

Ketamine Cheat Sheet

3/2014

What is Ketamine?

- Ketamine is an N-methyl-D-aspartate (NMDA) receptor antagonist.
- Ketamine PCA syringe = **300mg / 30 mL** (10 mg / mL)
- Ketamine doses usually range from 2mg/hr to 30 mg/hr for pain management.

What does it do?

- Ketamine works as an analgesic and anesthetic. It **reverses hyperalgesia** (heightened pain sensitivity) and **opioid tolerance**.
- Ketamine reduces the overall amount of postoperative narcotics used to medicate the patient. The patient may require some narcotics for pain control, but the total may be less.

How does it work?

- Ketamine binds to receptors in both the PNS and CNS as an antagonist to the NMDA receptors. Ketamine inhibits the binding of excitatory amino acids to these receptors, blocking the transmission of painful stimuli.
 - Onset of IV administration: Within 30 seconds with full effect within one minute.
 - Duration of IV ketamine: Up to 60 minutes.
 - Half-Life of Ketamine: 2 to 3 hours.

What do I need to know?

- Ketamine inhibits the reuptake of dopamine and serotonin and elevates circulating epinephrine and norepinephrine levels. **Thus increasing the heart rate, blood pressure, cardiac output and vascular resistance.**
- **Adverse Effects** include:
 - Vomiting
 - Increased salivation
 - Increased intracranial pressures
 - Vivid dreams/Hallucinations (common) - **medicate with Lorazepam as ordered**
 - Anxiety (common)- **medicate with Lorazepam as ordered**
 - Hypotension

What do I need to do?

- Confirm baseline (pre infusion) vital signs are on the order set- *this is responsibility of the Acute Pain Service*. **RN must confirm it has been done to be a complete order.**
- Scan ***Ketamine Infusion Protocol Order Set*** and the **medication request form** to pharmacy so medication can be prepared and delivered ASAP. The medication request form must be scanned **EVERY** shift to obtain a new Ketamine syringe.
- Obtain pain assessment (numeric).
- Obtain sedation-agitation score (SAS) – if >5 medicate with Lorazepam
- **Designate IV site for Ketamine Infusion only.** Obtain IV pump, PCA pump, tubing and keys.
- Once medication is received from pharmacy, check that it is labeled correctly and verify medication to patient.
- Program PCA pump according to Ketamine order set.
- Program IV pump to low rate **KVO of NS @ 10mL/hr.**
- **Document:**
 - **2 RN's required to check ALL pump changes**
 - Initiation: Continuous Infusion section on the patient MAR in PowerChart → Right click for “Details” → Document action “Begin Bag” → Obtain witness signature. **ALSO**, document under the “PCA” navigator band
 - Change of Shift: Document under the “PCA” section of the “Pain Management” navigator band
 - Setting Change: Document under the “PCA” section of the “Pain Management” navigator band
 - Vital signs with pulse oximetry, pain assessment and sedation (SAS) score to be monitored:
 - Every 30 minutes times two after initiation.
 - Every 4 hours during infusion.
 - 30 -60 minutes after discontinuation reassess pain score.
- Please review **Patient Care Policy #321** when caring for a patient receiving a Ketamine infusion. This can be found on the Intranet page under Acute Pain Management Service.

★REMEMBER★

- The *Ketamine Infusion Protocol* is **ONLY** to be ordered by the Acute Pain Management Service. *Page the physician writing the order to verify they are APMS.*
- A bolus can **ONLY** be administered by the Acute Pain Management Service (*even* if ordered to be delivered through the PCA pump).
- Adjustments to the infusion rate may **ONLY** be ordered by Acute Pain Management Service.
- If there are any issues or questions regarding the Ketamine infusion, please notify the **Acute Pain Management Service at RF 6097**. Available **24/7**.