

Study adds new info to improve pediatric dental sedation

July 8 2013

Research led by Priyanshi Ritwik, DDS, MS, LSUHSC Associate Professor of Pediatric Dentistry at LSU Health Sciences Center New Orleans, reports important findings about side effects and how long they linger after discharge of common oral drugs used to sedate some children during dental procedures. The results of the study, published in the current issue of *Anesthesia Progress*, provide pediatric dentists and parents with new information on this previously little-investigated aspect of children's dental health care.

The prospective study, conducted at the LSU Health Sciences Center New Orleans School of Dentistry, compared the incidence and duration of side effects of meperidine and hydroxyzine versus midazolam alone at 8 and 24 hours after sedation. The researchers found that while most [adverse reactions](#) occurred within eight hours, some continued up to 24 hours. They noted that children sedated with meperidine and hydroxyzine experienced vomiting, but not those sedated with midazolam. Prolonged sleep at home was significantly higher in the children sedated with meperidine and hydroxyzine. Irritability was more common in the midazolam group in the first eight hours, declining thereafter, while the number of irritable children in the meperidine and hydroxyzine group increased in the 8- to 24-hour period. They also report that 50% of the children in both groups slept in the car on the way home. This is a potential risk for airway obstruction because while sleeping in a car seat, the child's head can tilt down to the chest. It has been found that children and infants sleeping in car safety seats have a significantly lower [oxygen saturation](#). The research team recommends

that [parents](#) bring another adult along to monitor and reposition the child's head if necessary on the drive home.

"It is critical to know the effects of these medications beyond the time spent by the child in the dental office, so that parents can be appropriately cautioned about the expected effects and how to distinguish them from any potential emergencies such as [airway obstruction](#)," says Dr. Ritwik.

The team also recommends that parents be educated about which medications can safely be used to manage postoperative pain and fever as well as how to use them correctly. Additionally since some children do not want to eat in the first eight hours after sedation, they advise that parents be informed to anticipate this and encouraged to support their child to take liquids to maintain hydration.

Other members of the LSUHSC research team included Linda T. Cao, DDS, and Robert J. Musselman, DDS, MSD, along with Ronald Curran, DDS. The researchers note that this is a small, preliminary study and that further research is needed. In the meantime, however, this study yields new information to improve the safety and comfort for [children](#) and their parents following dental care.

Provided by Louisiana State University

Citation: Study adds new info to improve pediatric dental sedation (2013, July 8) retrieved 19 April 2024 from <https://medicalxpress.com/news/2013-07-info-pediatric-dental-sedation.html>

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