

# Lower Dose Propofol Use for MRI: A Retrospective Review of a Pediatric Sedation Team's Experience.

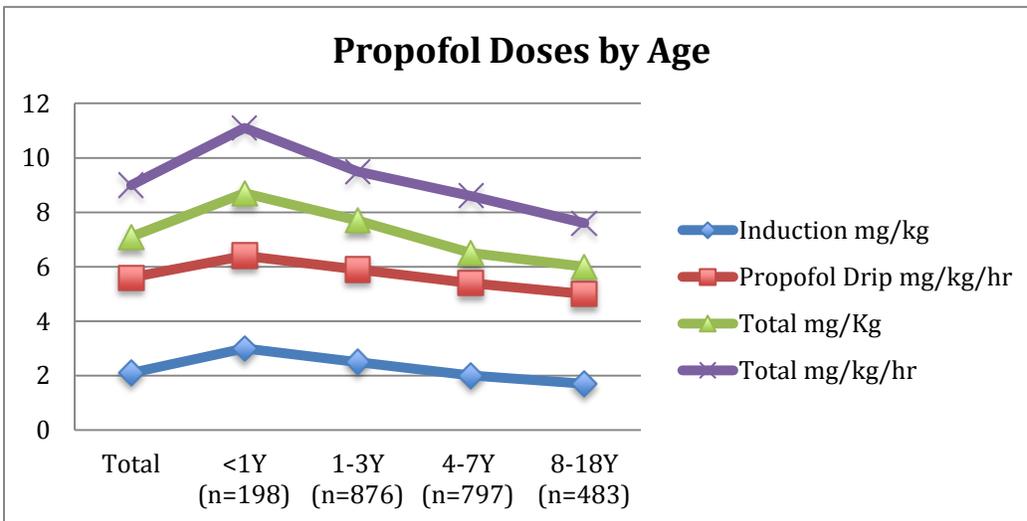
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**Introduction:** Procedural sedation or anesthesia is frequently necessary in the pediatric population to facilitate cooperation, immobility and successful completion of Magnetic Resonance Imaging (MRI) studies. Optimal dosing of propofol infusions for children during MRI has been reported in the literature to range from 50 to 300 mcg/k/min (3 to 18mg/kg/hr). We report our Pediatric Sedation Team's 10-year experience using lower dose propofol for successful MRI completion at our institution.

**Methods:** After MUSC IRB approval, records from patients aged 6 months to 18 years who required sedation for a MRI during the period from 2007 – 2016 were retrospectively reviewed to determine propofol induction dose (mg/kg), propofol infusion dose (mg/kg/hr), and total propofol dose (mg/kg and mg/kg/hr). Numbers of administered ancillary sedative medications were also determined for each patient. Additional data collection included sedation duration, recovery duration and successful completion of MRI. Dosing data were also stratified by age: < 1year, 1-3 years, 4-7 years, and 8-18 years.

**Results:** 2354 patients were sedated with propofol infusions for MRI over 10 years and had complete records. 8% of patients received propofol infusion alone, 79% received midazolam prior to their propofol induction, and 13% received a combination of propofol and other drugs. The mean propofol infusion duration for all patients was 46 minutes and the successful completion rate for MRI was 99.3%. Results are graphically displayed below. The mean rate of propofol infusion for all patients was 5.6mg/kg/hr (93mcg/k/min).



**Conclusion:** Our successful experience using propofol sedation for children in MRI supports other published reports using lower dose propofol infusions and confirms the expectation for higher doses in children less than 1 year of age.