

Adult Ketamine Infusions

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Policy

Ketamine infusions in Adults will be initiated and managed as per the following policy.

Purpose

To promote safe IV ward based infusion of Ketamine as an analgesic agent.

Scope

- Surgical Inpatient Services under the Acute Pain Management Service (APMS)
- Registered Nurses/Midwives with Canterbury IV Certification (Level 1 or 2), Approved persons in the above Surgical Inpatient Services
- Anaesthetist or designated APMS Medical Personnel (for Prescribing rights)

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Associated documents

- Drug Treatment Sheet (QMR0004)
- Notes on Injectable Drugs
- Area specific Drug chart
- The Blue Book
- Adult Observation Chart C280010
- Adult Ketamine infusion form C260108

Background

Ketamine is an anaesthetic agent with analgesic effects in sub anaesthetic doses. It blocks excitatory nerve activity at the N-methyl-D-aspartate (NMDA) receptors in the spinal cord. These receptors are particularly active in hyperalgesic states. Ketamine administered as a continuous IV infusion may improve analgesia and reduce opioid requirements. The doses ordered for pain management are much lower than anaesthetic doses.

Indications for use

- Opioid tolerant patients
- Neuropathic pain
- Inadequate analgesic despite opioid therapy (e.g. as an adjunct to opioid PCA)
- Expected severe post op pain

Contraindications

- Known allergy to Ketamine
- Ketamine being used concomitantly in PCA

Important considerations

The prescriber and administrator should be cognisant of any pre-existing conditions the patient has which puts the patient at risk of adverse effects. These conditions include:

- Raised intracranial pressure
- Psychiatric conditions
- Uncontrolled hypertension
- Coronary artery disease
- Delirium

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Recommended prescribing format

- Ketamine infusions must **only be prescribed by the APMS**
- **Use only premixed ketamine 100 mL polybags (1 mg per mL)**
- The recommended starting dose is 0.1-0.2 mg/kg/hr. (maximum rate 15 mg/hr. = 15 mL/hr. regardless of weight.)
- Infusions are usually run for 24-48 hours
- Ketamine infusions are administered via a dedicated Ketamine infusion Gemstar pump (grey colour coded)
- Ketamine infusions can be used concomitantly with intravenous or oral opioids (e.g. for a patient on morphine or Fentanyl PCA)

Observations and monitoring

- Monitoring must include full set of observations, including a sedation and pain score with a EWS calculation
- Hourly for **first four hours** following infusion commencement
- Four hourly thereafter if observations are stable.

Adverse effects and their management

- **Neurological**-agitation, vivid dreams, hallucinations floating sensation and drowsiness
- **Cardiovascular**- Ketamine may increase heart rate or blood pressure
Note: At the suggested dose range (0.1-0.2 mg/Kg/hr.) these adverse effects are unlikely
- If any of the above adverse effects occur contact the Acute Pain Management Service
- Management options for adverse effects may include reducing or stopping the Ketamine infusion.

Contact details

CHRISTCHURCH CAMPUS under the APMS (Acute Pain Management Service)

- Normal working hours
 - Medical Surgical Division APMS Nurse, **page 8114**
 - Gynaecology APMS Nurse, **page 7015**
 - Duty Anaesthetist, **page 8120.**
- After hours
 - On call Anaesthetic Registrar, **page 8212**

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- On call Anaesthetist via telephone office.

Measurement/Evaluation

Ongoing evaluation of any variances to the policy will be undertaken by the Acute Pain Management Service.

References

- Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2010), Acute Pain Management Scientific Evidence, Second edition
- McIntyre PE, Ready BL (2007), Acute Pain Management; A Practical Guide, (2nd ed.), WB Saunders
- Infusion Nurses Society Manual 3rd Edition (2010) Infusion Nursing, an evidence based approach. Saunders

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