

Providers and Safety Performance of Propofol Sedation in the Pediatric Sedation Research Consortium

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ABSTRACT BODY:

Introduction: Propofol sedation is delivered by a variety of providers including pediatric anesthesiologists, pediatric intensivists, emergency physicians, pediatricians, and various pediatric subspecialists. Previous investigations have evaluated specific sedation protocols used by these providers in relatively small numbers of patients often documenting the success and failure rates for specific propofol protocols. Our current study was designed to utilize a large database created by the Pediatric Sedation Research Consortium (PSRC) (1) and evaluate the data for the types of providers who are utilizing propofol and to determine the rates of complications and airway interventions during these encounters.

Methods: The PSRC consists of 26 participating institutions - each with IRB approval for collecting data on pediatric sedation practice in a blinded manner. Prospective observational data is recorded on a web-based data collection tool and stored at the Bioinformatics group at Dartmouth College. Information is collected on the demographics of the providers and the patients involved in each encounter. In addition information concerning complications encountered are tabulated - including desaturation events (<90% for greater than 30 seconds), apnea, and the requirement for various airway interventions. "Unplanned Airway Interventions" includes any intervention such as jaw thrust, oral airway insertion, etc. that was not expected as part of the sedation plan. The sample for this study included 32,530 propofol sedation encounters (out of over 63,000 total sedation encounters) collected between 7/14/2004 and 11/1/06.

Results: The results of this study are presented in Table 1.

Table 1. Provider types and complications related to propofol sedation encounters.

Provider	Total # Sedations	Desaturation Events	Apnea	Bag Mask Vent	Unplanned Airway Intervention	Aspiration
Anesthesiologist	4,154	48 (1.16%)	16 (0.39%)	43 (1.04%)	311 (7.49%)	1 (0.02%)
EM	12,307	140 (1.12%)	37 (0.30%)	139 (1.12%)	660 (5.30%)	1 (0.01%)
Peds Fellow	1,149	1,165 (1.37%)	4 (0.34%)	8 (0.69%)	226 (19.40%)	0 (0.00%)
Intensivist	14,053	14,053 (2.18%)	34 (0.24%)	169 (1.18%)	1,554 (10.8%)	1 (0.01%)
Pediatrician	867	10 (1.14%)	0 (0%)	2(0.23%)	78 (8.89%)	0 (0.005)

Discussion: Propofol sedation is commonly used among the members of the PSRC and is not limited to anesthesiologists. Desaturation events and apnea events are relatively uncommon and are consistent in frequency across the provider groups. The requirement for unplanned airway interventions is relatively common and this fact points out the requirement for good airway training for all sedation providers who use propofol.

References: 1. Cravero JP et. al. The Incidence and Nature of Adverse Events During Pediatric Sedation/Anesthesia for Procedures Outside the Operating Room – Report from the Pediatric Sedation Research Consortium. *Pediatrics*. 2006 Sep;118(3):1087-96