High-Risk Medicine Standard: Potassium (Intravenous)
IMPLEMENTATION CHECKLIST

Last updated: 26 February 2024. **Printed copies are uncontrolled and should not be relied upon as up to date.**

Completion of this checklist is not mandatory. Health services may wish to use this tool to monitor compliance with the High-Risk Medicine Standard: Potassium (Intravenous). For the most up to date standard, refer to the Potassium (Intravenous) webpage.

Facility name/LHD: _____ Assessed by: _____ Date: _____

Governance requirements

Adherence to the requirements specified in this standard is to be monitored by governance committees (for example, Drug and Therapeutics Committee) and service managers (including, but not limited to, Directors of Pharmacy and Nurse Unit Managers).

Governance requirements	**Requirement met**	**Requirement unmet**
1. Prescribing		
1.1. Intravenous potassium is only to be prescribed when oral or enteral route is unavailable or clinically inappropriate.		
1.2. Consideration is to be given to each patient's potassium intake from all sources, for example, enteral and parenteral nutrition, oral intake and supplementary fluids.		
1.3. Orders for intravenous potassium salts are to be expressed in millimoles (mmol) not milligram per litre (mg/L) or percentages (%).		
1.4. Standard commercially prepared pre-mixed potassium chloride solutions are to be prescribed whenever possible.		
1.5. The name of the required potassium salt is to be specified for intravenous potassium orders. For example, potassium chloride or potassium dihydrogen phosphate.		

Governance requirements	Requirement met	Requirement unmet
1.6. Chemical abbreviations must never be used for intravenous potassium orders.		
1.7. Orders for intravenous potassium salts are to have the rate, route of administration, dilution and other administration instructions (for example, to be infused via CVAD) specified on the medication order. Orders that do not meet these specifications are not to be accepted for either dispensing or administration. The prescriber is to be notified immediately to rectify the order.		
1.8. Potassium chloride for rapid intravenous administration is only to be prescribed in exceptional circumstances (that is, cardiac arrest) under the direction of the most senior clinician present.		
2. Storage and supply – Pre-mixed solutions		
2.1. Pre-mixed potassium chloride infusion solutions are to be clearly differentiated from other intravenous fluids. For example, through use of colour coded over-pouches (such as pink outer packaging) and labelling (such as red printed labels).		
2.2. The concentration for pre-mixed solutions is to be expressed in millimoles (mmol) per final volume.		
2.3. Pre-mixed, small volume intravenous solutions (mini-bags) containing potassium solutions are not to have an additive port or, if intravenous potassium solutions are prepared in-house, the additive port is to be capped.		
2.4. Where non-commercially available concentrations are required, a pharmacy- based compounding service is to be used where available (refer to the NSW Health Policy Directive *Preparation of pharmaceutical and advanced therapeutic products* (PD2023_021) for more information).		
2.5. In circumstances when pre-mixed potassium solutions cannot be used and a pharmacy-based compounding service is not available, intravenous potassium solutions may be prepared in the clinical area by staff using aseptic technique. Where this is routinely undertaken, the Drug and Therapeutics Committee endorsed protocols are to address the risks of supply and handling of concentrated potassium ampoules.		
2.6. Pre-mixed potassium intravenous infusion solutions are to be clearly labelled and separated from other similarly sized and looking, commercial intravenous solutions (for example, sodium chloride 0.9% solution).		
2.7. Storage locations for pre-mixed solutions are to be clearly identified throughout each facility.		

Governance requirements	Requirement met	Requirement unmet
3. Storage and supply – Ampoules		
3.1. Ampoules of concentrated potassium salts are not to be available as ward stock unless included in the Drug and Therapeutics Committee approved list of authorised clinical areas.		
3.2. Ampoules of concentrated potassium salts must not be placed on resuscitation trolleys due to the risk of inadvertent bolus administration.		
4. Storage and supply – Critical care areas or operating suites		
4.1. In critical care areas or operating suites, where higher concentrations and doses of potassium are locally considered necessary: • a risk assessment is to be performed to determine whether it is appropriate to keep ampoules as imprest stock and if so, a Drug and Therapeutics Committee approved protocol for safe preparation and use is to be in place • the range of concentrated potassium chloride injections and infusions available is to be limited and should not exceed 1 mmol per mL • ampoules are to be physically separated from ampoules of similar appearance and packaging. For example, in a separately identified and coloured box, and retained in original packaging until immediate use • commercially prepared, pre-mixed, concentrated, small-volume solution (for example, 40 mmol per 100 mL mini-bag) are to be available where clinically required.		
5. *Administration*		
5.1. When a patient is ordered an intravenous potassium solution, commercially prepared pre-mixed intravenous potassium chloride solutions are to be used wherever possible.		
5.2. If a potassium salt is added to an intravenous solution, the solution is to be fully mixed by inverting and agitating the solution immediately prior to administration. Concentrated solutions of potassium are never be added to an intravenous solution in the hanging position as adequate mixing is unlikely and a potential potassium bolus dose may result.		

Governance requirements	Requirement met	Requirement unmet
5.3. A rate limiting device such as an infusion pump is to be used for all potassium containing infusions to prevent unintentional bolus doses and too rapid intravenous infusion. Wherever possible, this is to be a 'smart' pump using a pre-programmed infusion protocol. Dose error reduction software, where implemented, is to be turned on and not bypassed while potassium is being infused.		
5.4. The maximum recommended concentration of potassium for administration via peripheral infusion lines in adults is 40 mmol per litre and in paediatrics is 60 mmol per litre at a maximum rate of 10 mmol per hour. However, the pre-mixed solution of potassium chloride 10 mmol and sodium chloride 0.29% 100 mL can be administered via a peripheral line as it is isotonic due to the reduced sodium content. Higher concentrations must be infused via a central venous access device.		
5.5. An independent second person check is to be employed when administering potassium (intravenous). The second person check processes are outlined in the NSW Health Policy Directive *Medication Handling* (PD2022_032) including circumstances where a second person check is not mandated (for example, when a medicine is administered by an authorised prescriber).		
5.6. Cardiac monitoring is to be in place for the administration of fast infusion rates of intravenous potassium (rates above 10 mmol/hour or 0.25 mmol/kg/hour). Where not available on general wards or at the facility, admission to an intensive care/high dependency unit or transfer to a higher-level facility with cardiac monitoring is required.		

Action Plan				
Unmet requirement	*Reason/comment(s)*	*Proposed steps to meet requirement*	*Timeframe*	*Person responsible*