium Chloride Liquid	1500 mg/15 mL	20 mmol/15 mL	•	-

3.4 Order Set

a) Use of the "Potassium Replacement for Hypokalemia" Order Set is required for IV potassium chloride replacement orders.

4.0 INTRAVENOUS ADMINISTRATION

4.1 Concentration and Rate in Adult Patients

Location	Maximum Concentration[1]		Maximum Rate of Infusion
	Large volume Infusion	Small volume[2] infusion	
Inpatients, ER, Health Centres	40 mmol/L	10 mmol/100 mL	20 mmol/hr
1:1 nursing	40 mmol/L	10 mmol/100 mL	40 mmol/hr[3]

[1]More concentrated infusions may be allowed if the patient has a central line. Consult a pharmacist and/or The Ottawa Hospital Parenteral Drug Therapy Manual.

[2]Small volume infusion (10 mmol/100 mL) maximum rate of infusion 10 mmol/30 minutes.

[3]Continuous ECG monitoring required if rate > 20 mmol/hr.

4.2 Concentration and Rate in Pediatric Patients (age < 12 years)

Location	Maximum Concentration	Maximum Rate of Infusion	Comments
Inpatients, ER, Health Centres	40 mmol/L	Normally less than 0.2 mmol/kg/hr; do not exceed 0.5 mmol/kg/hr or 10 mmol/hr	ECG monitoring required if rate > 0.2 mmol/kg/hr
1:1 nursing	40 mmol/L	Normally less than 0.2 mmol/kg/hr; do not exceed 0.5 mmol/kg/hr or 10 mmol/hr	ECG monitoring required if rate > 0.2 mmol/kg/hr

Refer to CHEO Neonatal Drug Therapy Manual and CHEO Parenteral Manual for additional details.

4.3 Infusion Equipment

a) An infusion pump is required for administration of potassium chloride by intravenous infusion.

4.4 Monitoring

a) Monitor serum potassium daily or at physician's discretion. More frequent monitoring may be indicated based on patient's medical condition or status.

5.0 REFERENCES

1) The Ottawa Hospital Drug Formulary 2016.
2) Saskatoon Health Region. Potassium Chloride for Infusion. 2007.
3) Interior Health. Control and Distribution of Potassium Chloride Solutions. 2007.
4) Sick Kids Hospital. Potassium Infusions and Monitoring Serum Potassium Levels. 2017.
5) IWK Health Centre. Potassium Chloride. 2013.
6) The Ottawa Hospital Parenteral Manual: 37th Edition. Potassium Chloride. 2016.
7) CHEO Parenteral Manual. Potassium Chloride. 2017.