# Efficacy of triazolam as a sedative for pediatric dental treatment in comparison to diazepam

Uzair Ahmad, DDS

#### Research mentor and other collaborators:

Heidi Steinkamp, PhD, DDS; Nima Odowa, DDS

## Objective:

Pediatric dentists often employ oral sedation as a method of advanced pharmacological behavior management to safely treat uncooperative children with extensive needs. Two commonly employed sedatives are midazolam and diazepam. These benzodiazepines are popular due to their wide safety margin, rapid onset, reversibility and potential for anterograde amnesia. Triazolam is a benzodiazepine classified by the FDA as a hypnotic but has off label use for minimal/moderate sedation. It has a longer onset and half-life than midazolam, but shorter half-life than diazepam. This could make it a preferable drug for children. However, there are not many studies which investigate triazolam as a sedative for this population. The purpose of this study is to investigate the efficacy of triazolam as an oral sedative agent for uncooperative pediatric dental patients who require extensive dental treatment at the University of Iowa College of Dentistry Department of Pediatric Dentistry.

## Methods:

Subjects in this study are patients who had already planned to undergo oral sedation with either triazolam or diazepam. To compare the effectiveness of the medications, researchers will utilize the Ramsey sedation scale to describe subjects' behavior and sedation level throughout the appointment. We will also employ a 22-36 hour post-op questionnaire for the parents of the subjects

## **Results/Trends:**

We are currently in the very early stages of data collection. An interesting trend in the limited data thus far is that none of the 4 subjects who received triazolam took >5 hours to return baseline mental status

## **Conclusion:**

Results of this study could be used to help clinicians make evidence-based decisions when selecting a drug regimen for pediatric oral sedation.

## **References:**

1. Olkkola KT, Ahonen J. Midazolam and other benzodiazepines. Handb Exp Pharmacol 2008;(182):335-60.

2. Viana KA, Moterane MM, Green SM, Mason KP, CostaLR. Amnesia after midazolam and ketamine sedation inchildren: A secondary analysis of a randomized controlledtrial. J Clin Med 2021;10(22):5430

3. Johnson E, Briskie D, Majewski R, Edwards S, ReynoldsP. The physiologic and behavioral effects of oral and intranasal midazolam in pediatric dental patients. Pediatr Dent2010;32(3):229-38.

4. Nathan JE, Vargas KG. Oral midazolam with and withoutmeperidine for management of the difficult young pediatric dental patient: A retrospective study. Pediatr Dent2002;24(2):129-38.

5. Day PF, Power AM, Hibbert SA, Paterson SA. Effectivenessof oral midazolam for paediatric dental care: A retrospective study in two specialist centres. Eur Arch PaediatrDent 2006;7(4):228-35 6. Kaufman E, Hargreaves KM, Dionne RA. Comparison of oral triazolam and nitrous oxide with placebo and intravenous diazepam for outpatient premedication. Oral SurgOral Med Oral Pathol 1993;75(2):156-64