

Ketamine (Ketalar)

Indication(s): Procedural Sedation Protocol, Pain Protocol

Contraindications: Hypersensitivity to ketamine.

Precautions: Use with caution in situations when significant elevation of blood pressure would constitute a hazard (e.g. patients with significant pre-existing hypertension). Exercise caution when using ketamine in patients with pre-existing elevated intracranial pressure. Resuscitative equipment should be available and ready for use. Avoid in pregnancy. Compatible with breastfeeding 11 hours after last dose.

Drug Interactions: There are no known interactions where it is recommended to avoid concurrent use.

Ketamine, as a CNS depressant, may enhance the effects of other CNS depressants (e.g. alcohol, benzodiazepines, antidepressants, other anesthetics, opioids). Concomitant use may result in ataxia, confusion, drowsiness, respiratory depression, weakness.

Adverse effects: ($\geq 1\%$) Emergence reactions ($\sim 12\%$); increased BP (transient/ max effect w/in ~ 3 mins and return to baseline in ~ 15 min); anorexia; hypersalivation; nystagmus; increased bronchial secretions. ($< 1\%$) Hypotension; bradycardia; transient rash; laryngospasm.

Pharmacology: Ketamine is a rapid-acting general anesthetic producing an anesthetic state characterized by profound analgesia, normal pharyngeal-laryngeal reflexes, normal or slightly enhanced skeletal muscle tone, cardiovascular and respiratory stimulation, and occasionally a transient and minimal respiratory depression. It has a wide margin of safety. Following IV administration, the anesthetic effect of the drug lasts about 45 minutes with a half-life of 10–15 minutes. The anesthetic effect is terminated by a combination of redistribution from the CNS to slower equilibrating peripheral tissues and by hepatic biotransformation. The half-life of this second phase is ~ 2.5 hours.

Dosage and Administration:

Pain Management

IV/IO (Preferred) - 25mg Ketamine IV/IO by slow push over 60sec. May repeat q 20min PRN OR

IM - Ketamine 50mg IM (undiluted 50mg/ml). May repeat q 30min PRN.

Procedural Sedation

Prepare ketamine and midazolam for administration at appropriate concentrations as per desired route of administration (Procedural Sedation Protocol - Figs 1.1 and 1.2)

Maximum Total IV/IO Ketamine Dose per Procedure is 2.5mg/kg

Maximum Total IM Ketamine Dose per Procedure is 7.5mg/kg