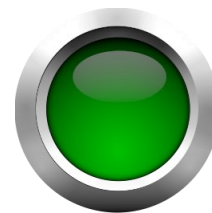


# Sedation by Infusion SOP

Further reading

BNF - Ketamine  
BNF - Propofol  
BJA Education - Sedation in Intensive Care 2008



Ketamine SOP

Propofol SOP

Vasoactive infusions SOP

Following intubation, ongoing sedation for critical care patients should be provided by titrated intravenous infusion of a sedative drug. Infusions promote steady-state plasma concentrations and avoid the peaks and troughs of a bolus sedation technique. This will reduce the risk of under or over-sedation, and will be better for cardiovascular stability.

The two options available are:

- Ketamine infusion (10mg/ml after dilution)
- 1% Propofol infusion (10mg/ml, neat)

## Points to consider

**Elderly/frail** - These patients will often require slightly lower doses for sedation and are more susceptible to the adverse cardiovascular effects.

**Illicit drug and chronic alcohol users** - may require higher doses of sedation to achieve the same effect.

**Neuromuscular blockade** - In most cases, full paralysis should be maintained using intermittent bolus doses of rocuronium. This is especially important prior to loading/unloading the patient.

**Vasopressor support** - This is occasionally required to counteract the cardiovascular effects of sedation and is more common with a propofol based technique. The requirement for repeated and regular doses of ephedrine should prompt teams to use a vasopressor infusion instead, as well as invasive arterial pressure monitoring. Alternative causes of hypotension should also be considered.



# Sedation by Infusion SOP

## KETAMINE

Ketamine infusion (10mg/ml) is particularly suited to primary taskings, but may also be useful in hot retrieval cases where the GNAAS crew is involved from an early stage in the sending hospital. It should ideally be commenced immediately following a ketamine-based RSI to maintain therapeutic plasma levels.

### Preparation:

**Primary taskings:** Standard dilution to 10mg/ml in 20ml yellow syringe via Micropump

**Hot retrievals:** Ketamine 500mg diluted up to 50mls with 0.9% saline or 5% glucose via B Braun Perfusor syringe driver.

### Recommended range:

Starting rate **0.1mls/kg/hr**, titrated to effect

Usual range 0.05-0.2mls/kg/hr

## PROPOFOL

Propofol infusion is commonly used for critical care sedation due to its ease of preparation and familiarity. It is the most likely drug to have been already commenced by a referring hospital.

**Where patients are already established on propofol sedation, it is usually appropriate to continue it rather than changing to an alternative.**

Note that it can come as either 1% or 2% solutions, so it is important to clarify the concentration used. Due to CVS depressant effects, it is not uncommon to require the co-administration of a vasopressor.

### Preparation:

50mls neat via B Braun Perfusor syringe driver.

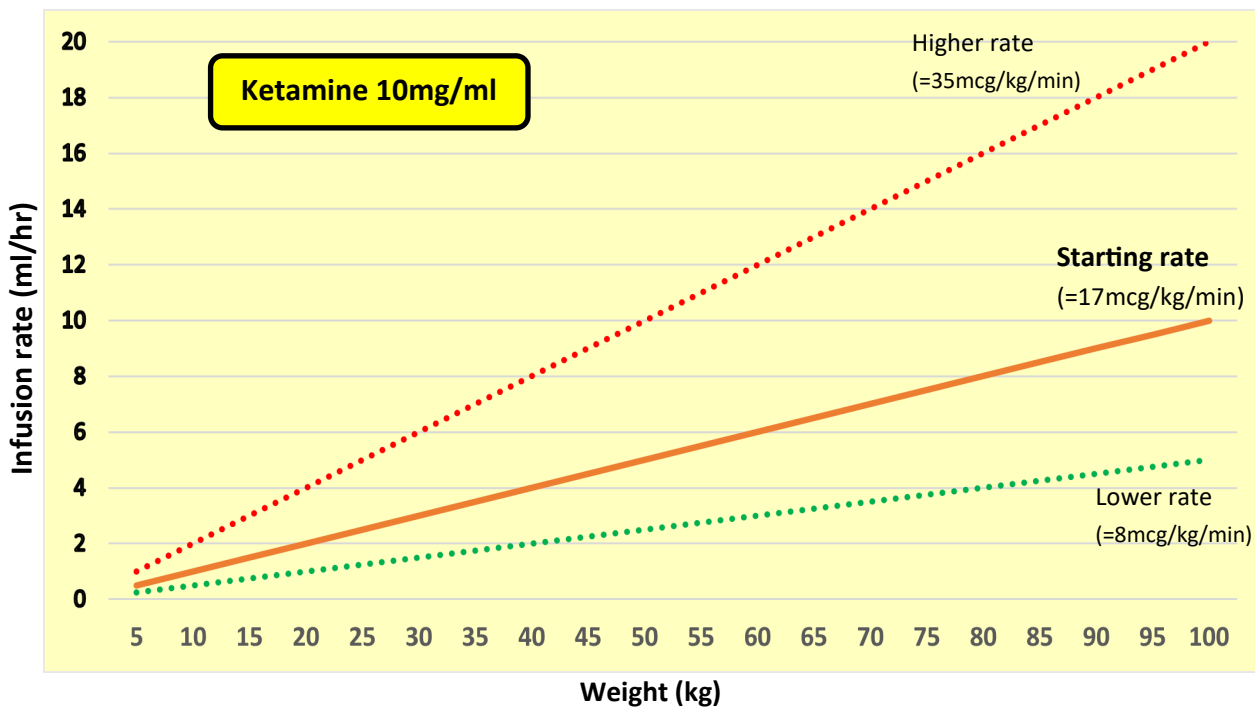
**Recommended range:** For a 1% (10mg/ml) solution,

Starting rate: **0.25mls/kg/hr**, titrated to effect.

Usual range 0.1-0.4mls/kg/hr



# Sedation by Infusion SOP



Total Body Weight (kg)	Ketamine Starting Rate (ml/hr)	Lower rate (ml/hr)	Higher rate (ml/hr)
5	0.5	0.25	1
10	1	0.5	2
15	1.5	0.75	3
20	2	1	4
25	2.5	1.25	5
30	3	1.5	6
35	3.5	1.75	7
40	4	2	8
45	4.5	2.25	9
50	5	2.5	10
55	5.5	2.75	11
60	6	3	12
65	6.5	3.25	13
70	7	3.5	14
75	7.5	3.75	15
80	8	4	16
85	8.5	4.25	17
90	9	4.5	18
95	9.5	4.75	19
100*	10	5	20

\* For patients >100kg, use the values for a 100kg patient