



# Low Dose Ketamine for Analgesia in the ED

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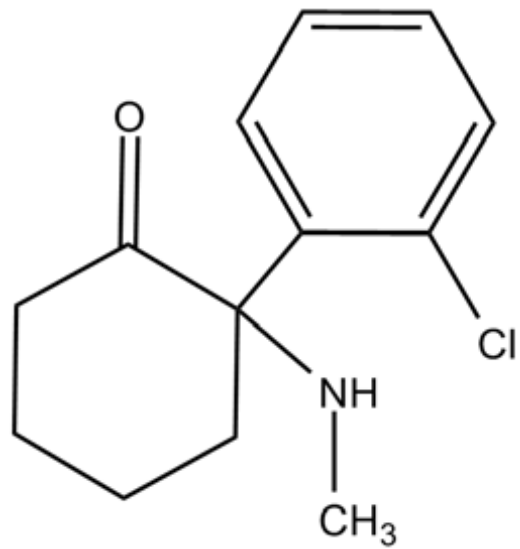
48M with lower back pain

Hx opioid use disorder

Constipation/gastroparesis

Allergy/intolerance

Obesity hypoventilation syndrome



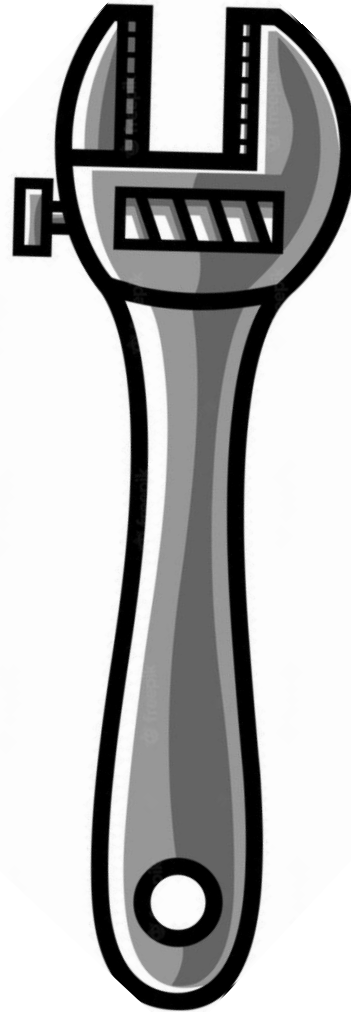
\*off-label

Efficacy

Equivalent to morphine

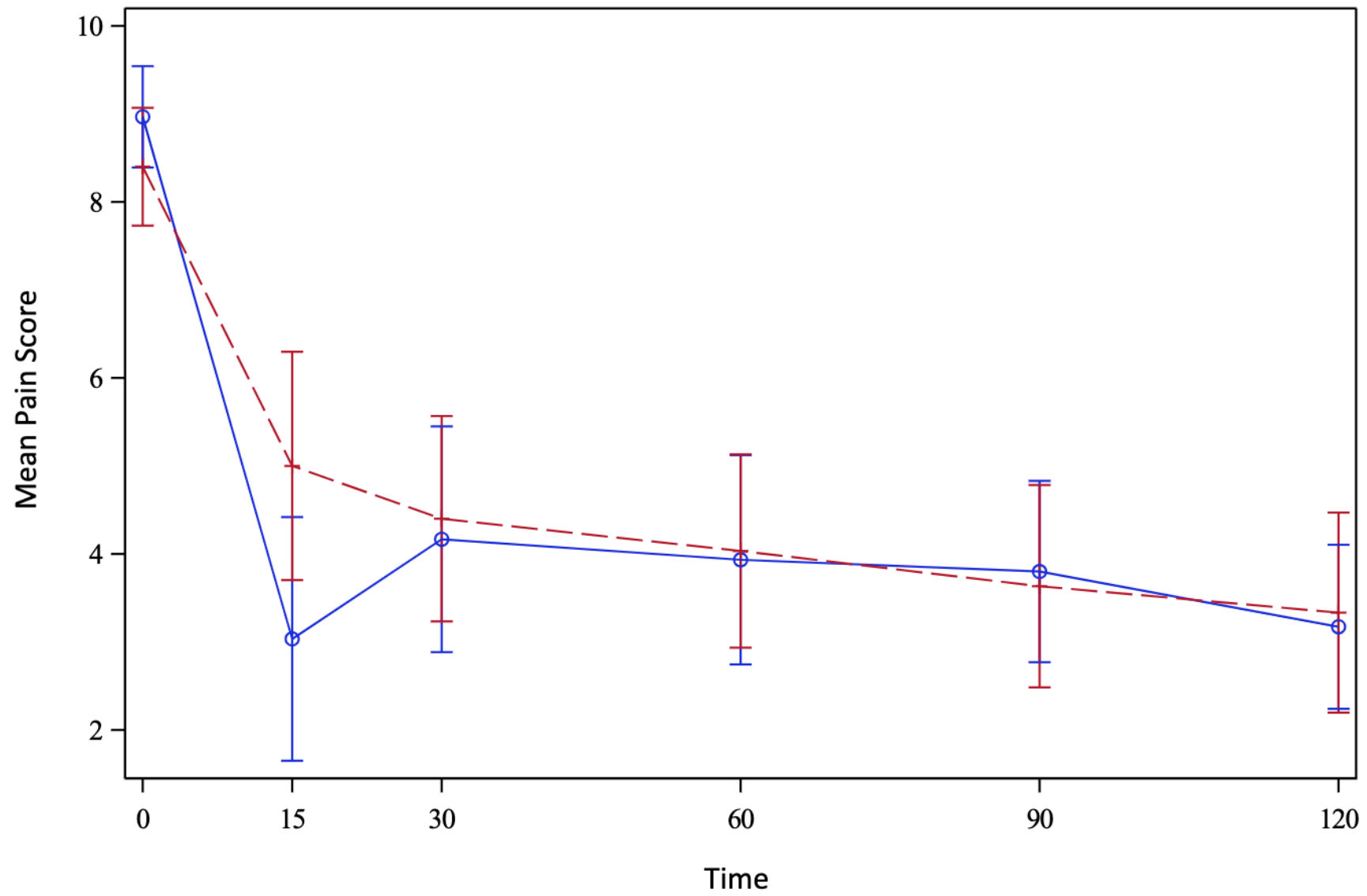
Adverse effects

Logistics



Applications

Contraindications



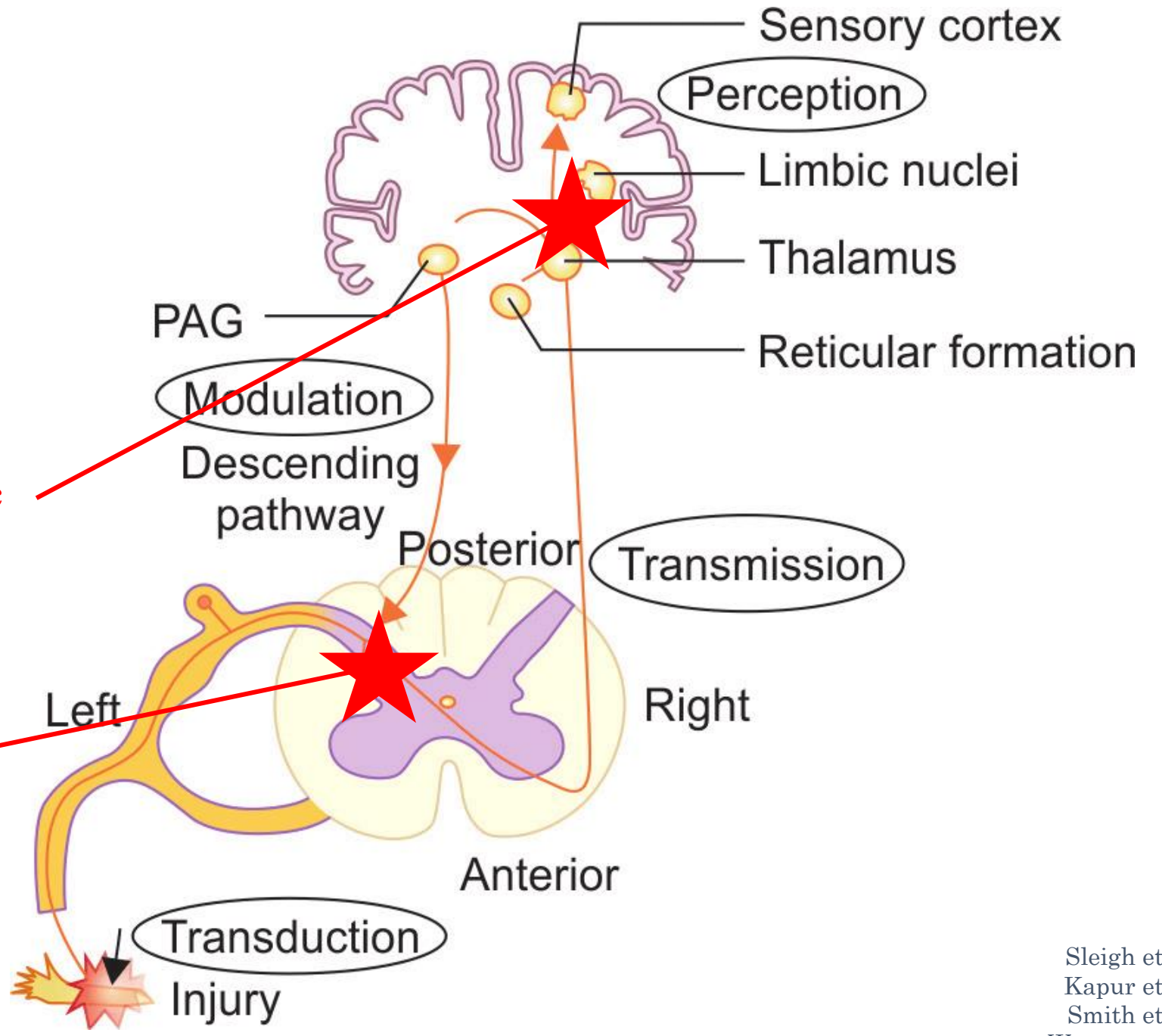
○ Ketamine + Morphine

Fig. 3. Reported pain numeric rating score with 95% CI bars.

NMDA Antagonist

NMDA antagonism dissociates thalamo-cerebral and limbic systems from nociceptive sensory input

NMDA-mediated hypersensitization  
Opioid receptor modulation



Sleigh et al. 2014  
Kapur et al. 2002  
Smith et al. 1987  
Wagner et al. 2002

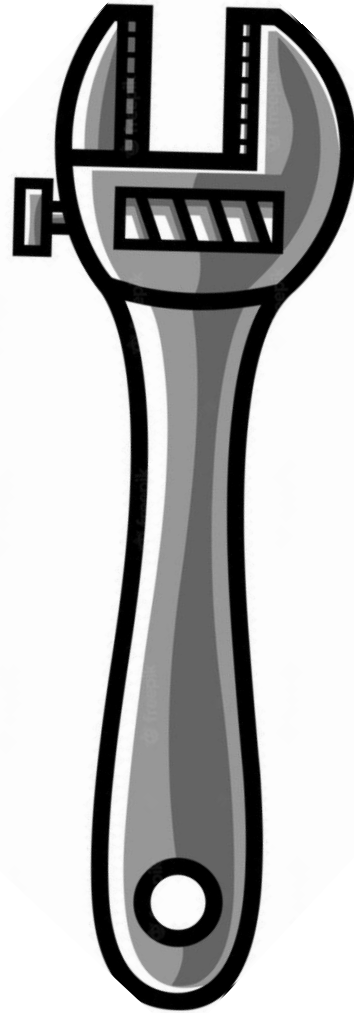
Efficacy

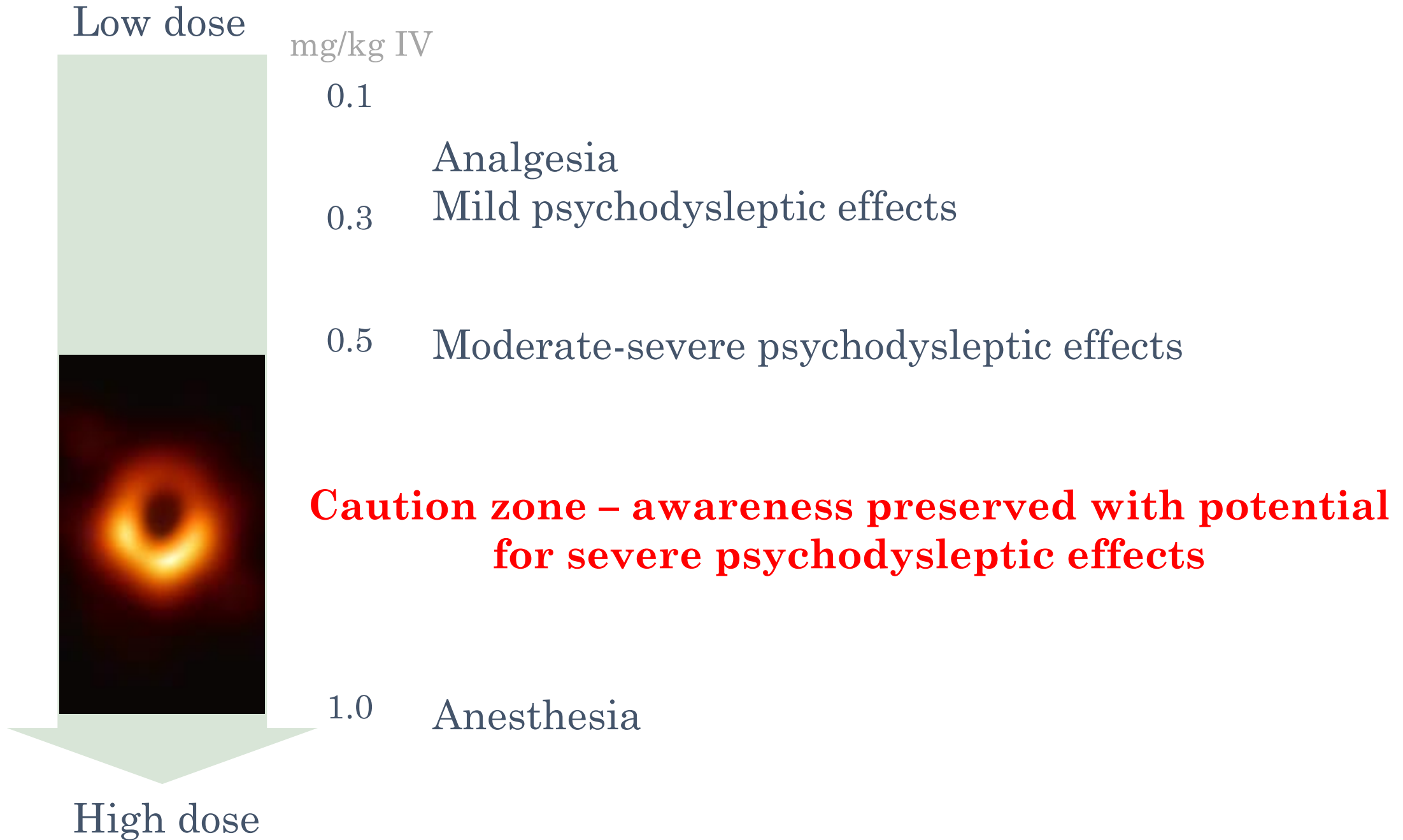
## Adverse effects

Fatigue, nausea, dizziness

No reported cases of laryngospasm

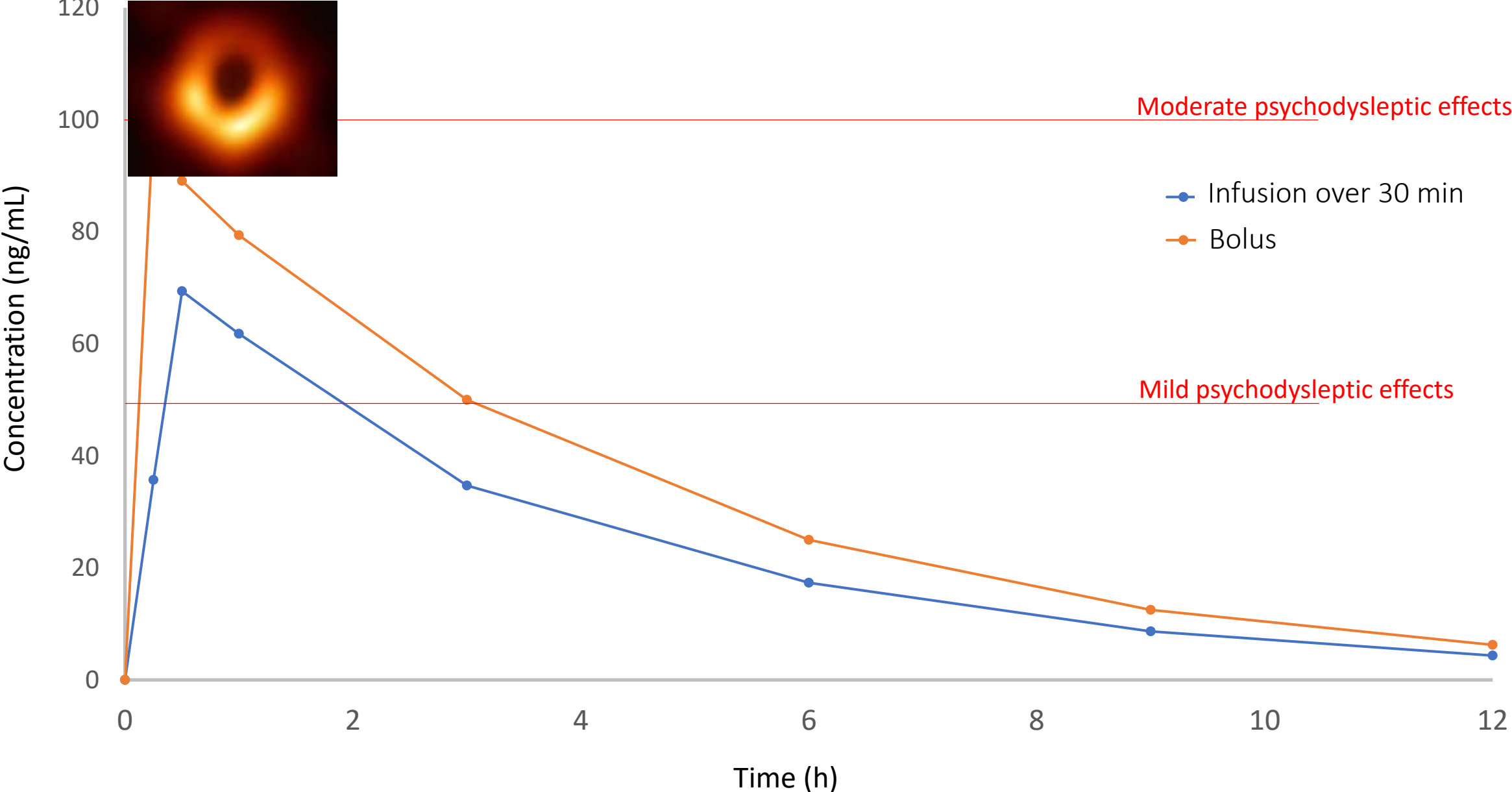
Psychodysleptic effects







# Ketamine Pharmacokinetics – 0.3mg/kg IV





## Efficacy

Equivalent to morphine

## Adverse effects

Fatigue, nausea, dizziness  
No reported cases of laryngospasm  
Psychodysleptic effects

## Logistics

0.2 mg/kg IV over 20 min (**Less is more!**)  
No continuous monitoring needed

## Summary



## Applications

Adult patients with moderate-severe pain  
MSK, trauma, abdominal, & flank pain  
Opioid hyperalgesia?

## Contraindications

Delirious or hx dementia  
Hx psychosis  
Severe HTN  
Suspected MI/acute aortic syndrome