

## Standard Medication Concentrations for Continuous Infusions in Adult Critical Care

The Intensive Care Society supports the adoption of standard concentrations and endorses the recommendations of a multi-professional group who have published a list of concentrations with wide acceptance by critical care for this purpose [1,2,3].

Standardising concentrations represents a significant step towards improving both patient safety and efficient use of resources within critical care. It also facilitates the production of a national injectables guide to provide the end user with the information necessary to safely administer such medications [4].

The adoption of these is recommended, not mandated. It is anticipated that pharmaceutical manufacturers will begin to prepare ready to use and ready to administer products based on this list.

Medication	Concentration	Example Infusion Composition	Central or Peripheral
<b>Morphine</b>	1mg/mL	50mg in 50mL	C / P
	2mg/mL	100mg in 50mL	C / P
<b>Fentanyl</b>	50micrograms/mL	2.5mg in 50mL	C / P
<b>Alfentanil</b>	500micrograms/mL	25mg in 50mL	C / P
<b>Remifentanyl</b>	50micrograms/mL	2mg in 40mL	C / P
	100micrograms/mL	5mg in 50mL	C / P
<b>Midazolam</b>	1mg/mL	50mg in 50mL	C / P
	2mg/mL	100mg in 50mL	C / P
<b>Clonidine</b>	15micrograms/mL	750micrograms in 50mL	C / P
<b>Dexmedetomidine</b>	4micrograms/mL	200micrograms in 50mL	C / P
	8micrograms/mL	400micrograms in 50mL	C / P
<b>Adrenaline</b>	80micrograms/mL	4mg in 50mL 8mg in 100mL	C / P C / P
	160micrograms/mL	8mg in 50mL 16mg in 100mL	C C
	320micrograms/mL	16mg in 50mL 32mg in 100mL	C C
<b>Noradrenaline</b>	16micrograms/mL	4mg in 250mL	C / P
	80micrograms/mL	4mg in 50mL 8mg in 100mL	C C
	160micrograms/mL	8mg in 50mL 16mg in 100mL	C C
	320micrograms/mL	16mg in 50mL 32mg in 100mL	C C
<b>Vasopressin (Argipressin)</b>	0.4units/mL	20units in 50mL	C / P
<b>Dobutamine</b>	5mg/mL	250mg in 50mL	C
		500mg in 100mL	C

<b>Dopamine</b>	4mg/mL	200mg in 50mL	C
	8mg/mL	400mg in 50mL	C
<b>Metaraminol</b>	500microgram/mL	20mg in 40mL	C / P
<b>Phenylephrine</b>	100microgram/mL	50mg in 500mL	C / P

Medication	Concentration	Example Infusion Composition	Central or Peripheral
<b>Amiodarone (Load)</b>	6mg/mL	300mg in 50mL	C
	3mg/mL	300mg in 100mL	C
<b>Amiodarone (continuous infusion)</b>	6mg/mL	300mg in 50mL	C
	12mg/mL	600mg in 50mL	C
	18mg/mL	900mg in 50mL	C
	0.6mg/mL	300mg in 500mL	C / (P)*
	1.2mg/mL	600mg in 500mL	C / (P)*
	1.8mg/mL	900mg in 500mL	C / (P)*
<b>Enoximone</b>	2.5mg/mL	100mg in 40mL	C / (P)*
<b>Milronone</b>	200microgram/mL	10mg in 50mL	C / (P)*
<b>Esmolol</b>	10mg/mL	2.5g in 250mL	C / (P)*
<b>Levosimendan</b>	50micrograms/mL	12.5mg in 250mL	C / (P)*
<b>Heparin<sup>5</sup></b>	1000units/mL	20000units in 20mL	C / P
		25000units in 25mL	C / P
<b>Magnesium Sulphate</b>	0.4mmol/mL	20mmol in 50mL	C
	0.2mmol/mL	20mmol in 100mL	C / P
	0.08mmol/mL	20mmol in 250ml	C / P
<b>Phosphate</b>	0.4mmol/mL	20mmol in 50mL 40mmol in 100mL	C C
	0.1mmol/mL	50mmol in 500mL	C / P
<b>Atracurium</b>	10mg/mL	500mg in 50mL	C / (P)*
<b>Cisatracurium</b>	5mg/mL	150mg in 30mL	C / (P)*
<b>Omeprazole</b>	800microgram/mL	80mg in 100mL	C / P
<b>Pantoprazole</b>	800microgram/mL	80mg in 100mL	C / P
<b>Piperacillin/tazobactam</b>	90mg/mL	4.5g in 50mL	C / P
	54mg/mL	13.5g in 250mL	C / P
<b>Meropenem</b>	10mg/mL	1g in 100mL	C / P

	20mg/mL	2g in 100mL	C / P
<b>Aminophylline (maintenance)</b>	1mg/mL	500mg in 500mL	C / P
<b>Insulin<sup>6</sup></b>	1 unit/mL	50units in 50mL	C / P

\*(P) – Short term use only, high risk of phlebitis

## References

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