



## Intravenous Infusion for Common Drugs in the Intensive Care Unit Guideline

Effective: 14 August 2018

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Actrapid® (neutral human insulin, soluble insulin, regular insulin)	100 units/mL	<b>Central and peripheral access (Syringe driver)</b> 60 units in 60mL (MR176)	<b>Sodium chloride 0.9%</b> Glucose 5%	According to BGLs	Titrate to BGLs between 5-10mmol/L	<b>Minimum 2/24 BGLs or until BGL level stable</b> Inform MO if rate >10ml/hr
Acetylcysteine	2g/10mL	<b>Central and peripheral access (Volumetric pump)</b> For Paracetamol overdose: 1. 150mg/kg in 200mL over 15-60 mins then 2. 50mg/kg in 500mL over 4 hours then 3. 100mg/kg in 1L over 16 hours (MR176)	<b>Glucose 5%</b> Sodium chloride 0.9%	Refer to column 'Standard ICU Prescription and location of prescription'		Dosing can vary in some circumstances- refer to Toxicology.

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Adrenaline (Epinephrine)	1mg/mL	<b>Central access only (Syringe driver)</b> 3mg (single strength) in 50mL 6mg (double strength) in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	(0-0.15 microg/kg/min)		Titrate to HR/MAP/SBP/ Bronchospasm.
		<b>Central access only (Volumetric pump)</b> 6mg (single strength) in 100mL 12mg (double strength) in 100mL (SW MR177)				
Adrenaline (Epinephrine) (Indication: Anaphylaxis)	1mg/mL	<b>Central (PREFERABLE) or                      peripheral (Volumetric pump)</b> 1mg in 100mL (MR176)	<b>Sodium chloride                      0.9%</b>	0.01mg/kg/hr	1mL/kg/hr	Cardiovascular monitoring required. Titrate to response.

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Amiodarone	150mg/3mL	<b>Central access (Syringe driver)</b> <u>Loading dose:</u> 150-300mg in 50mL (MR170A(T))	<b>Glucose 5%</b>	Loading dose over 30-60minutes	50-100mL/hr	Monitor BP & HR. Notify MO if HR<60bpm.
		<b>Central access (Syringe driver)</b> <u>Maintenance dose:</u> 900-1200mg in 50mL (MR176)	<b>Glucose 5%</b>	Maintenance dose as a continuous infusion (over 24 hours)	2.1mL/hr	Use glucose 5% in glass, polyolefin or rigid PVC containers (e.g. Braun Ecolofac®, Freeflex®).
		<b>Central and peripheral access (Volumetric pump)</b> <u>Loading dose:</u> 150-300mg in 250mL (MR170A (T))	<b>Glucose 5%</b>	Loading dose over 30-60 minutes	250-500mL/hr	<b>**NB. If above not available, split maintenance dose into two 12hr infusions of 450-600mg (<u>non-preferred option</u>).</b>
		<b>Central and peripheral access (Volumetric pump)</b> <u>Maintenance dose:</u> 900-1200mg in 500mL <b>**<u>(see other information)</u></b> (MR176)	<b>Glucose 5%</b>	Maintenance dose as a continuous infusion (over 24 hours) <b>**<u>(see other information)</u></b>	21mL/hr	Use a non-DEHP giving set: “blue line” low-sorbing polyethylene-lined administration set to connect to

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						<p>Alaris® syringe driver OR “orange” line (REF 611400704) to connect to Hospira volumetric pump.</p> <p>Amiodarone is adsorbed onto PVC and leaches plasticiser from PVC.</p> <p>A 0.22 micron in-line filter is recommended.</p> <p>If peripheral, use large antecubital vein.</p> <p>NB. Maintenance infusions are <b>NOT</b> recommended via peripheral line, consider central line insertion.</p>

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Calcium Chloride	10% (1g/10mL, 6.8mmol Ca <sup>2+</sup> /10mL)	<b>Central access (Prismaflex® (CRRT) Syringe driver):</b> For CRRT anticoagulation: 5g (34mmol Ca <sup>2+</sup> ) in 50mL (SW MR174H)	<b>Undiluted</b>	Variable (as per ionised calcium levels).		
Cisatracurium	5mg/2.5mL	<b>Central and peripheral access (Syringe driver)</b> 100mg in 50mL (MR176)	<b>Undiluted</b>	1-3 microgram/ kg/min	0.5- 10microg/kg/ min (0.03- 0.6mg/kg/hr)	Continuous monitoring required.  Monitoring of neuromuscular function is recommended.  Titrate to response using 'Train of Four' monitoring. There may be wide interpatient variation in dosage requirements.  Refer to product information for conversion into mL/hr rates.

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						Flush line with 20mL of sodium chloride 0.9% or glucose 5% to avoid accidental re-paralysis.
Clonidine	150microg/ mL	<b>Central and peripheral access (Syringe driver)</b> 600microgram in 50mL (SW MR177)	<b>Sodium chloride 0.9%</b>	0-4 mL/hr Titrate to RSS	Maximum rate = 4ml/hr	Monitor BP and HR. Notify MO if SBP <90mmHg and/or HR <60bpm.  Bolus up to 50 microgram can be given over at least 5 minutes.

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Dexmedetomidine	200 microgram/ 2mL	<b>Central and peripheral access (Syringe driver)</b> 200 micrograms in 50mL (SW MR177)	<b>Sodium chloride 0.9%</b> Glucose 5%	Initial dose: 0.2 microg/kg/hr Usual dose: 0-1 microg/kg/hr Maximum dose: 1.5microg/kg/hr		<b>DO NOT BOLUS</b>  Cardiac monitoring required.  Can cause bradycardia/hypotension. Monitor BP and HR. Notify MO if SBP <90mmHg and/or HR<60bpm.  HIGH COST Continuous infusion should not exceed 24 hours.

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Dobutamine	250mg/20mL	<b>Central access only (Syringe driver)</b> 250mg in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	0-10 microgram/ kg/min, based on ideal body weight		Cardiac monitoring required. Report if HR >130bpm.
		<b>Central access only (Volumetric pump)</b> 500mg in 100mL (SW MR177)				
Dopamine	200mg/5mL	<b>Central access (Syringe driver)</b> 200mg in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	Usual rate: 0-20 microgram/ kg/min	Start at 1-2mL/hr	Continuous cardiac monitoring required.  Titrate to BP.
		<b>Peripheral access (LARGE VEIN) (Volumetric pump)</b> 200mg in 500mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	0-20 microgram/ kg/min	Start at 10-20 mL/hr	



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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Esmolol	100mg/10mL	<b>Central and peripheral access (Syringe driver)</b> 500mg in 50mL (SW MR177)	<b>Undiluted</b>	Loading dose: 500microgram/kg over 1 minute then Maintenance dose: 25-200 microgram/ kg/min		Inform Pharmacist if esmolol is being used to ensure continued supply.  Continuous cardiac monitoring required.  Avoid infusion into small veins, Thrombophlebitis and necrosis on extravasation can occur.
Fentanyl	500microg/10mL	<b>Central and peripheral access Infusion (Syringe driver):</b> 500microgram in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	Initial dose: 20microg/hr. Usual range: 1-100microg/hr.  Titrate to pain and RSS target.	<b>Initial rate:</b> 2mL/hr <b>Usual range:</b> 1-10 mL/hr	Titrate to analgesic effect/sedation.  Continuous oxygen monitoring required.

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Fentanyl	2000microg/100mL (Pre-mixed) CADD	<b>Central and peripheral access</b> <b>Infusion (CADD pump):</b> 2000microgram in 100mL (MR170.5/MR170.6)	<b>Undiluted</b>	See “Other information”	See “Other information”	Refer to the WACHS Intravenous Opioid Administration Policy.  Monitor sedation score and respiratory rate along with other observations specified on the PCIA-IV Opioid Infusion Prescription and Additional Observation Chart.

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Frusemide (Furosemide)	250mg/25mL	<b>Central or peripheral access (Syringe driver)</b> 500mg undiluted in 50mL (MR176)	Undiluted	Initial dose: 20mg/hr. Titrate to target urine output.	Initial rate: 2mL/hr Usual rate 0-10 mL/hr	<p><b>Monitor Potassium levels</b></p> <p><b>Central administration preferred</b> (peripheral administration may cause phlebitis).</p> <p>Maximum 1g (2 syringes per day). Review ongoing use after 2 grams total infused.</p> <p>Bolus dose: maximum rate 4mg/minute.</p>

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Glyceryl trinitrate	50mg/10mL	<b>Central access (Syringe driver)</b> 50mg in 50mL (MR176)	<b>Glucose 5%</b> Sodium chloride 0.9%	25-50microg/min (=1.5-3mL/hr)	1-15mL/hr	Titrate to SBP target.  Continuous cardiac monitoring required.
		<b>Central or peripheral access (Volumetric pump)</b> 50mg in 100mL (MR176)	<b>Glucose 5%</b> Sodium chloride 0.9%	25-50microg/min (=3-6mL/hr)	1-30mL/hr	Refer to WACHS Specialised Medication – Intravenous Glyceryl Trinitrate for ADULTS in Critical Care Areas Guideline.  Glyceryl trinitrate must be added to non-PVC container (i.e. glass bottles, plastic semi-rigid container e.g. Ecoflac® Plus bottle or FreeFlex® bag).

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Glyceryl trinitrate						<p>Infuse with a low-sorbing polyethylene-lined administration set to reduce loss due to adsorption to PVC giving sets (up to 80% loss). Use a “blue” low-sorbing Alaris® administration set for Alaris® syringe driver or an “orange” line (Ref#611400704) for Hospira® volumetric pump.</p>
Heparin	25,000 units/5mL	<p><b>Central and peripheral access (Volumetric pump)</b>                      Infusion: 25,000units in 500mL (MR170C)</p>	<p><b>Sodium chloride 0.9%</b>                      Glucose 5%</p>	Therapeutic anticoagulation: refer to nomogram (on anticoagulation medication chart MR170C) for dosing and titration information.		<p>Monitor aPTT within 6 hours of every rate change, otherwise daily as per heparin nomogram in Anticoagulation medication chart</p>

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
						(MR 170C).
Isoprenaline	1mg/5mL	<b>Central access only (Syringe driver)</b> 3mg in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	Usual dose: 0.5 to 5microg/min Titrate to clinical effect.	Start at 2mL/hr	Titrate to target HR. If HR > 110bpm notify MO.  Continuous cardiac monitoring required.
		<b>Peripheral Access (Volumetric pump)</b> 2mg in 500mL (SW MR177)	<b>Glucose 5%</b> Sodium Chloride 0.9%	0-0.1 microgram/ kg/min	Start at 30mL/hr	<b>CENTRAL</b> line preferred. Please consider central line insertion.  Continuous cardiac monitoring required.  Titrate to target HR. If HR > 110bpm consider decreasing rate of infusion or temporarily discontinuing infusion.

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						Do not give simultaneously with Adrenaline or Digoxin.
Ketamine	200mg/2mL	<b>Central and peripheral access (Volumetric pump)</b> For Analgesia: 200mg in 100mL (see "Other information")	<b>Sodium chloride 0.9%</b> Glucose 5%	0-10mg/hour	0-5mL/hr	Refer to WACHS-SW Ketamine Infusion (Low Dose Intravenous Analgesia) in the Acute Care setting Procedure and SW MR113A Ketamine Infusion Analgesia Record.

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Ketamine	200mg/2mL	<b>Central and peripheral access (Volumetric pump)</b> For Sedation (critically ill patients): 200mg in 100mL (SW MR177)	<b>Sodium chloride 0.9%</b> Glucose 5%	0.5-1mg/kg/hour Start at lower dosage listed and titrate to effect		Titrate to analgesic effect/sedation.  Intensivist to annotate order with rate and sedation score target.  Continuous oxygen monitoring required.
Levosimendan	12.5mg/5mL	<b>Central and peripheral access (Volumetric pump)</b> 12.5mg in 250mL (SW MR177)	<b>Glucose 5%</b>	Start rate: 0.1microg/kg/min for at least 1hr.  Maintenance rate: 0.05 – 0.2microg/kg/min  Refer to product information for doses and weight-based	0.05-0.2 microgram/kg/min.	Kept in fridge.  Unregistered drug therefore SAS Category A form and register to be completed and pharmacist informed of use.  Loading dose generally not used.



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				rates of administration).		Use a single infusion of 12.5mg only (second infusion should not be prescribed unless requested by a consultant Cardiologist or Intensivist (long half-life).  Monitor HR, BP and ECG.
Metaraminol	10mg/mL	<b>Central and peripheral (LARGE VEIN) access (Syringe driver)</b> 20mg in 40mL (SW MR177)	<b>Glucose 5%</b> Sodium Chloride 0.9%	Titrate to MAP	0-16mL/hr titrated to MAP	Only for use as bridging therapy prior to initiation of standard inotropic support.  Maximum effect is not immediately apparent; wait at least 10 minutes should elapse

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						<p>before increasing the infusion rate. Continuous cardiac monitoring required.</p> <p>Titrate to MAP.</p> <p>Extravasation may cause tissue necrosis. NB. Preferred dilution is 15-500mg in 500mL compatible fluid.</p> <p>May cause severe hypersensitivity reactions in patients who are sensitive to sulphites.</p>

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Midazolam	50mg/10mL	<b>Central and peripheral access (Syringe driver)</b> 50mg in 50mL (single strength) 100mg in 50mL (double strength) (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	Initial dose 2mg/hr Usual range: 0-10mg/hr  Titrate to RSS	0-10mL/hr (of single strength 50mg/50mL)	Midazolam infusion is not recommended in patients who are not ventilated.
Milrinone	10mg/10mL	<b>Central access only (Syringe driver)</b> 10mg in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	<b>Loading dose:</b> 50 microg/kg over 10 minutes, followed by maintenance infusion.  <b>Maintenance infusion:</b> 0.375-0.75 microg/kg/min, adjusted to clinical and haemodynamic response.	Common range: 0-10mL/hr	Continuous cardiac monitoring required.
		<b>Central access only (Volumetric pump)</b> 20mg in 100mL (SW MR177)				Maximum of 1.13mg/kg daily.  Use slower rate in patients with renal impairment.  Indicated for short-term use only (maximum 48 hours).

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Morphine	10mg/mL 30mg/mL	<b>Central and peripheral access (Syringe driver)</b> 50mg (single strength) in 50mL 100mg (double strength) in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%	<b>Initial dose:</b> 0.02– 0.04mg/kg/hour then titrate to effective pain relief/sedation.  <b>Usual range:</b> 0-10 mg/hr (most commonly within 0.5-2mg/hr)	0-15mL/hr	Monitor RSS and respiratory rate.  Morphine infusion rate greater than 5mg/hr is not recommended in patients who are not ventilated except on Consultant order. Continuous oxygen monitoring required.  Active metabolites accumulate in renal impairment. Use with caution or consider an alternative opioid.

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Morphine	100mg/ 100mL PFS (pre-filled syringe)	<b>Central and peripheral access (CADD pump)</b> 100mg in 100mL (MR170.5/MR170.6)	<b>Undiluted</b>	See “Other information”	See “Other information”	Refer to WACHS Intravenous Opioid Administration Policy. Monitor RSS and respiratory rate along with other observations specified on the PCIA-IV Opioid Infusion Prescription and Additional Observation Chart.
Naloxone	400 microgram/ mL	<b>Central and peripheral access (Syringe driver)</b> 2mg in 50mL (MR176)	<b>Glucose 5%</b> Sodium chloride 0.9%	Following bolus dose, start infusion at 40microg/hr then titrate to effect. Usual range: 1-80microg/hr however higher doses may be req'd in opioid overdose.	Initial rate: 1mL/hr	Titrate to GCS & RR > 8-10.

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Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Noradrenaline (Norepinephrine)	4mg/4mL	<b>Central access only (Syringe driver)</b> 4mg (single strength) in 50mL 8mg (double strength) in 50mL 16mg (quad strength) in 50mL (SW MR177)	<b>Glucose 5%</b>	Initial dose: 5microgram/min. Titrate to Mean Arterial Pressure (MAP)/Cerebral Perfusion Pressure (CPP).  Usual dose 0.01- 0.5micro/kg/min	Start at 5 mL/hr then titrate.	DO NOT BOLUS  Continuous cardiac monitoring required.  High doses >2microgram/kg/min (100mL/hr single strength may be needed in severe septic shock).  Extravasation can cause tissue necrosis. If this occurs, refer to WACHS Peripheral Vasopressor Infusion Guideline – Adults.

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Noradrenaline (Norepinephrine )	4mg/4mL	<b>Central access only (Volumetric pump)</b> 8mg (single strength) in 100mL 16mg (double strength) in 100mL 32mg (quad strength) in 100mL (SW MR177)	<b>Glucose 5%</b>	Initial dose: 5microgram/min. Titrate to Mean Arterial Pressure (MAP)/Cerebral Perfusion Pressure (CPP).  Usual dose 0.01- 0.5micro/kg/min	Start at 5 mL/hr then titrate.	DO NOT BOLUS  Continuous cardiac monitoring required.  High doses >2microgram/kg/min (100mL/hr single strength may be needed in severe septic shock).  Extravasation can cause tissue necrosis. If this occurs, refer to WACHS Peripheral Vasopressor Infusion Guideline – Adults.

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Octreotide	100microg/mL 500microg/mL	<b>Central access (Volumetric pump)</b> 500microg in 100mL (MR176)	<b>Sodium chloride 0.9%</b>	25-50microg/hr	5-10mL/hr	Bolus dose 25-50micrograms then continuous infusion.
		<b>Peripheral access (Volumetric pump)</b> 500microg in 500mL (MR176)	<b>Sodium chloride 0.9%</b>		25-50mL/hr	Refer to WACHS Upper Gastrointestinal Bleeding Clinical Practice Standard.  Continuous cardiac monitoring required for continuous infusion.



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Pantoprazole	40mg powder for reconstitution	<b>Central and peripheral access (Volumetric pump)</b> <u>Loading dose:</u> 80mg in 100mL (MR176)	<b>Sodium chloride 0.9%</b> Glucose 5%	80mg over 30 minutes	100mL/hr	NB. Brands vary. Some may not contain preservative and therefore diluents and infusion stability may vary.
		<b>Central and peripheral access (Volumetric pump)</b> <u>Maintenance dose:</u> 80mg in 100mL (MR176)		8mg/hr	10mL/hr	

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Phenylephrine	10mg/mL	<b>Central access only (Syringe driver)</b> 10mg in 50mL (SW MR177)	<b>Glucose 5%</b> Sodium chloride 0.9%		0-15 mL/hr	Titrate to MAP.  Contains sodium metabisulfite (may cause allergic reactions in susceptible people).
		<b>Central access only (Volumetric pump)</b> 20mg in 100mL (SW MR177)				
Phosphate (potassium or sodium dihydrogen)	10mmol/10mL	<b>Central access (Volumetric pump)</b> 10mmol per 100mL (MR176)	<b>Glucose 5%</b> <b>Sodium chloride</b> 0.9%	10-20mmol	Infuse over 2-12 hours per 10mmol	See WACHS Specialised Medication – Intravenous Phosphate Supplementation in Adults Guideline.  Longer infusion times preferable.
		<b>Peripheral access (Volumetric pump)</b> 10mmol per 250mL (MR176)		10-20mmol	Infuse over 2-12 hours per 10mmol	

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Potassium chloride		<b>Central access only (Volumetric pump)</b> 40mmol in 100mL (MR176)	<b>Pre-mixed bag</b>	Titrate to achieve desired potassium level of 4-5mmol/L (Dose: 0-20mmol/L).	0-50mL/hr (0-20mmol/hr)	Inform MO if target levels not achieved. <b>2/24 ABGs + K</b>
		<b>Central and peripheral access (Volumetric pump) SUPPLEMENTATION</b> 10mmol in 100mL (MR176)		According to requirements.	100mL/hr (10mmol/hr)	

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Propofol	500mg/50mL (1%)	<b>Central and peripheral access (Syringe driver)</b> 500mg in 50mL (SW MR177)	<b>Administer undiluted (NEAT)</b>	Usual dose: 1-3mg/kg/hr. Target RSS	0-20mL/hr - (depending on patient weight).	<p>Notify MO if RSS unachievable.</p> <p>Max rate is 4mg/kg/hr.</p> <p>Maximum 4800mg/24 hours including boluses.</p> <p>Continuous oxygen monitoring required.</p> <p>If used for &gt;72 hrs monitor CK twice weekly to check for propofol-related infusion syndrome.</p> <p>1 mL of propofol injection provides 0.1 g of lipid (1.1 kcal).</p>

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Salbutamol	5mg/5mL	<b>Central access (Syringe driver)</b> 5mg in 50mL (100microgram/mL) (MR176)	<b>Glucose 5%</b> Sodium chloride 0.9%	Usual range 5-20microg/min	Start at 5mL/hr Usual range: 3-12mL/hr	Titrate to avoid tachycardia.  Monitor potassium, cardiac and respiratory function.  Wean no more than 1-2 mL/hr every hour.
		<b>Peripheral access (Volumetric pump)</b> 5mg in 500mL (10microg/mL) (MR176)				Start at 50mL/hr Usual range: 30-120 mL /hr

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Sodium bicarbonate 1.26% ("Isotonic")	8.4% (8.4g in 100mL) vial (Hypertonic)	<b>Central and peripheral access (Volumetric pump)</b> 150mL of 8.4% with 850ml diluent (Total volume = 1000mL) (MR176)	Water for injection	Variable	0-250mL /hr	<p><b>Prepare infusion using a 3-WAY TAP</b> (NB. <u>Do not</u> spike bung/port on infusion bag more than 3 times).</p> <p>Isotonic bicarbonate as renoprotective infusion.</p> <p>Undiluted 8.4% HCO<sub>3</sub><sup>-</sup> - can be given as bolus dose (preferably via central line, if possible) for other indications.</p> <p>Undiluted solution is highly irritant. Extravasation may cause tissue necrosis.</p>

Intravenous Infusion Orders for Common Drugs in the Intensive Care Unit Guideline – Bunbury Hospital

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Sodium nitroprusside	50mg/2mL vial	<b>Central access only (Syringe driver)</b> 50mg in 50mL (SW MR177)	<b>Glucose 5%</b>	Initial dose 0.3 microg/kg/min, titrate SBP.  Maximum rate 10 microg/kg/min for up to 10 minutes.	0.5-6microg/kg/min.	<p><b>Protect infusion from light and use within 24 hours.</b> Wrap syringe or infusion bag with aluminium foil. It is not necessary to cover the drip chamber or the tubing. Discard the infusion if the colour changes particularly to blue, green or red.</p> <p>Continuous BP monitoring required.</p> <p>Avoid abrupt withdrawal.</p> <p><b>Prolonged rapid or high dose infusions can produce clinically</b></p>

Intravenous Infusion Orders for Common Drugs in the Intensive Care Unit Guideline – Bunbury Hospital

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
						<p>significant levels of cyanide. Monitor blood cyanide levels if treatment &gt;72hr.</p>
Sodium chloride 3% (Hypertonic)	1000mL bag (containing sodium 513mmol and chloride 513mmol)	<p><b>Central access only (Volumetric pump)</b> Sodium Chloride 3% 1000mL (MR176)</p>	<b>Pre-made bag</b>	<p>Titrated to achieve desired serum sodium concentration.</p> <p>NB. Dose dependent on requirement of sodium replacement. Ensure close monitoring of serum sodium throughout infusion and cease when appropriate for the patient. Patient may not require the entire contents of the pre-made bag.</p>	Rate as per Endocrinology Therapeutic Guidelines – Hyponatraemia	<p><b>2/24 ABG/ Na+</b></p> <p>To avoid osmotic demyelination, the maximum rate of change in the serum sodium concentration in chronic hyponatraemia should be:</p> <ul style="list-style-type: none"> <li>▪ Max. 10 mmol/L in the first 24 hours</li> <li>▪ Max. 18 mmol/L in the first 48 hours.</li> </ul>



Intravenous Infusion Orders for Common Drugs in the Intensive Care Unit Guideline – Bunbury Hospital

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
Thiopentone (Thiopental)	500mg vial (powder for reconstitution)	<b>Central access only (Syringe driver)</b> 1g in 50mL (20mg/mL) (SW MR177)	Water for Injection	Target BIS(Bispectral Index) 20 0-15mL/hr		<p>Boluses of 125mg can be given.</p> <p>All other sedation should be ceased while on thiopentone infusion.</p> <p>Monitor respiratory status at all times. Use only where cardiorespiratory resuscitation equipment is available.</p> <p>Final concentration of 34mg/mL in water for injection is isotonic. Concentrations less than 20 mg/mL in water for injections are not used as they cause</p>

Intravenous Infusion Orders for Common Drugs in the Intensive Care Unit Guideline – Bunbury Hospital

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
						<p>haemolysis.</p> <p>Extravasation may cause tissue necrosis.</p> <p>Some loss of the drug occurs due to absorption / adsorption to PVC containers and to burettes and IV lines.</p> <p>Repeated doses have a cumulative effect with delayed recovery.</p>
Vasopressin (Argipressin)	20 units/mL	<p><b>Central and peripheral access (Syringe driver)</b></p> <p><u>Central Diabetes insipidus:</u> 2 units in 50mL (0.04 units/mL) (SW MR177)</p>	<p><b>Glucose 5%</b> Sodium chloride 0.9%</p>	<p>Initial dose: 0.2 units/hr Usual range: 0-0.8 units/hr</p>	<p>Initial rate: 5ml/hr Usual range: 1-20mL/hr</p>	<p>Titrate in 0.2mL increments to target urine output.</p> <p>Extravasation may cause tissue necrosis. <u>Central line preferred.</u></p>

Drug	Presentation	Standard ICU prescription and location of prescription	Diluent <sup>1,2</sup> (preferred diluent in bold)	Usual Dose	Usual rate	Other information
						Complete TGA form if SAS product.
		<p><b>Central access only (Syringe driver)</b>  <u>Vasopressor (inotropic) :</u>                      20 units in 50mL (0.4 units/mL)                      (SW MR177)</p>		Initial dose: 0.02 units/min Usual range: 0-0.03 units/min	Initial rate: 3mL/hr Usual range: 1-4.5mL/hr	Titrate to target MAP.  Adjunct use with noradrenaline.  Extravasation may cause tissue necrosis.  Complete TGA form if SAS product.

Adapted from FSFHG Continuous Intravenous Infusions in the Intensive Care Unit (with thanks) by: Megan Luck (Senior Pharmacist)

## 1. Key

[MR170.5 WACHS Patient Controlled Intravenous Opioid Infusion Prescription and Additional Observation Chart](#)

[MR170.6 WACHS Patient Controlled Intravenous Opioid Infusion Continuation Sheet](#)

[MR170C WACHS Anticoagulation chart](#)

SW MR174H Intravenous Infusion Chart for CRRT Calcium Chloride 10% Infusion

[MR176 Intravenous Fluid Treatment Chart](#)

SW MR177 Intravenous Infusion Medication Chart Vasoactive/Sedative Agents Infusion

## 2. References

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13. WACHS [Diabetes – Inpatient Management Clinical Practice Standard](#) Version 2.00 (Published 2/10/17)
14. Department of Health [Operational Directive OD 0444/13 Policy for use of intravenous potassium chloride](#)
15. [Life in the Fast Lane](#). Accessed online.

## 3. Roles and Responsibilities

All WACHS clinicians are accountable for their own practice and are to provide care:

- within their registration status
- in accordance with the codes and guidelines approved by their relevant National Board supported by AHPRA
- within their scope of practice and competence
- within their prescribed responsibilities and duties as defined in their Job Description Form (JDF) and
- within the context of practice that they are operating.

#### 4. Related Policy Documents

WACHS [Medication Administration Policy](#)

WACHS [Intravenous Opioid Administration Policy](#)

WACHS [Specialised Medication – Intravenous Glyceryl Trinitrate Guideline](#)

WACHS [Specialised Medication – Phosphate Supplementation in Adults Guideline](#)

WACHS South West [Handling and Supply of Potassium Ampoules Procedure](#)

WACHS South West Ketamine Infusion (Low Dose Intravenous Analgesia) in the Acute Care setting Procedure (under development)

#### 5. Related WA Health System Policies

[Prescription and Management of Intravenous Patient Controlled Analgesia](#) (OD 0658/16)

#### 6. Policy Framework

[Clinical Governance, Safety and Quality Policy Framework](#)

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