Propofol
Newborn Use Only

2018

Alert	Not advised in haemodynamically unstable neonates. Propofol is not recommended for induction and maintenance of anaesthesia in neonates. There are no data to support the use of propofol infusion for sedation of premature neonates receiving intensive care.
Indication	Premedication for (1) endotracheal intubation and (2) MIST (Minimally Invasive Surfactant Therapy) or InSurE (Intubation, surfactant and extubation) procedure.
Action	The mechanism of action is poorly understood. Propofol is thought to produce its sedative/ anaesthetic effects principally by the positive modulation of the inhibitory function of the neurotransmitter GABA through $GABA_A$ receptors.
Drug Type	General anaesthetic, sedative.
Trade Name	Diprivan, Fresofol 1% injection, Fresofol MCT-LCT 1% emulsion, Propofol – Hospira/Lipuro/Sandoz, Provive 1%, Provive MCT-LCT 1%
Presentation	Ampoule, vial or prefilled syringe 200 mg/20 mL, 500 mg/50 mL or 1 g/100 mL Propofol is a milky-white oil in water emulsion. pH 6 to 8.5. Diprivan contains glycerol, soya oil, egg lecithin, disodium edetate and sodium hydroxide. Propofol Sandoz and Provive 1% contain glycerol, soya oil, egg lecithin and sodium oleate. Fresofol contains glycerol, soya oil, egg lecithin, oleic acid and sodium hydroxide. Fresofol MCT-LCT, Propofol-Lipuro and Provive MCT-LCT contain soya oil, medium chain triglycerides, glycerol, egg lecithin and sodium oleate. Fresofol MCT-LCT contains sodium hydroxide.
Dosage / Interval	**Premedication for endotracheal intubation*** IV: Start at 1 mg/kg and titrate dose of 2.5 mg/kg to infant response (check eye lash reflex every 10 seconds – average ranging from 1.0 to 3.6 mg/kg. **Premedication for MIST or InSurE procedures*** IV 1 mg/kg (maximum 1.5 mg/kg) (CAUTION: Increases the chance of needing non-invasive respiratory support). ***NOTE**: Propofol may be used alone or in combination with other sedatives/analgesics. Reduce propofol dose by 40–60% if combined with other sedatives/analgesics.
Maximum daily dose	Premedication: 6 mg/kg.
Route	IV bolus
Preparation/Dilution	Use undiluted or dilute to a minimum concentration of 2 mg/mL with glucose 5%.
Administration	Slow IV bolus over at least 20 seconds. **Do not use filter**.[20]
Monitoring	Continuous cardiorespiratory monitoring. Resuscitation facilities must be readily available.
Contraindications	Patients allergic to soya, peanut or egg lecithin.
Precautions	Haemodynamically unstable neonates. Neonates with seizures – may be excitatory during recovery phase. With anaesthetic doses, the patient will be apnoeic within 30–90 seconds. Propofol use, especially at increasing doses, is associated with hypotension. Propofol use for MIST and other procedures increased the need for respiratory support and ventilation. Reduce propofol dose by 40–60% for sick patients, or if combined with other sedatives/analgesics.
Drug Interactions	The induction dose requirements of propofol may be reduced in patients with opioids (e.g. morphine, pethidine and fentanyl) and combinations of opioids and sedatives (e.g. benzodiazepines, barbiturates, chloral hydrate and droperidol). Inhalational agents can increase the anaesthetic or sedative and cardiorespiratory effects of propofol.

	Profound hypotension has been reported following anaesthetic induction with propofol in patients treated with rifampicin. A need for lower propofol dose has been observed in patients taking valproate. Propofol does not cause a clinically significant change in onset, intensity or duration of action of the commonly used neuromuscular blocking agents e.g. suxamethonium and non-depolarising muscle relaxants. No significant adverse interactions have been observed with commonly used premedications or drugs used during anaesthesia or sedation (including a range of muscle relaxants, inhalational agents, analgesic agents and local anaesthetic agents). Lower doses of propofol may be required where general anaesthesia is used as an adjunct to regional anaesthetic techniques.
Adverse Reactions	Serious adverse events (including fatalities) have been reported, especially at higher doses. Hypotension and transient apnoea in up to 75% of patients. Arrhythmias, tachycardia. Bradycardia responsive to atropine has been reported. Excitatory phenomena such as involuntary movements, twitches, tremors, hypertonus and hiccup in 14% of patients. Lipaemia and an evolving metabolic acidosis may be precursors of fatal outcomes (propofol infusion syndrome). During the recovery phase, vomiting, headache and shivering in 2% of patients, with nausea occurring more frequently. Tissue necrosis following accidental extravascular administration.
Compatibility	Fluids: Glucose 5%. Y-site: Glucose 5%, sodium chloride 0.9%. Do not mix with other drugs.
Incompatibility	Do not mix with any other fluids or drugs not listed above.
Stability	Do not use if the solution is separated or discoloured.
Storage	Ampoule, vial and syringe: Store below 25°C. Do not freeze. Protect from light.
Special Comments	
Evidence summary	
References	

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