

This document is for **reference only**. Please refer to SWO's for specific indications, dosages, and applications

RX

**DRUG NAME:** Ketamine Hydrochloride

**TRADE NAME:** Ketamine, Ketanest, Ketaset, Ketalar

**REVISED:** November 1, 2017

**Class:**

- Dissociative anesthetic
- NMDA receptor antagonist

**Mechanism of Action: Exact mechanism unknown.**

Ketamine acts on cortex and limbic receptors, producing dissociative analgesia and sedation. Higher doses act on the Mu opioid receptor.

**Indications:**

- For use in medication assisted intubation in conjunction with a paralytic

**Relative Contraindications:**

- Most contraindications are related to the release of catecholamines increasing hypertension and tachycardia.
  - Hypertensive Crisis
  - Under the influence of methamphetamine or other similar drug
- Acute globe injury or glaucoma
  - Increased intraocular pressure
- When significant elevations in BP might prove harmful:
  - Aortic dissection
  - Acute Myocardial Infarction, angina
  - Intracranial hemorrhage
- Schizophrenia
  - Increases psychosis
- **Consider use of versed in above contraindications**

**Dosage:**

**Adults/Peds:**

- 2mg/kg slow IV push one minute prior to paralytic administration

**Onset:**

- 45-60 seconds
- Wait to give paralytic until onset of action

**Duration:**

- 5-15 minutes IV

**Side Effects:**

- |                      |                          |                          |
|----------------------|--------------------------|--------------------------|
| • Vivid Dreams       | • Dysphoria              | • Arrhythmias            |
| • Hallucinations     | • Hypersalivation        | • CNS Depression         |
| • Delirium           | • N/V                    | • Respiratory Depression |
| • Recovery Agitation | • Anaphylaxis            |                          |
| • Tachycardia        | • Reemergence phenomenon |                          |
| • Hypertension       |                          |                          |

**Interactions:**

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### **Additive/Potential Effects:**

- Any medication that stimulates catecholamine release will result in hypertension, tachycardia and arrhythmias
- Benzodiazepines increase respiratory and CNS depression
- Opiates will increase respiratory and CNS depression
- Sedative hypnotics will increase respiratory and CNS depression

### **Physician PEARLS:**

- Because of the dissociative state many patients sedated with ketamine do not close their eyes
- Ketamine is the only anesthetic producing analgesia, hypnosis and amnesic effects
- In usual doses, protective airway reflexes, spontaneous respirations and cardiopulmonary functions are maintained
- Ketamine lacks the progressive dose-response relationship
- Ketamine produces a dose-related increase of heart rate and blood pressure which makes Ketamine the preferred induction agent for hypotensive patients
- Ketamine has demonstrated beta-adrenergic and vagolytic properties, which includes beta-2 stimulation making Ketamine the ideal induction agent for people with reactive airway disease/asthma.
- Ketamine increases salivary and bronchial mucous gland secretion through stimulation of cholinergic receptors, however it does not require Atropine for pretreatment
- Try to provide a calm, quiet atmosphere
- A single dose of Ketamine should last 5-15 minutes
- Rapid administration of Ketamine will cause apnea
- Reemergence phenomenon is a known entity. Consider benzodiazepines for continued sedation
- Pregnancy Category has not been established

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