

## **Hasbro Emergency Department MD Guideline for the IV administration of Propofol for sedation**

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Propofol is the short acting non barbiturate sedative –hypnotic isopropylphenol. Propofol's short duration of action, metabolism and ease of titration make it an excellent agent for transient procedural sedation and sedation in intubated patients when there is a desire to monitor response and neurologic condition. It is a bronchodilator so may be useful as short term sedation for intubated patients with respiratory illnesses. Short term administration of Propofol is widely used in pediatric sedations including operating rooms, PICUs, EDs and sedation units with a well documented safety record.

Propofol has no analgesic properties therefore, for painful procedure analgesia must be administered concomitantly (see guidelines below)

Propofol for sedation in non- intubated patients and all boluses must be administered with the direct supervision of a physician credentialed in the administration of deep sedation (PEM/EM attending MD). The physician administering Propofol will be dedicated to the administration and monitoring of the medicine and will not be involved in the performance of a procedure. Like all sedations Propofol will be administered within the guidelines of RIH sedation Policy and according to the RIH Pharmacy guidelines for administration.

### **Indications:**

Short term sedation for intubated patients >3mos)

Short term deep sedation for non-intubated patients >6mos

### **Absolute Contraindications:**

Contraindications to sedation

Soy Allergy

Egg Allergy

Lecithin Allergy

Peanut Allergy

Previous adverse reaction

### **Other Contraindications:**

Renal Failure

Hemodynamic Instability (causes hypotension)

Metabolic acidosis

Known mitochondrial defects

Known fat metabolism defects

Be aware of the existence of Propofol Infusion Syndrome (see pharmacy guidelines)

### **Dosing Guidelines and Use of Additional Medications**

#### **USEFUL INFORMATION WHEN ADMINISTERING PROPOFOL:**

**Propofol comes in a solution of 10mg/ml**

**Infants, toddlers and young children (<8 years) may require the higher end doses for bolus and for titration due to their rapid metabolism. The recommended initial bolus of Propofol is 1-2 mg/kg however a review of studies and discussion with experts suggest that bolus doses of 2+ mg/kg in younger children may be warranted to achieve appropriate sedation.**

**Propofol stings when injected. Dilute the initial Propofol bolus with lidocaine hydrochloride, 1mg for 10mg of Propofol or 0.5-1 mg/kg lidocaine IV, max 10mg. Cannulation with larger IVs will cause less pain during injection.**

**Expect transient hypoventilation during bolus in non-intubated patients with spontaneous recovery, therefore, oxygen administration with BBO2 or NC is recommended (May apply before or as soon as the patient is asleep) and end tidal CO2.**

**Inject Propofol boluses over 1-2 minutes. Do not expect full clinical effects for approximately 90 seconds.**

**The most prevalent documented significant potential complications of Propofol are major desaturation with laryngospasms that occurs infrequently, and when does occur is typically in very small children with excess secretions or if patient has not been induced to the appropriate level of deep sedation**

**Most desaturation events are transient and respond to airway repositioning.**

**Decreases in MAP are common with Propofol infusion but rarely cause hemodynamic compromise or require fluid bolus administration. Most centers infuse IVF during sedations.**

**Do not expect Propofol to provide analgesia. There is some evidence it may provide mild analgesia and definitely provides amnesia. Experts report that patients typically report amnesia for events 5 minutes BEFORE administration (so do painful things early). If analgesia is warranted, some use fentanyl, at a dose of 1-2 mcg/kg IV (used by our PICU group) which can be carefully added 1-2 minutes before the sedation or ketamine dose 0.5-1 mg/kg. Anecdotally, Experts (from EM/sedation) report that mixing 4 parts Propofol to 1 part ketamine provides adequate titratable bolus dosing of sedation/analgesia. Experts also report that by adequately controlling pain before sedation allows for the use of Propofol alone for short procedural sedation.**

### Short Procedures:

Initial bolus of 1-2+ mg/kg, titrated over 1-2 minutes, followed by intermittent boluses of 0.5-1 mg/kg to reach the desired clinical effect. (in a large study of painful procedures lasting an average of 30 minutes the average Propofol doses was 5.5 mg/kg +/- 1.7 and in 2 studies of short ED procedures less than 15 minutes the average doses were 2.7 mg/kg and 3.5 mg/kg/). The half-life of Propofol is 15-20 minutes but the duration of action is typically less than 10 minutes (hepatic elimination) however with increased boluses recovery time is extended. Experts report that patients report significant amnesia for events immediately prior to and between 5-10 minutes after Propofol administration, however recall increases as Propofol wears off and patients arouse. If it is anticipated that there will be pain at the end of a procedure (e.g. molding) re-bolusing is recommended.

### Long Procedures:

Initial bolus of 1-2+ mg/kg, titrated over 1-2 minutes, followed by a continuous infusion of 50-100 mcg/kg/minute (3mg/kg/h-6 mg/kg/hr) in older children and, 100-200mcg/kg/minute (6mg/kg/hr-12 mg/kg/hr) in younger children.

### Sedation for intubated patients:

Initial bolus of 1 mg/kg followed by an infusion of 50-100 mcg/kg/minute (3-mg/kg/hr- 6 mg/kg/hr).

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