

RI ACEP
Clinical Policies Committee

Position Paper on the Use of Propofol in the ED
12/15/2014

The modern day practice of emergency medicine requires a practitioner to be skilled in procedural sedation in a variety of ED presentations; fracture reduction, laceration repair, joint dislocation/reduction require procedural sedation to be performed successfully and to minimize patient discomfort while prioritizing safety and efficacy. Sedation is necessary to alleviate pain, anxiety and suffering for patients during these medical procedures.

The board certified emergency medicine physician has significant training both in the management of pediatric and adult airways. The ED physician has expertise in critical care skills, including advanced airway management, cardiovascular and ventilator resuscitation techniques and analgesia, as these are all core competencies in emergency medicine residency training. The ED physician is comfortable and competent to provide accessory respiratory support as well advanced interventions to stabilize airway emergencies.

Emergency Department physicians also possess significant knowledge/comfort with the pharmacodynamics of key agents used in procedural sedation; ketamine, propofol, midazolam and other commonly used procedural agents.

The American College of Emergency Physicians 2014 document “Clinical Policy: Procedural Sedation and Analgesia in the Emergency Department” answers the question of: In patients undergoing procedural sedation and analgesia in the emergency department, can propofol be safely administered?

- Level A: propofol can be safely administered to children and adults for procedural sedation and analgesia in the ED.
- Level B: A combination of propofol and ketamine can be safely administered to children and adults for procedural sedation and analgesia.

There has been a growing body of evidence that ketamine, midazolam, fentanyl, propofol, and etomidate that significantly adds to the depth of understanding of these agents' use in the ED.^{1, 2,3,4,5,6,7,8,9,10,11, 12, 13, 14, 15, 16-43} The use of short acting sedative agents such as propofol, a short acting hypnotic, for the ED procedural sedation and analgesia has gained widespread acceptance. Brief-acting sedative agents confer shorter periods of impaired levels of consciousness and subsequently less risk for adverse respiratory events.^{17,26-33,30} An additional benefit to shorter periods of patient impaired consciousness is a reduction of patient monitoring time that allows reduced allocations of intense patient monitoring periods by medical and nursing staff.

Propofol is an agent that has attracted a great deal of attention by investigators and publications for the past decade. The risks cited with propofol use are mainly that of hypotension and respiratory depression. The mechanism of action for propofol has not been well defined however the hemodynamic effects are generally more pronounced than those of other intravenous anesthetic agents. Arterial hypotension, with readings decreased by as much as 30% or more, has been reported, possibly due to inhibition of sympathetic vasoconstrictor nerve activity. Hypotensive effects are generally proportional to dose and rate of administration of propofol, and may be potentiated by opioid analgesics. Propofol is a respiratory depressant, frequently producing apnea that may persist for longer than 60 seconds, depending on factors such as premedication, rate of administration, dose administered, and presence of hyperventilation or hyperoxia.

Despite these known pharmacologic risks multiple studies have demonstrated findings that support and strengthen the use of propofol for both adult and pediatric patients.^{6, 8, 9, 12, 13, 14, 17-24, 38, 43} These investigations include a Class I study,^{15, 2} Class II studies,^{21, 38} and multiple Class III investigations^{12, 19, 20}. The patient population across studies reporting use of propofol as a procedural sedation and analgesia agent in the ED setting is currently well in excess of 26, 0000.^{13, 17, 18}

Safe and effective sedation and analgesia in the ED is a critical skill that is core to the practice of emergency medicine. The use of propofol for procedural sedation in the ED is the standard of care and should be available for use in all Emergency Departments across Rhode Island. Successful performance requires recognition of not only pitfalls associated with the medication, but also consideration for the complexity of patients' underlying physiology and illness or injury, which is a skill ED providers possess. Emergency physicians are qualified to manage sedation requirements across all ages, involving a broad range of complicated patients presentations. It is clear that in typical ED populations, sedation with propofol is both safe and effective and provides increased patient comfort and ease of procedural performance.

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