

Adult Critical Care Drugs – Standard Prescribing Details

Key Points

- This provides a summary of drugs frequently used on ICU
- These may fall out with the drug licence.
- Unless the diluent is stated the diluent prescribed can be either sodium chloride 0.9% or glucose 5% depending upon the patient's clinical condition.
- It is not exhaustive, and the BNF / summary product characteristics / Medusa (NHS Injectable Medicines Guide) should be consulted for further information

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Abbreviations

ICU	Intensive Care Unit
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Drug / Diluent volume	Concentration / Diluent	Rate / Dose
Sedation		
Propofol 1%	1g in 100ml (undiluted)	0-4mg/kg/hr Approx. 1-30ml/hr
Propofol 2%	1g in 50ml (undiluted)	0-4mg/kg/hr Approx. 1-15ml/hr
Fentanyl 2.5mg/50ml	50micrograms/ml (undiluted)	50-500micrograms/hr 1-10ml/hr (<i>doses >5mL/hr should be discussed with senior doctor</i>)
Remifentanyl 5mg/50ml	100micrograms/ml	6-18micrograms/kg/hr
Morphine 100mg/50ml	2mg/ml (undiluted)	1-20mg/hr 1-10ml/hr
Midazolam 50mg/50ml	1mg/ml	1-20mg/hr 1-20ml/hr
Dexmedetomidine 400 microgram/ 50ml	8 micrograms/ml	Dose range 0.4 – 1.4 microgram/kg/hr (see unit policy for further details)
Clonidine 750microgram /50ml	15 micrograms/mL	0.1-2micrograms/kg/hour
Vasoactive agents		
Noradrenaline 4mg/50ml 8mg/50ml 16mg/50ml	80micrograms/ml glucose 5% 160micrograms/ml glucose 5% 320micrograms/ml glucose 5% (or ready made product)	0.01-1micrograms/kg/min Use concentration most appropriate for rate Central line only For peripheral administration of Noradrenaline (Frimley Guidelines)
Metaraminol 20mg/40ml	500micrograms/ml	0.25-5mg/hr 0.5-10ml/hr Large peripheral vein can be used if no central line
Phenylephrine 10mg/100ml	100micrograms/ml	0-84microgram/min 0-50ml/hr Large peripheral vein can be used if no central line
Adrenaline 4mg/50ml 8mg/50ml 16mg/50ml	80micrograms/ml 160micrograms/ml 320micrograms/ml	0.01-2micrograms/kg/min Use concentration most appropriate for rate Central line only
Dobutamine 250mg/50ml	5mg/ml	2.5-30micrograms/kg/min (standard dose range 2.5-10microgram/kg/min) Central line only
Dopamine 200mg/50ml	4mg/ml	0-20micrograms/kg/min Depending on desired effect Central line only
Milrinone 10mg/50ml	200micrograms/ml	0.375-0.750micrograms/kg/min (Confirm with consultant if initial loading dose of 50micrograms/kg over 10 minutes required) Large peripheral vein can be used if no central line
Vasopressin 20units/50ml	0.4units/ml	0.01-0.04units/minute (see unit policy for further details) Central line only
Levosimendan (unlicensed)	12.5mg in 250ml glucose 5%	0.1-0.2microgram/kg/min for up to 24hrs See levosimendan unit policy Large peripheral vein can be used if no central line
Drug / Diluent volume		
Concentration / Diluent		
Rate / Dose		
Other cardiac agents		
Furosemide 50mg /50ml	1mg/ml sodium chloride 0.9%	1-10ml/hr
Glyceryl Trinitrate 50mg/50ml	1mg/ml (undiluted)	1-20ml/hr
Amiodarone infusion	300mg in 100ml glucose 5% 900mg in 500ml glucose 5% If continuing IV 100mg tds	Over 1hour Over 23 hours
Esmolol	10mg/ml	50-200micrograms/kg/minute
Labetalol 300mg/60ml	5mg/ml (undiluted)	20-200mg/hr 4-40ml/hr via Large peripheral vein can be used if no central line

Paralysis		
Atracurium 500mg/50ml	10mg/ml	0.3-1.7mg/kg/hr (usual dose 0.3-0.7mg/kg/hr) See neuromuscular blocking agents guideline
Rocuronium 500mg/50ml	10mg/ml	0.3-0.6mg/kg/hr See neuromuscular blocking agents guideline
Electrolyte replacement		
Potassium Chloride	40mmol in 100mls ready made bags	13.5-40mmol (1-3g) Administer over 1 hour via central line only ICU only
Phosphate Polyfusor	50mmol phosphate 500ml (also contains 81 mmol sodium and 9.5mmol potassium)	0.2-0.5mmol/kg Administer over 8 -12 hours
Phosphate (as Sodium Glycerophosphate) 21.6% injection	20mmol to 50mL or 40mmol to 100mL (0.4mmol to 1mL)	20-40mmol 20mmol of sodium glycerophosphate also provides 40mmol sodium Administer over 8 hours Central line only
Magnesium sulphate 50% central	20mmol (5g) magnesium in 100mls	Administer over 1-2 hours Central line only
Magnesium sulphate 50% peripheral	20mmol (5g) magnesium in 250mls	Administer peripherally in 250ml over a minimum of 2 ½ hours.
Calcium gluconate 10%		2.25-6.8mmol (10-30ml) Max admin rate 2ml/min
GI motility (prokinetics)		
Metoclopramide		10mg tds IV Review at 5 days
Erythromycin		250mg tds IV
Additional items		
Hydrocortisone	If high vasopressor requirement	50mg qds IV
Ketamine for asthma / bronchospasm 500mg in 50ml	10mg/ml	0.5 to 1mg /kg /hr increase incrementally to max 2.5 mg /kg /hr. If CV history commence at max 0.5mg/kg hour. See separate guideline
Thiamine		Suspected Wernicke's Encephalopathy/Alcohol Withdrawal IV 500mg TDS for 3 to 5 days Refeeding prophylaxis IV 250mg OD for 3 days

These doses represent local practice & are the commonly used doses. These may fall outwith the drug licence. Unless the diluent is stated the diluent prescribed can be either sodium chloride 0.9% or glucose 5% depending upon the patient's clinical condition. Medusa should be consulted for full administration information. Route of administration is specified for products which must be given by central line only.

Full version control record

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Version History

Version	Date	Guideline Lead(s)	Status	Comment
1	Jan 2018	Laura Johnson	Final	Published on ourplace.
2	July 2023	Laura Johnson	Final	Harmonised to single site document following EPIC implementation
3	Aug 2023	Laura Johnson		Additional routes administration added where applicable and footer updated
3.1	Feb 2024	Laura Johnson	Interim	Propofol 2% typo corrected and dose adjusted. Addiphos removed as product discontinued
4	March 2026	Laura Johnson	Final	Clonidine, sodium glycerophosphate added. Pabrinex change to thiamine, fentanyl dose adjusted Ratified at: Cross Site Critical Care Clinical Governance 29/04/26 DTC: 10/06/2026