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<b>POLICY</b>	
<b>Campus:</b> The Alfred, Commercial Road, Melbourne Vic 3004, Australia	<b>Policy number:</b>
<b>Title:</b> Administration of Intravenous Potassium Chloride (KCl) Replacement	
<b>Target Audience:</b> All clinical specialty units, departments, services and committees.	
Endorsed by: Pharmacy and Therapeutics Advisory Committee ( PTAC)	
<b>Signature:</b> _____	

### **POLICY PURPOSE**

This policy intends to define use of intravenous potassium general wards and critical care areas. It sets out maximum strengths, concentrations and rates and preferred products to be used.

### **GUIDELINES**

#### **POLICY FOR ADMINISTRATION OF INTRAVENOUS POTASSIUM CHLORIDE (KCL)**

THIS POLICY SUPERSEDES ALL OTHER POTASSIUM CHLORIDE PROTOCOLS AT THE ALFRED

A) **Indication:** Correction of hypokalaemia and maintenance of potassium requirements, where oral potassium supplements are unsuitable.

- Potassium supplements are to be given orally whenever possible since the relatively slow absorption from the Gastrointestinal tract prevents sudden large increases in plasma potassium concentrations.

All intravenous potassium (to be given as potassium chloride - KCl) is to be prescribed in millimoles (mmol).

- The preferred product is premixed 30mmol potassium chloride in one litre bags of normal saline (0.9% sodium chloride), 5% dextrose, Hartmann's solution or 0.18% sodium chloride/ 4% dextrose (see below).
- The other product available is premixed 10mmol potassium chloride in 100ml bags of normal saline (see below).
- If required 10mmol potassium chloride in 10ml normal saline ampoules are available.

B) **Premixed intravenous solutions of Potassium Chloride**

- 30mmol potassium chloride solutions in 1000ml- available with 4 diluents (see below)
- 10mmol potassium chloride solutions in 100ml - available with normal saline only
  - Pre-mixed potassium chloride bags have red outer packaging and are written in red print.
  - Pre-mixed potassium chloride solutions must be used.
  - Pre-mixed solutions must be prescribed using **millimoles (NOT grams)** (eg. 30mmols KCl in 1000mls 5% dextrose; rate @ 120mls/hour or 10mmol KCl in 100ml normal saline).
  - **EXTRA POTASSIUM CHLORIDE MUST NEVER BE ADDED TO PREMIXED SOLUTIONS as this may lead to confusion regarding the final concentration**

<b>Date Developed:</b> December 2002	<b>Date for Review:</b> December 2003	1
<b>Contact Person:</b> Melita Van de Vreede	<b>Position:</b> Quality Use of Medicines Pharmacist	
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### Products Available and Conversion Table

Standard Intravenous Solutions	KCL Dose (millimoles)	KCL Dose (grams)	KCL percentage
Sodium Chloride 0.9% <b>100ml</b>	10 mmol	0.75g	0.75%
Sodium Chloride 0.9% * 1000ml	30mmol	2.24g	0.224%
Sodium Chloride 0.18% & Glucose 4% 1000ml			
Hartmann's 1000ml			
5% Glucose 1000ml			

**\*\*30mmol potassium chloride in 0.9% sodium chloride is slightly hypertonic and labelled as such to comply with TGA regulations**

#### C) Guidelines for potassium chloride administration

- All 30mmol potassium chloride solutions/1000mls must be administered via burette, to control the hourly rate.
- All potassium chloride solutions at concentrations greater than 30mmol/1000mls **must be administered via infusion pump**

#### ***For unmonitored patients on general wards:***

- Potassium chloride 30mmol in one litre solutions are to be used.
- Potassium chloride ampoules are not to be used, due to the possibility of inadvertent intravenous administration.
- **The maximum rate for intravenous potassium chloride administration must not exceed 10mmol per hour.**
- **The maximum concentration of a solution for a peripheral line must not exceed 10mmol potassium per 100ml (in 100ml bags).**
- Lignocaine 20mg (ie 2ml of 1% Lignocaine HCl) may be added to 10mmol potassium chloride per 100ml for peripheral administration.

#### ***For critical care areas (ICU, ED, CCU, Anaesthetics):***

- Intravenous potassium chloride administered at rates at or exceeding 10mmol per hour may be appropriate for selected patients at the discretion of the treating clinician. A central line is preferable to prevent phlebitis and patient discomfort. Cardiac monitoring, frequent serum potassium measurements (2-hourly recommended), and regular assessment of renal function are required.

#### ***For resuscitation use***

- Potassium chloride boluses (pushes) may be given only during cardiac arrest in the setting of recurrent ventricular fibrillation or electro-mechanical dissociation via a peripheral line according to specific unit protocols.

**CAUTION: PHOSPHATE AMPOULES ALSO CONTAIN POTASSIUM IN VARYING AMOUNTS.**

The treating specialist has to approve the administration of intravenous potassium chloride that does not meet the requirements of this policy.

<b>Date Developed: December 2002</b>	<b>Date for Review: December 2003</b>	<b>2</b>
<b>Contact Person: Melita Van de Vreede</b>	<b>Position: Quality Use of Medicines Pharmacist</b>	
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# New 10mmol in 100ml Potassium Chloride (KCl) bags

☆ Will be available on all wards commencing April 30th

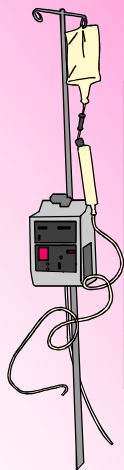
☆ Remember:

10mmol in 100ml bags must be administered over 1 hour via an infusion pump.



☆ All 2g KCl ampoules will be removed.

☆ 10mmol KCl ampoules will be available to prepare intravenous KCl solutions in concentrations other than 10mmol/100ml or 30mmol/1000ml in speciality areas.



## Products & Conversion Table

KCl Dose (millimoles)	Volume	KCl Dose (grams)	Strength of KCl	Standard Intravenous Solutions
10mmol	100ml	0.75 gram	0.75%	Sodium Chloride 0.9%
30mmol	1000ml	2.24 gram	0.224%	Sodium Chloride 0.9%
				Dextrose 4% and Sodium Chloride 0.18%
				Hartmanns 5% Dextrose

Any queries contact Melita Van de Vreede on ext. 3308 or pager 5198.

**Please read the policy for Administration of Intravenous KCl Replacement**

**Approved by PTAC December 2002**

Thank you for assisting the Drug Management Committee in implementing this safety initiative. February 2003

Developed by

The Drug Management Committee (Chair: Dr Mark Lubliner)  
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# Change in IV potassium prescribing. Commencing Wednesday April 30th.

★ All IV potassium to be prescribed in millimoles.

★ New 10mmol in 100ml potassium chloride bags.

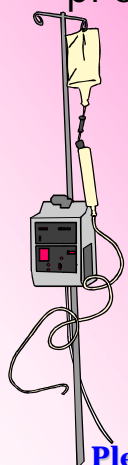
10mmol in 100ml bags must be administered over  
1 hour via an infusion pump.



★ All 2g KCl ampoules will be removed.

★ 10mmol KCl ampoules available in specialty areas to prepare solutions other than those listed below.

## Products & Conversion Table



KCl Dose (millimoles)	Volume	KCl Dose (grams)	Strength of KCl	Standard Intravenous Solutions
10mmol	100ml	0.75 gram	0.75%	Sodium Chloride 0.9%
30mmol	1000ml	2.24 gram	0.224%	Sodium Chloride 0.9%
				Dextrose 4% and Sodium Chloride 0.18%
				Hartmanns
				5% Dextrose

**Please read the policy for Administration of Intravenous KCl Replacement**

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**IV Potassium:**  
**Converting from mmol to grams**


**30 mmol = 2.24 grams**

**10 mmol = 0.75 grams**

When it comes to IV potassium, **BAGS FIRST** amps second.



**Think safe  
&  
save time**



When it comes to I V potassium,  
**BAGS FIRST** amps second.

**ACKNOWLEDGEMENTS**



The Alfred Hospital is kindly acknowledged for sharing their learning experiences via these policy and flyer documents. These were kindly prepared by:

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August 2003