

ADMINISTRATION OF MEDICATIONS

HIGH RISK MEDICATION LIST

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High Risk Medication List
Section P
Clinical Guidelines
King Edward Memorial
Hospital
Perth Western Australia

This list contains medications that are deemed high risk medications and which are used at King Edward Memorial Hospital (KEMH).

The purpose of this list is to improve patient safety by raising awareness amongst all clinical staff that prescribe, dispense or administer high-risk medications at KEMH health service.

Clinical staff must be aware of medicines on this list and of the need to take extra care in their safe storage, handling, prescribing and administration.

Errors with high risk medications are not necessarily more common; however the consequences of such errors are more devastating.

All drugs listed have a corresponding KEMH clinical guideline, which can be located on the Intranet via the Clinical Guidelines link.

Additional information is also available from:

[WA High Risk Medication Policy](#)

[ACSQHC](#)

[WATAG](#)

Medication	Clinical Guidelines	Comments
Anti-Infectives		
Aminoglycosides (Gentamicin, Tobramycin, Amikacin)	O&G Clinical Guidelines Section P- Amikacin Section P - Gentamicin Dosing and Monitoring Section P- Tobramycin Neonatal Protocols Amikacin Gentamicin Tobramycin Other Documents KEMH Antimicrobial Restriction Category	Dose errors with respect to Ideal Body Weight, age, and renal function may result in significant ototoxicity and nephrotoxicity. Under dosing may result in treatment failure. Monitoring of serum levels recommended.
Glycopeptides (Vancomycin)	O&G Clinical Guidelines Section P- Vancomycin Neonatal Protocols Vancomycin Other Documents KEMH Antimicrobial Restriction Category	Incorrect dosing with respect to weight may rarely cause nephrotoxicity and ototoxicity. Under dosing may result in treatment failures. Monitoring of serum levels is recommended. Infusion rate must be less than the specified

		maximum rate to reduce the risk of “Red man syndrome”.
Amphotericin	<p>O&G Clinical Guidelines Section P- Amphotericin Liposomal</p> <p>Neonatal Protocols Amphotericin Liposomal (Ambisome®)</p> <p>Amphotericin Deoxycholate (Fungizone®)</p> <p>Other Documents KEMH Antimicrobial Restriction Category</p> <p>WA Medication Safety Group Alert – Confusion between non-lipid and lipid formulations of injectable amphotericin</p>	<p>Confusion between the formulations may result in errors, both of prescribing and administration.</p> <p>Three formulations for IV use are available in Australia:</p> <ul style="list-style-type: none"> • amphotericin B deoxycholate (Fungizone®) • liposomal amphotericin (Ambisome®) • phospholipid complex amphotericin (Abelcet®) <p>Awareness of these multiple formulations and differing dosage recommendations will help reduce the risk of under- or overdosing.</p>
Electrolytes		
Potassium (available as chloride, phosphate, and acetate)	<p>O&G Clinical Guidelines Section P - Potassium Chloride</p> <p>Neonatal Protocols Potassium Chloride</p> <p>Other DocumentsKEMH policy for the use of intravenous potassium chloride</p> <p>Operational Directive – Policy for Intravenous Potassium Chloride</p> <p>Summary of Changes Made to Intravenous Potassium OD</p>	<p>Fatal Errors can occur due to:</p> <ul style="list-style-type: none"> ▪ too rapid administration ▪ selection of the wrong ampoule ▪ cognitive error (e.g. using a potassium chloride ampoule instead of frusemide) ▪ preparation errors ▪ excessive dosage. ▪ use of an excessively strong solution

Disclaimer: This list is generated to aid in the identification and management of medications deemed as high risk medications. This is not a complete guideline and the appropriate clinical guidelines will need to be sought for more extensive information.

Hypertonic saline	To be used under the supervision of the Department of Anaesthesia and Pain Medicine	May require caution if correcting hyponatraemic states with hypertonic saline due to the risk of osmotic demyelination.
Sodium Bicarbonate	Adult Resuscitation Drug Protocols Sodium Bicarbonate Neonatal Protocols Sodium Bicarbonate	Indications include the treatment of hyperkalaemia. Incompatible with many drugs e.g. adrenaline, calcium salts, magnesium sulphate, isoprenaline, midazolam.
Calcium (Gluconate, Chloride)	Adult Resuscitation Drug Protocols Calcium CHLORIDE Calcium GLUCONATE O&G Clinical Guidelines Section P- Calcium Gluconate	Caution if prescribed with digoxin, as there may be an increased risk of digoxin toxicity.
Magnesium (Sulphate, Chloride)	O&G Clinical Guidelines Section P- Magnesium Sulphate INFUSION Section P – Magnesium Sulphate INJECTION Neonatal Protocols Magnesium Sulphate	FDA Drug Safety Communication: FDA Recommends Against Prolonged Use of Magnesium Sulfate to Stop Pre-term Labor Due to Bone Changes in Exposed Babies
Insulin		
	O&G Clinical Guidelines Management of Gestational Diabetes in the clinics Diabetes in Pregnancy Requiring Insulin or Oral Hypoglycaemic Agents Diabetes in Pregnancy. Hypoglycaemia Management Insulin Pen Devices Insulin Infusion Pump Storage and Labelling Of Insulin Other Documents WATAG Safety Alert: Humulin R® U-500 Insulin (500 UNITS/mL) Patient Leaflet: Starting Insulin for the first time (Gestational/Type 2 Diabetes)	Insulin <ul style="list-style-type: none"> Insulin should be ordered as “units”, not “U” (written in full) Prescribe insulin by brand names, where possible, to reduce risk of selection error. Insulin by Subcutaneous Injection <ul style="list-style-type: none"> Specify time of administration (i.e. immediately before meals or specific time to be given in respect to food) Specify device (vial/cartridge/disposable pen) Insulin by Intravenous Infusion <p>Double check the concentration and the infusion rate are consistent with the prescription to ensure the correct dose is administered to the patient.</p> <p>Problems may arise if pumps are programmed incorrectly.</p>

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Narcotics/Opioids and Sedative Agents		
(e.g. Fentanyl, Hydromorphone, Oxycodone, Morphine and Midazolam)		
	<p>Post Operative Pain Guideline Post Operative Pain</p> <p>O&G Clinical Guidelines Pethidine Intramuscular Administration in Labour</p> <p>Intramuscular Administration of Morphine</p> <p>Section P</p> <p>Other Documents Midazolam Medication Safety Alert</p> <p>Oxycodone and Morphine Medication Safety Alert</p> <p>Fentanyl Analgesic Patches Safety Alert</p> <p>Prescription and Management of Intravenous Patient Controlled Analgesia</p>	<p>Incorrect dosing of opioids can lead to inadequate analgesia, excessive sedation and potentially lethal respiratory depression, dosing should follow 'start low and go slow' philosophy.</p> <p>Regularly review patient using an appropriate pain scoring tool to assess for analgesia. Monitor sedation levels.</p> <p>Prescribers can access information about these medications from the intranet or by contacting a consultant specialist in pain management where available. (e.g. Acute Pain Service or Anaesthetist)</p>
Methotrexate		
	<p>O&G Clinical Guidelines Section P- Methotrexate</p> <p>NSW Policy Directive : High Risk Medicines Management Policy (replaces Methotrexate-Safe Use or Oral Methotrexate)</p> <p>Patient Information WNHS KEMH Systemic Methotrexate</p>	<p>Australian cases with fatal consequences have been reported when oral methotrexate has been prescribed and administered more frequently than once weekly for autoimmune or inflammatory disorders.</p> <p>Ensure when prescribing, administering and dispensing weekly doses of methotrexate that it is clearly stated which dose and which day of the week the methotrexate is to be administered on the National Inpatient Medication Chart, and that the remainder of the relevant administration boxes have been crossed out to flag dose(s) not to be administered to reduces the risk of patients receiving unintended doses of methotrexate.</p>
Heparin and Other Anticoagulants		
(E.g. Warfarin, Heparin, Enoxaparin, Dalteparin)		
General	<p>O&G Clinical Guidelines VTE Prophylaxis For Women With A Previous Thrombotic Event +/- with</p>	<p>There is potential for excessive bleeding with warfarin, heparin and other anticoagulants. The incorrect dose or failure to monitor therapy can</p>

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	<p>Proven Thrombophilia</p> <p>Prophylaxis For Women With A Prior Thrombotic Event in Whom No Thrombophilia Has Been Identified</p> <p>Women With Cardiac Conditions</p> <p>Risk Assessment and Recommended Venous Thromboembolic Prophylaxis in Patients Admitted for Gynaecological Conditions</p> <p>Other Documents Revision of the Adult WA Anticoagulation Medication Chart (WAAMC)</p> <p>Implementation of the WA Anticoagulation Medication Chart (WAAMC)</p>	<p>contribute to this event. It is recommended that prescribers contact the Haematology team for advice on dosing if required.</p>
Warfarin	<p>Pre & Post Operative Management of Patients On Therapeutic Warfarin Anticoagulation</p> <p>Phytomenadione (Vitamin K) Section P- Phytomenadione (Vitamin K)</p> <p>Other Documents Living with Warfarin Information for Patients</p> <p>Warfarin Treatment Card (resource for patients)</p>	<p>Warfarin has the potential to interact with many medications that can affect the International Normalised Ratio (INR). Be aware that changing concurrent medications (by ceasing or adding a medication) may result in changes to INR and the dose of warfarin may require adjustment</p>
Heparins (Unfractionated Heparin, LMWH: Dalteparin, Enoxaparin, Danaparoid)	<p>O&G Clinical Guidelines Section P- Heparin Sodium</p> <p>Section P- Enoxaparin Sodium</p> <p>Other Documents Section B : Venous Thrombosis Occurring in the Present Pregnancy</p> <p>WAMSG heparin Working Group Recommendations on Unfractionated Heparin</p>	<p>Unfractionated Heparin</p> <p>Ensure the word 'UNITS' is written in full to avoid confusion</p> <p>For intravenous infusion, double check the correct number of units have been added to the syringe for infusion and the infusion rate is consistent with the prescription to ensure the correct dose is administered to the patient.</p>
Fixed Dose New	Restricted Medicines List	New fixed dose oral anticoagulants have NO

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<p>Oral Anticoagulants (NOACs) (Dabigatran, Rivaroxaban, Apixaban)</p>	<p>Living with a New Oral Anticoagulant (NOAC) Information for Patients</p> <p>WATAG New Oral Anticoagulant Prescribing Guidelines</p>	<p>SPECIFIC REVERSAL AGENT.</p> <p>Care is required when selecting patients for newer anticoagulant treatment.</p>
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Positive Inotropes		
Noradrenaline Adrenaline Dobutamine Metaraminol	Adult Resuscitation Drug Protocols (See Section 5.3) Section P	Vasoactive drugs are utilised in the critical care setting for the management of patients with cardiovascular and/or respiratory instability. Failure to manage these drugs appropriately can lead to haemodynamic instability and in extreme cases, death
Psychotropic Agents (e.g. Clozapine, Lithium, Droperidol, Benzodiazepines)		
	Section P	Psychotropic agents (including antipsychotics, antidepressants, benzodiazepines and stimulants) carry certain risks. Procedures and policies must be in place regarding the safe prescription, preparation, administration and monitoring of psychotropic agents.
Other High Risk Medications		
Please contact specialist area clinician and refer to relevant clinical guidelines.		
Anaesthetics (e.g. Ketamine, Propofol, Nitrous Oxide) Administration of Nitrous Oxide		
Anti-arrhythmics (e.g. Amiodarone, Digoxin) Amiodarone Adult Resuscitation Drug Protocols Digoxin Monograph		
Antivirals (e.g. Lamivudine, Zidovudine, Abacavir, Efavirenz, Nevirapine, Ritonavir, Tenofovir) Management of HIV Positive Mother and Her Neonate Truvada (Tenofovir/Emtricitabine Monograph) Zidovudine Monograph		
Clotting Agents (e.g. Tranexamic Acid, Aminocaproic Acid) Tranexamic Acid Monograph		
Neuro-muscular Blockers (e.g. Vecuronium, Suxamethonium, Botulinum Toxin) Suxamethonium Monograph		

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