

## *Impact of Intranasal Medications on Laceration Repairs in the Pediatric Emergency Department*

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### **Background**

The recent addition of intranasal medication options for procedural sedation has decreased the need for additional painful procedures such as intravenous lines while decreasing overall resource utilization in the pediatric emergency department (ED). We sought to explore whether intranasal dexmedetomidine reduces time from drug administration to discharge as compared to intranasal midazolam or intravenous ketamine.

### **Methods**

A retrospective matched cohort study was conducted of patients receiving either intravenous ketamine, intranasal midazolam, or intravenous dexmedetomidine for facial laceration repair from January 1, 2014 to October 21<sup>st</sup>, 2016 in the ED. Patients were matched in a 3:3:1 fashion with intravenous ketamine (IVK) (3) to intranasal midazolam (INM) (3) to intranasal dexmedetomidine (IND) (1) by gender and age. The primary outcome was time from administration of first drug dose to ED discharge. Secondary outcomes included total length of stay, incidence of adverse events, and utilization of other sedative or analgesic medications.

### **Results**

A total of 23 IND patients were identified and matched to 69 INM and 69 IVK patients (male 47.8%, age 3.9±2.1 years). Initial doses of medications were: IND (2.4 mcg/kg/dose ±0.7), INM (0.21 mg/kg/dose ±0.05), and IVK (1.0 mg/kg/dose ±0.1). Median length of stay from procedure to discharge was 2.2 hours (IQR 1.3-2.9 hours) and did not vary between groups (p=0.47). Total hours in the ED was longer in the IVK group (5.5±1.8), compared to IND (4.6±1.5) or INM (4.7 ±2.0) (p<0.05). Complications were documented in 8% of patients and included: Nausea or vomiting (6.8%), hives (0.6%), and inadequate sedation (0.6%). Extra doses of medication were required to maintain sedation and analgesia in the IVK (62.3%) and INM (23.1%) groups from IND group (p<0.05).

### **Conclusions**

Intranasal adjuncts do not decrease time to discharge but do decrease time in department compared with IVK.