

# KETAMINE HYDROCHLORIDE (*Ketalar*) (B3)

(Revised: February 2019)



<b>TYPE:</b>	Anaesthetic agent [S8]
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<b>PRESENTATION:</b>	200mg in 2ml – vial
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<b>ACTIONS:</b>	<p>Complex, multiple actions:</p> <ol style="list-style-type: none"> <li>1. Analgesic; sedative agent</li> <li>2. Marked amnesia</li> <li>3. Has bronchodilating properties</li> <li>4. Does not tend to cause respiratory depression</li> <li>5. Does not tend to cause hypotension (via sympathetic stimulation)</li> </ol> <p>Onset of action is rapid: <b>IV</b> = 1 – 2 min; <b>IM</b> = 3 – 5 min.</p>
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<b>USES:</b>	<b>ICP</b>	1. Pain management, especially in patients who are hypotensive or unable to have narcotics, and if no other alternative is available	
	<b>ICP</b>	2. Particularly useful for trapped patients with limb injuries, especially if BP is borderline for narcotics	
	<b>ICP</b>	3. Adjunct to morphine, with alternating doses	
	<b>ICP</b>	4. Pharmacological intervention for combative/agitated patients, especially with suspected psycho-stimulant use	
		5. Initial pharmacological intervention for combative/agitated patients, who are an immediate danger to themselves or others	<b>AP</b>
	<b>ICP</b>	6. Sedation to manage airway, RSI, sedation of a previously intubated patient	

<b>ADVERSE EFFECTS:</b>	<ol style="list-style-type: none"> <li>1. Transient laryngospasm</li> <li>2. Hypersalivation</li> <li>3. Emergence reactions</li> <li>4. Muscle twitching and purposeless movements</li> <li>5. Occasionally respiratory depression → apnoea</li> <li>6. Occasionally hypotension if given too rapidly to a hypovolaemic patient</li> </ol>
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## KETAMINE HYDROCHLORIDE (*Ketalar*) (B3) – cont.



### CONTRA-INDICATIONS:

1. Known sensitivity
2. Active cardiac disease (myocardial ischaemia, LVF, uncontrolled hypertension)  
*(not applicable when used for RSI or to maintain sedation for ETT)*
3. Children < 1 year old

### DOSES:

See DOSE CHART below

### NOTES:

- ***for analgesia only***: ketamine can be used with alternating doses of morphine
- ***to maintain ETT and level of sedation***: ketamine may be used with alternating doses of midazolam, if ketamine alone is inadequate

### SPECIAL NOTES:

- Patients who have received ketamine may still have a significant awareness, despite an appearance of unconsciousness. They may be able to hear and have some recall. Patients should be advised that they will experience strange / unusual sensations.
- Patients who become agitated may be managed with small repeat doses of midazolam.
- Ketamine is a Controlled Medicine. Use must be checked by both crew members. Under the *Medicines, Poisons & Therapeutic Goods Act and Regulations 2008*, recording and accounting for its use is a legal requirement.
- The unused portion of the dose must be appropriately disposed of and the disposal recorded.

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# KETAMINE HYDROCHLORIDE (*Ketalar*) (B3) – cont.



## DOSES:

### KETAMINE DOSE CHART – for pain management

DOSE:	INITIAL IV	REPEAT IV	INITIAL IM	REPEAT IM	PREVIOUS OPIATES / HAEMODYNAMIC COMPROMISE
<b>Adult</b>	Up to 1mg/kg Increments of up to 20mg at intervals of 30 – 60 seconds	After 5 – 10 minutes; increments of up to 20mg as before. No upper limits.	1mg/kg	After 5 – 10 minutes; 1mg/kg	IV: up to 10mg increments as before IM: 0.5mg/kg
<b>Elderly (&gt;65yrs)</b>	Up to 1mg/kg Increments of up to 10mg at intervals of 30 – 60 seconds	After 5 – 10 mins; increments of up to 10mg as before. No upper limits.	0.5mg/kg	After 5 – 10 minutes; 0.5mg/kg	IV: up to 5mg increments as before IM: 0.25mg/kg
<b>Paediatric (&gt;20kg)</b>	Up to 1mg/kg Increments of up to 10mg at intervals of 30 – 60 seconds	After 5 – 10 minutes; increments of up to 10mg as before. No upper limits.	0.5mg/kg	After 5 – 10 minutes; 0.5mg/kg	IV: up to 5mg increments as before IM: 0.25mg/kg
<b>Paediatric (&lt;20kg)</b>	Up to 1mg/kg Increments of up to 5mg at intervals of 30 – 60 seconds	After 5 – 10 minutes; increments of up to 5mg as before. No upper limits.	0.5mg/kg	After 5 – 10 minutes; 0.5mg/kg	IV: up to 2.5mg increments as before IM: 0.25mg/kg

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# KETAMINE HYDROCHLORIDE (*Ketalar*) (B3) – cont.



## DOSES – cont.:

### COMBATIVE / AGITATED PATIENTS

#### ADULT / PAEDIATRIC:

**ICP**

**When used as the first line agent:** 4mg/kg IM injection single dose

**When used as the second line agent:** 1.5mg/kg IV

All IV doses are to be given slowly, over 30 seconds

Reduce dose by half following droperidol use

#### ADULT ONLY:

**Initial treatment of combative / agitated patients *who are an immediate danger to themselves or others:***

200mg IM injection. (Reduce dose to 100mg IM injection with age >65 years, or with general debility).

Repeat initial dose once, after 5 minutes, if required.

AP

### WHEN USED WITH SUXAMETHONIUM

#### ADULT:

**ICP**

1mg/kg fast push IV or IO

#### PAEDIATRIC:

Not used – there is no paediatric RSI

### FOR INTUBATION WHEN SUXAMETHONIUM CONTRAINDICATED

#### ADULT:

**ICP**

2mg/kg fast push IV or IO

#### PAEDIATRIC:

Not used – there is no paediatric RSI

### TO MAINTAIN SEDATION POST INTUBATION

#### ADULT:

**ICP**

1mg/kg IV or IO at 1 – 5 minute intervals titrated to effect

#### PAEDIATRIC:

**ICP**

1mg/kg IV or IO at 1 – 5 minute intervals titrated to effect

#### Recommended dilutions:

**ADULT IV:** 200mg diluted up to 10ml = 20mg/ml

**ADULT IM:** 100mg diluted up to 2ml. Discard excess dose before IM use.

**ELDERLY pt IV:** 100mg diluted to 10ml = 10mg/ml

**ELDERLY pt IM:** 100mg diluted up to 2ml. Discard excess dose before IM use.

**CHILDREN IV:** 50mg diluted to 10ml = 5mg/ml

**CHILDREN IM:** 50mg diluted to 2ml. Discard excess dose before IM use.