

Ventura County Medical Center/Santa Paula Hospital **PEDIATRIC** intravenous medication titration table: **NURSING GUIDELINES**

| Neurologic | | | | | | | |
|---|---|---|---------------------------------------|----------------------------------|--|--|--|
| Medication | Concentration(s)‡ | Initial rate of infusion* | Titration rate** (Increase/decrease†) | Prescriber driven. bolus dose° | Maximum rate | Order reason/desired patient response | Call physician parameters |
| Cisatracurium | 400 mcg/mL | Infusion: 0.05 mg/kg/hr | 0.05 mg/kg/hr q 10 min | 0.1 mg/kg/bolus | 0.3 mg/kg/hr | Neuromuscular blockade, to achieve 2 twitches on Train of Four test. | Train of four not achieved at maximum dose. |
| Dexmedetomidine | 4 mcg/mL | Loading dose (optional): 0.5 to 1 mcg/kg over 10 min Infusion: 0.5 mcg/kg/hr | 0.2 mcg/kg/hr q 30 min | 0.5 – 1 mcg/kg bolus over 10 min | 1.6 mcg/kg/hr | RASS as ordered | Goal RASS not achieved at maximum dose. Hold for HR per provider order. |
| FentaNYL | < 10 kg: 10 mcg/mL ≥ 10 kg: 50 mcg/mL | Loading dose: 2 mcg/kg Infusion: 1 mcg/kg/hr | 0.5 mcg/kg/hr q 30 min | 1 mcg/kg bolus | 5 mcg/kg/hr | Pain <3 using CPOT | At maximum dose or CPOT goal not met at 3 mcg/kg/hr. |
| Hydromorphone <i>Not routinely Used first line</i> | < 10 kg: 0.2 mg/mL ≥ 10 kg: 0.5 mg/mL | 3 – 5 mcg/kg/hr | 5 mcg/kg/hr q 30 min | 3 – 15 mcg/kg/bolus | 30 mcg/kg/hr | Pain <3 using CPOT | CPOT goal not met at maximum dose. |
| Morphine <i>Not routinely Used first line</i> | < 25 kg: 1 mg/mL ≥ 25 kg: 5 mg/mL | 0.05 – 0.1 mg/kg/hr | 0.05 mg/kg/hr q 30 min | 0.1 mg/kg/bolus | 0.5 mg/kg/hr | Pain <3 using CPOT | CPOT goal not met at maximum dose. |
| Ketamine | 10 mg/mL | Loading dose: 0.5 to 2 mg/kg bolus Infusion: 0.3 mg/kg/hr | 0.1 mg/kg/hr q 30 min | 0.5 – 2 mg/kg/bolus | 2 mg/kg/hr | RASS as ordered | Goal RASS not achieved at maximum dose. Hold for SBP, HR per provider order or increased ectopy from baseline. |
| Midazolam | < 10 kg: 0.5 mg/mL ≥ 10 kg: 1 mg/mL | Loading dose: 0.1 mg/kg over 2 min Infusion: 0.05 to 0.1 mg/kg/hour | 0.05 mg/kg/hr q 15 min | 0.1 mg/kg bolus over 2 min | 0.3 mg/kg/hr | RASS as ordered | Goal RASS not achieved at maximum dose. Hold for SBP per provider order. |
| Propofol | 10 mg/mL | Loading dose: 2 mg/kg over 2 min Infusion: 25 mcg/kg/min | 10 mcg/kg/min q 10 min | 0.5 – 1 mg/kg bolus over 2 min | 100 mcg/kg/min Suggested max duration: 48 hrs | RASS as ordered | Goal RASS not achieved at maximum dose. Hold for SBP, MAP per provider order. |
| Vecuronium | 1 mg/mL | Loading dose: 0.1 mg/kg Infusion: 0.1 mg/kg/hr | 0.05 mg/kg/hr q 30 min | 0.1 mg/kg bolus | 0.2 mg/kg/hr | Neuromuscular blockade, to achieve 2 twitches on Train of Four test. | Train of 4 not achieved at maximum dose. |
| Vasoactive | | | | | | | |
| Medication | Concentration(s)‡ | Initial rate of infusion* | Titration rate** (Increase/decrease†) | Maximum rate | | Order reason/desired patient response | Call physician parameters |
| DOBUtamine | 2,000 mcg/mL | 2.5 mcg/kg/min | 2.5 mcg/kg/min q 10 min | 20 mcg/kg/min | | Provider specific titration parameter | Goal titration parameter not met, hold for SBP or HR per provider order. |
| DOPamine | 800 mcg/mL peripheral 1,600 mcg/mL central | 5 mcg/kg/min | 2.5 mcg/kg/min q 5 min | 20 mcg/kg/min | | Provider specific SBP, MAP, or HR | Goal titration parameter not achieved at max dose, ventricular tachyarrhythmia. |

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| Vasoactive – Continued | | | | | | |
|--|--|---|---------------------------------------|--|---|--|
| Medication | Concentration(s)‡ | Initial rate of infusion* | Titration rate** (Increase/decrease†) | Maximum rate | Order reason/desired patient response | Call physician parameters |
| EPINEPHrine | 16 mcg/mL peripheral 100 mcg/mL central | 0.02 mcg/kg/min | 0.02 mcg/kg/min q 2 min | 2 mcg/kg/min | Provider specific SBP, MAP, CPP, HR | Goal titration parameter not achieved at max dose, ventricular tachyarrhythmia. |
| Esmolol | 10,000 mcg/mL | Suggested load: 500 mcg/kg Infusion: 50 mcg/kg/min | 50 mcg/kg/min q 5 min | 300 mcg/kg/min Suggested max duration: 48 hours | Provider specific HR | Pulse or blood pressure out of target range at max dose. Hold for HR or SBP per provider order. |
| Milrinone | 200 mcg/mL | Infusion: 0.25 mcg/kg/min | n/a | 0.75 mcg/kg/min | Do not titrate | n/a |
| NICARDipine | 0.2 mg/mL | 0.5 mcg/kg/min | 0.5 mcg/kg/min q 15 min | 4 mcg/kg/min | Provider specific SBP, MAP | Goal titration parameter not achieved at max dose. |
| NitroPRUSSide | 200 mcg/mL | 0.5 mcg/kg/min | 0.5 mcg/kg/min q 5 min | Max dose: 5 mcg/kg/min Suggested max duration: 48 hours | Provider specific blood pressure as ordered | Goal BP not achieved at max dose. Hold for SBP or MAP per provider order. |
| eGFR <30 mL/minute/1.73 m ² : Limit mean infusion rate to <3 mcg/kg/minute. Anuric patients: Limit mean infusion rate to 1 mcg/kg/minute. | | | | | | |
| Norepinephrine | 16 mcg/mL peripheral 100 mcg/mL central | 0.02 mcg/kg/min | 0.02 mcg/kg/min q 2 min | 2 mcg/kg/min | Provider specific SBP, MAP, CPP | Goal titration parameter not achieved at max dose, excessive vasoconstriction (cyanotic extremities). |
| PHENYLephrine | 100 mcg/mL | 0.1 mcg/kg/min | 0.1 mcg/kg/min q 5 min | 2 mcg/kg/min | Provider specific SBP, MAP, CPP | Goal titration parameter not achieved at max dose, excessive vasoconstriction (cyanotic extremities). |
| Vasopressin (DI) <i>Note: milliunits (mUnits)</i> | 0.01 units/mL | 0.5 mUnits/kg/hr | 0.5 mUnits/kg/hr q 10 min | 10 mUnits/kg/hr | Goal UOP 2 – 4 mL/kg/hr | Goal UOP not achieved at target dose or if stopping infusion |
| Vasopressin (Shock) <i>Note: milliunits (mUnits)</i> | 0.2 units/mL | 0.3 mUnits/kg/min | 0.5 mUnits/kg/min q 5 min | 5 mUnits/kg/min | Provider specific SBP, MAP, CPP | Goal titration parameter not achieved at max dose. |
| Miscellaneous | | | | | | |
| Terbutaline (Refractory status asthmaticus) | 1 mg/mL | 0.4 mcg/kg/min | 0.4 mcg/kg/min q 30 min | 4 mcg/kg/min | Provider specific titration parameter | Goal titration parameter not met. Hold for SBP, HR per provider order. ST changes on EKG or telemetry. |
| ‡ Unless specified, the medication may be compounded in either 0.9% Sodium chloride (NS), Dextrose 5% Water (D5W), or iso-osmotic/isotonic solution as a premix solution from manufacturers. * Initial infusion rates will be written by the physician based on patient's age, height, weight, hemodynamic status, renal function and/or hepatic function. ** Titration (increase or decrease) may be done in smaller increments based on patient's hemodynamics status. Rate increases that are higher in dose and/or more frequent may be done in block charting for life threatening urgent and/or emergent situations. † For decreasing pressors, anti-hypertensives and other medications, the rate listed is the maximum rate of decrease; medications are generally weaned slowly based on the patient's vital signs, level of pain/sedation, etc. ° Physicians will order bolus doses. | | | | | | |