

**KETAMINE****Pharmacology:**

1. sedative hypnotic-dissociative, analgesic

**Action:**

A dissociative anesthetic agent, it has rapid onset within 30 seconds to 2 minutes after administration, the onset is slower by the IM route. Typical duration of action is 20 minutes. It interacts with many receptors, including opiate and catecholamine receptors. Ketamine provides analgesia in addition to amnesia and sedation. The sympathomimetic properties can cause a slightly increased heart rate, blood pressure and cardiac output. It also acts as a bronchodilator and may be beneficial for patients with bronchospasm that require intubation. It is pregnancy class C.

**Onset of Action:**

1. 30 seconds IV
2. 3-4 minutes IM

**Duration of Action:**

1. 5-10 minutes IV
2. 10-25 minutes IM

**Indications:**

1. Induction agent for rapid sequence intubation (RSI)
2. Excited Delirium (ExDS)
3. Adjunct for pain control

**Contraindications:**

1. Known hypersensitivity to Ketamine
2. Severe liver or kidney failure, dialysis patient

**Precautions:**

1. Increased blood pressure due to catecholamine release. Ketamine should be used with caution in patients with extreme elevations in blood pressure >200 systolic.
2. Re-emergence phenomenon. As with any intubated patient, continued sedation must be provided. Re-emergence can be avoided and significantly reduced by the use of benzodiazepines **prior** to re-emergence.
3. Theoretical risk for increased ICP, this has not been proven in studies to date, but again use with caution in a head injured patient with extreme elevations in systolic blood pressure
4. Use with caution in patients with known severe hyperkalemia, arrhythmias and/or cardiac arrest may occur

**Side effects:**

1. Re-emergence phenomenon

2. Myoclonic movements are possible and should not be confused for fasciculations due to a depolarizing neuromuscular agent, seizure activity, or emergence from sedation
3. Possible increased secretions, hypersalivation
4. Nausea and/or vomiting
5. Laryngospasm
6. Respiratory depression

**Dosage (adults):**

1. RSI: 2 mg/kg IV/IO
2. Excited Delirium: 2-4 mg/kg IM, max dose 300 mg or 1 mg/kg intranasal, max 150 mg.
3. Adjunct to pain management: 0.3 mg/kg IV, call for Medical Control for approval. May be repeated once for max of 0.6 mg/kg