

Recommended Drug Concentrations for Select Anesthesia Drugs

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The recommended drug concentrations were developed among an ASA cross-committee workgroup led by the Committee on Quality Management & Departmental Administration (QMDA). Recommended concentrations are displayed in alphabetical order and do not indicate any preferred order. The concentrations below only address the standardization of intravenous medication concentrations.

ASA policy on drug concentration standardization is publicly available on the ASA Standards and Guidelines website:
<https://www.asahq.org/standards-and-guidelines/statement-on-drug-concentration-standardization>.

Drug Name	Administration	Adult Concentration(s)	Pediatric Concentration(s)
Dexmedetomidine	IV Bolus - Via Qualified Anesthesia Provider/Clinician	4 mcg/mL, 10 mcg/mL	2 mcg/mL, 4 mcg/mL
Dexmedetomidine	IV Infusion - Via Pump	4 mcg/mL, 10 mcg/mL	2 mcg/mL, 4 mcg/mL
Epinephrine	IV Bolus - Via Qualified Anesthesia Provider/Clinician	10 mcg/mL, 32 mcg/mL ¹	1 mcg/mL, 10 mcg, mL ¹
Epinephrine	IV Infusion - Via Pump	10 mcg/mL, 16 mcg/mL, 32 mcg/mL	10 mcg/mL, 16 mcg/mL, 32 mcg/mL
Heparin	IV Bolus - Via Qualified Anesthesia Provider/Clinician	1000 units/mL	10 units/mL, 100 units/mL, 1000 units/mL
Heparin	IV Infusion - Via Pump	100 units/mL	50 units/mL, 100 units/mL
Hydromorphone	IV Bolus - Via Qualified Anesthesia Provider/Clinician	0.2 mg/mL	0.2 mg/mL
Hydromorphone	IV Infusion - Via Pump	0.2 mg/mL, 0.5 mg/mL, 1 mg/mL	0.2 mg/mL, 0.5 mg/mL, 1 mg/mL

¹ Facilities and anesthesiology groups may also consider having Epinephrine 100 mcg/mL dose available for pediatric and adult emergencies.

Drug Name	Administration	Adult Concentration(s)	Pediatric Concentration(s)
Insulin	IV Bolus - Via Qualified Anesthesia Provider/Clinician	1 unit/mL	1 unit/mL
Insulin	IV Infusion - Via Pump	1 unit/mL	1 unit/mL, 0.2 units/mL
Ketamine	IV Bolus - Via Qualified Anesthesia Provider/Clinician	10 mg/mL, 50 mg/mL	10 mg/mL
Ketamine	IV Infusion - Via Pump	1 mg/mL, 10 mg/mL	10 mg/mL
Lidocaine	IV Bolus - Via Qualified Anesthesia Provider/Clinician	10 mg/mL, 20 mg/mL	10 mg/mL, 20 mg/mL
Lidocaine	IV Infusion - Via Pump	4 mg/mL	4 mg/mL, 8 mg/mL
Norepinephrine ²	IV Infusion - Via Pump	16 mcg/mL, 32 mcg/mL	16 mcg/mL, 32 mcg/mL
Phenylephrine	IV Bolus - Via Qualified Anesthesia Provider/Clinician	40 mcg/mL, 100 mcg/mL	40 mcg/mL, 100 mcg/mL
Phenylephrine	IV Infusion - Via Pump	40 mcg/mL, 100 mcg/mL	40 mcg/mL, 100 mcg/mL
Remifentanyl	IV Bolus - Via Qualified Anesthesia Provider/Clinician	25 mcg/mL, 50 mcg/mL	25 mcg/mL, 50 mcg/mL
Remifentanyl	IV Infusion - Via Pump	25 mcg/mL, 50 mcg/mL	25 mcg/mL, 50 mcg/mL

² Norepinephrine is rarely used via I.V. bolus administration. Therefore, the Quality Management & Department Administration workgroup did not recommend an I.V. bolus drug concentration for norepinephrine.