

Pediatric Dental Emergencies Observed at Denver Health Hospital Association



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Introduction

Treatment for dental caries and other dental conditions is poorly managed in emergency departments (ED), yet thousands of patients seek emergency dental care in emergency departments yearly. (Morgan et al., 2021). US hospital emergency departments must assess and provide treatment for all patients who present to them, regardless of payor or insurance status. This leads to the overutilization of emergency departments. Data extracted from patient charts included age, gender, date the patient was placed on the GA waiting list and date that comprehensive care was provided under GA, and date of dental-related emergency room encounter or emergency dental clinic encounter. emergencies.

Nearly 40% of kindergarteners in the US have untreated dental caries (Gupta et al., 2018; Pierce et al., 2002). Many of these children have situational anxiety and cannot be safely treated in the dental office, requiring oral sedation or general anesthesia. Access to hospital operating rooms is a growing concern for pediatric dental providers.

In nearly ¾ of states, pediatric dentists' access to operating rooms for dental care has been significantly decreased or eliminated entirely, replaced by higher reimbursable medical procedures (Keels, 2021). This shift has left thousands of children waiting for the next available hospital surgery date. Often pain becomes intolerable and children have no other options but to present to the emergency room for nondefinitive dental treatment.

Objectives

The aims of this research were, 1) to observe the trends in pediatric dental emergencies at Denver Health Medical Center, 2) to determine how long patients waited for appointments utilizing general anesthesia, and 3) if longer waiting times could be correlated with increased emergency room or urgent clinic visits due to increased dental pain.

Methods

This was a retrospective chart review study that included children ages 0-14 who presented to the Denver Health Pediatric Emergency Room or the Denver Health Pediatric Dental Clinic with dental or oral pain from January 2019 to December 2022. All patients ages 0-14 who had an emergency dental encounter during this time period and had a subsequent GA visit at Denver Health were included in study.

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This study was approved and designated except by the Colorado Multiple Institution Review Board (COMIRB: 231231). Descriptive statistics and linear regression were used to analyze data. A P-value <0.05 was deemed to be statistically significant. All analyses were performed using SPSS software version 26.

Results

Figure 1: Ages of Children Presenting to DH with Oral Pain

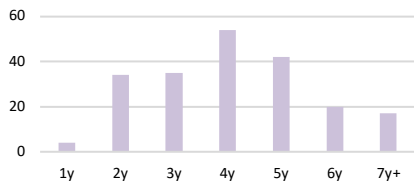


Fig 1: A total of 207 patient visits were evaluated with patient ages ranging from 1 year to 11 years (mean: 4.1 years; standard deviation [SD] ±1.64 years). There were more males than females included in our study: males (N= 123, 59%), females (N=84, 41%).

Results (continued)

Figure 2: Time Waited for GA Appointment

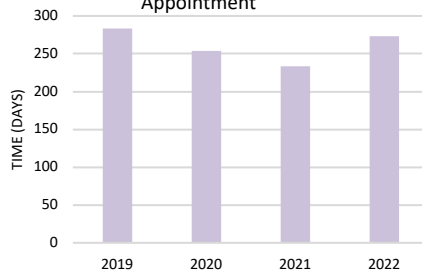
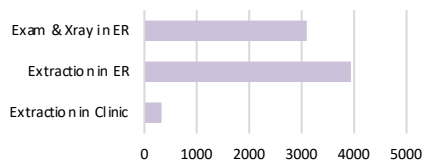


Fig 2: On average the wait time between initial clinical exam and surgery date was 242 days (SD ±189 days). A Pearson's test was completed and from its results it can be determined that a longer wait time from initial clinical exam and the patient being put on the OR list to actual surgery date was not positively associated with an increased number of visits for emergency treatment (R=0.081, p=0.247).

Figure 3: Cost of Emergency Treatment



Results (continued)

Fig 3: The cost of dental treatment in the emergency room for extraction of 1 abscessed molar on an uncooperative child utilizing sedation is significantly more expensive (\$3,945) than the cost of the extraction for the same abscessed molar in the dental clinic utilizing N2O (\$356).

Conclusions

From this study we can draw the following conclusions:

1. The average age of patients that presented to Denver Health Hospital Association between the years of 2019-2021 for emergency dental pain is 4 years old.
2. The amount of time from being placed on the general anesthesia waiting list to the time the patient has dental surgery cannot be correlated with an increase in emergency visits for dental pain during the years 2019-2022 at Denver Health.
3. A visit for emergency dental extraction in the ER is significantly more costly than similar emergency dental treatment in the dental office.
4. The emergency room is an extremely costly choice for nondefinitive care.
5. Additional research is needed to determine if longer waiting times at Denver Health can be correlated with more significant and costly treatment provided in the OR setting.

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