STICU Non-Weight-Based Dosing Analgesia & Sedation Protocol for the Mechanically Ventilated Patient

**Analgesia**

- Fentanyl (10 mcg/mL) 50 – 200 mcg/hour
- Hydromorphone 0.2 – 0.6 mg IVP q1hr
- Morphine 2 – 4 mg IVP q1hr
- Ketamine (1 mg/mL) 1-10 mg/hour
- Hydromorphone (5 mg/mL) 2 – 50 mgc/kg/min
- Morphine (1 mg/mL) 0.5 – 5 mg/hour
- Ketamine (10 mcg/mL) 50 – 200 mcg/hour
- Midazolam (1 mg/mL) 50 – 200 mcg/hour

**Sedation**

- Propofol (10 mg/mL) 5 – 50 mcg/kg/min (starting dose is 5 mcg/kg/min)
- Midazolam (1 mg/mL) 0.2 – 1.4 mcg/kg/hr
- Dexmedetomidine (4 mcg/mL) 0.2 – 1.4 mcg/kg/hr

**PRN**

- Fentanyl (PRN Pain Score 4 or more) 25 – 200 mcg IVP q1hr
- Hydromorphone (PRN Richmond Agitation and Sedation Scale of 0 to -2) 0.2 – 0.6 mg IVP q1hr
- Morphine (PRN Richmond Agitation and Sedation Scale of 0 to -2) 2 – 4 mg IVP q1hr
- Lorazepam (PRN Richmond Agitation and Sedation Scale of 0 to -2) 1 – 2 mg IVP q1hr

- If patient receives PRN dosing for 3 consecutive hrs - MD to Bedside reassess patient

**Continuous Infusion**

- Analgesia (Titrate to a Pain Score of 4 or less)
- Sedation (Titrate to Richmond Agitation and Sedation Scale of 0 to -2)
- Fentanyl (10 mcg/mL)
- Hydromorphone (0.2 – 0.6 mg IVP q1hr)
- Morphine (2 – 4 mg IVP q1hr)
- Ketamine (1 mg/mL) 1-10 mg/hour
- Morphine (1 mg/mL) 0.5 – 5 mg/hour
- Ketamine (10 mcg/mL) 50 – 200 mcg/hour
- Midazolam (1 mg/mL) 0.2 – 1.4 mcg/kg/hr

**Analgesia**

- Morphine (1 mg/mL) 0.5 – 5 mg/hour
- Ketamine (10 mcg/mL) 50 – 200 mcg/hour
- Midazolam (1 mg/mL) 50 – 200 mcg/hour
- Propofol (10 mg/mL) 5 – 50 mcg/kg/min (starting dose is 5 mcg/kg/min)
- Dexmedetomidine (4 mcg/mL) 0.2 – 1.4 mcg/kg/hr

**Sedation**

- Fentanyl (10 mcg/mL) 50 – 200 mcg/hour
- Hydromorphone (0.2 – 0.6 mg IVP q1hr)
- Morphine (2 – 4 mg IVP q1hr)
- Ketamine (1 mg/mL) 1-10 mg/hour
- Morphine (1 mg/mL) 0.5 – 5 mg/hour
- Ketamine (10 mcg/mL) 50 – 200 mcg/hour
- Midazolam (1 mg/mL) 0.2 – 1.4 mcg/kg/hr

**Patient difficult to control**

- Short Term < 24-48hrs
- > 48 hours

1. Hold both the sedative and analgesic infusions every morning to allow for an accurate neurological assessment.
2. Provider should be immediately called to the bedside to evaluate the patient once there is a change in clinical status including but not limited to agitation, fighting the ventilator, O2 desaturation, or awake and able to follow commands.
3. After the physician or the nurse has evaluated the patient, the infusion(s) THAT ARE NECESSARY for adequate patient sedation and or analgesia is (are) re-started at ½ the previous dose(s) and then titrated up as necessary to the minimal effective dose(s).
4. A spontaneous breathing trial should be done in conjunction with the daily sedation holiday. Please refer to Spontaneous Breathing Trial Protocol for exceptions

**CONTRAINDICATIONS TO SEDATION INTERRUPTION:**

- Undergoing active treatment for elevated ICP
- Status Epilepticus
- Receiving neuromuscular blocking agents
- Hypoxemia
- PEEP > 18 or FiO2 > 80% - ARDS
- Patients identified at increased risk of self-extubation should not be turned during the sedation interruption**