Mid Essex Hospital Services NHS
NHS Trust

Supply and Use of Strong Potassium Chloride (KCl 15%) Injection	**Policy** **Register No: 09053** **Status: Public**

Developed in response to:	NPSA Alert 2002 (PSA01)
Contributes to CQC Outcome	9

Consulted With	**Post/Committee/Group**	**Date**
Alison Bloor	Lead Pharmacist Critical Care and Theatres	January 2018
	MEHT Medicines Optimisation and Safety Group	March 2018
Professionally Approved By	Alison Felton, Head of Department/Deputy Chief Pharmacist	May 2018

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Author/Contact for Information	Alison Felton
Policy to be followed by (target staff)	All Clinical staff responsible for the storage of medicines in clinical areas
Distribution Method	Intranet & Website
Related Trust Policies (to be read in conjunction with)	Trust policies for Management of Medicines and Guidelines for the Management of Medication Errors, Incident Reporting, Investigating & Learning from Incidents policy, Near Misses, Training Needs Analysis, Injectable Medicines Policy and Adverse Drug Reactions

Document Review History

Version No	Reviewed by	Issue Date
1.0	Jane Giles	April 2008
2.0	Jane Giles	April 2014
3.0	Maria Richards	17th July 2018

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1. Purpose

1.1 This policy describes the supply and use of potassium chloride concentrate solution within the Trust and is issued to comply with guidance issued by the National Patient Safety Agency (NPSA) in July 2002.

1.2 Potassium chloride concentrated solution (KCl 15%) can be fatal if given inappropriately. Potassium chloride concentrate ampoules can look very similar to sodium chloride 0.9%, water for injections and other injectable medicines. Reports from the USA, Canada and the UK have identified a number of incidents where potassium chloride has been accidentally administered to patients with fatal results.

1.3 To reduce / eliminate the risk of inadvertent administration of potassium chloride 15%, the NPSA in 2002 issued an alert requiring Trusts to place controls on:

- the storage and handling of KCl 15%
- the preparation of dilute solutions containing potassium
- the prescribing of solutions containing potassium
- the checking and administration of solutions prepared using KCl 15%
- the training of staff

2. Scope

2.1 This policy is aimed at all clinical staff.

3. Training

3.1 Training is delivered in accordance with the training needs analysis.

4. Equality & Diversity

4.1 MEHT is committed to the provision of a service that is fair, accessible and meets the need of all individuals.

5. Storage and Handling of Potassium Chloride 15%

5.1 KCl 15% will be stocked in the following areas only:

- Intensive Care Unit (ICU) E226
- Medical High Dependency Unit (MHDU) A211
- Burns ITU E220
- A&E (Resuscitation)
- Neonatal Unit A406
- Phoenix Ward E122
- Theatre Recovery
- Maternity Theatre Recovery

5.2 KCl 15% will be treated as a controlled drug (CD). Ordering will be by a Registered Nurse or ODP requesting a supply using CEDAR (electronic CD ordering system).

5.3 Issues will be recorded in the pharmacy department in the CD register.

5.4 When received by the ward, the quantity received will be recorded in the ward's CD register and stored in the CD cupboard.

5.5 KCl 15% will **NOT** be transferred between ward areas.

5.6 In the unlikely event that a supply of KCl 15% is required outside of pharmacy's opening hours, authorisation to transfer ampoules of potassium chloride from one ward area to another must be given by the on-call pharmacist.

5.7 The wards transferring and receiving the KCl 15% should make the relevant entries in their CD registers.

6. Preparation of dilute solutions containing potassium

6.1 Commercially prepared infusions of potassium will be used in the Trust whenever possible; only in exceptional circumstances will non-commercially available preparations be used.

6.2 Potassium solutions for intravenous administration will be prescribed in those concentrations that are commercially available, unless there is a clear clinical reason for deviation from these preparations.

6.3 In these exceptional circumstances the prescribing and preparation of these fluids will become the responsibility of a registrar, associate specialist or consultant.

6.4 Junior doctors (FY1 & 2) are **not** permitted to prescribe non-standard potassium solutions.

7. Prescription of solutions containing potassium

7.1 Currently available preparations;

Sodium Chloride	Glucose	KCl mmol	Volume
0.9%	---------	10mmol	500ml
0.9%	----------	20mmol	500ml
0.9%	----------	20mmol	1000ml
0.9%	----------	40mmol	1000ml
	5%	10mmol	500ml
--------	5%	20mmol	500ml
--------	5%	20mmol	1000ml
-------	5%	40mmol	1000ml
0.18%	4%	20mmol	1000ml
0.18%	4%	40mmol	1000ml
0.18%	4%	10mmol	500ml
0.18%	4%	20mmol	500ml

8. Checking use of strong potassium solutions in clinical areas

8.1 In those situations where dilution of KCl 15% is necessary and appropriate, a second practitioner should always check for correct product, dosage dilution, mixing and labelling during the preparation of, and again prior to, intravenous administration of these solutions.

9. Administration

9.1 **Adults: Infusion via a peripheral venous catheter.** Use a ready made bag with a maximum concentration of 40mmol potassium per litre. Maximum infusion rate 20mmol per hour.

9.2 **Adults: Infusion via a central venous access device.** Concentrations greater than 40mmol per litre must **always** be given via a central venous access device, using a suitable infusion pump; ready made solutions should be used wherever possible.

9.3 Continuous ECG monitoring is required for administration rates above 20mmol per hour.

9.4 **Paediatrics:** The concentration of potassium should not exceed 40mmol/litre and given at a maximum rate of 0.2mmol/kg/hour.

9.5 Note: Glucose containing solutions may reduce serum potassium concentrations, so glucose-free solutions may be more suitable for initial IV therapy of hypokalaemia.

10. Monitoring

10.1 The pharmacy department has a responsibility for monitoring all prescribing and administration of medicines. This is done daily by the intervention reporting scheme and a full report is presented to the Medicines Optimisation and Safety Group (MO&SG) bimonthly.

10.2 Significant prescribing errors identified will also be reported using the Risk Event Form (DATIX) following the Trust's Incidents Policy and fed back to the MO&SG.

10.3 The MO&SG is a group made up of wide representation of stakeholders who meet bimonthly within MEHT and any action plans will be allocated as appropriate.

10.4 Any administration errors will be referred to the directorate Lead Nurse who will investigate the matter.

10.5 Key learning points will be disseminated by a Drug Safety Bulletin every 2 months which shall be attached to the Trust's weekly newsletter "Focus".

11. Communication

11.1 Once professionally approved and ratified by DRAG this policy will be placed on the Trust's intranet and highlighted via Focus.

11.2 A copy of this policy will be placed in the Junior Doctor Handbook which is issued to all new doctors at induction, and referred to during the medicines management session delivered to junior doctors by the pharmacy department at their induction.