

Initial Date: 07/19/2023
Revised Date: 02/10/2026

Section: 9-29R

Ketamine

Pharmacological Category: Antidepressant; General Anesthetic

Routes: IV/IO/IM/IN

Indications:

1. Pain Management
2. Sedation

Precautions:

1. Administration of Ketamine IV for pain management should be diluted to prevent ketamine dissociation.

Contraindications:

1. Pregnancy
2. Chest Pain/Acute Coronary Syndrome

Expected effects:

1. Sedation
2. Decreased agitation
3. Decreased pain

Side effects:

1. Nausea/vomiting
2. Nystagmus
3. Dysphoria
4. Laryngospasm/Stridor
5. Increased oral secretions
6. Changes to heart rates (tachycardia or bradycardia)

Notes:

1. IM Ketamine has a 3–5-minute onset
2. When diluting Ketamine
 - a. Mix the patient specific dose into 100 mL NS and administer slow infusion over 5-10 minutes.
3. Ketamine is an MCA optional medication and may not be available.

MCA Name

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Dosing: HYPERACTIVE DELIRIUM SYNDROME WITH SEVERE AGITATION

Indication: Patients demonstrating signs and symptoms of hyperactive delirium syndrome with severe agitation that are in imminent physical threat to themselves and/or personnel.

Adults administer:

1. Ketamine 4 mg/kg IM. Maximum single dose 500 mg

Dosing: PAIN MANAGEMENT

Indication: For patients with severe pain (described as 7 or greater on the Wong Pain Scale)

Adults administer:

1. Ketamine 0.2 mg/kg IV/IO (diluted) slow infusion. Maximum single dose 25 mg.
2. Ketamine 0.5 mg/kg IN (undiluted). Maximum single dose 50 mg.
3. May repeat after 10 minutes.

Pediatrics

1. Ketamine according to MI MEDIC
2. If MI MEDIC is not available administer:
 - a. Pediatrics (> 6 years of age and $\leq$ 14 years of age):
 - i. Ketamine 0.2 mg/kg IV/IO (diluted) slow infusion, maximum single dose 25 mg
 - ii. Ketamine 0.5 mg/kg IN (undiluted) maximum single dose 50 mg
 - iii. May repeat one time after a minimum of 10 minutes.
 - b. Pediatrics (> 6 months of age and $\leq$ 6 years of age)
 - i. 0.5 mg/kg IN (undiluted)
 - ii. May repeat one time after a minimum of 10 minutes.

Dosing: PATIENT PROCEDURAL SEDATION (Adult and Pediatric)

Indication: For proper sedation of patients requiring a painful medical procedure.

1. Ketamine 1.5 mg/kg (max dose 150 mg) IV/IO/(IN if available) or 4 mg/kg IM (max dose 400 mg) titrated slowly to sedation.
2. NOT for use with CPAP/HFNO sedation.

Used in the Following Protocols

Hyperactive Delirium Syndrome with Severe Agitation (Section 3 Adult Treatment)

Pain Management (Section 7 Procedures)

Patient Procedural Sedation (Section 7 Procedures)

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