

# Pediatric Dental Emergencies within an Urban Population: A Retrospective Review

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## OBJECTIVES

To determine tendencies in the demographics of dental emergencies for patients who presented to Children's Medical Center-Dallas (CMCD). Trends could allow for tailored anticipatory guidance.

## BACKGROUND

Children with dental emergencies routinely present to the Emergency Department (ED) at CMCD. Dallas-Fort Worth metropolitan area is home to roughly six million people. CMCD is the only children level 1 trauma center within a 200-mile radius.

Dental emergencies may be related to trauma, pain and/or infection due to unrestored dental decay, or other dental related contingencies. More than one billion people worldwide have sustained a dental injury throughout their life.<sup>1</sup> Boys are more likely to sustain a traumatic injury than girls.<sup>1</sup>

A study was conducted in Greece, where spring is the season when the weather is most pleasant and outdoor activities are more common among children, increasing the risk of orofacial trauma.<sup>1</sup> Additionally, reports described that maxillary incisors are the most traumatized teeth because of their prominence, which sometimes present themselves in a protrusive position.<sup>2</sup>

Data from the ED at CMCD was analyzed to observe any correlations between age, gender, time and dental emergency type.

## REFERENCES

1. Agouropoulos, A., Pavlou, N., Kotsanti, M., Gourtsoianni, S., Tzanetakis, G., & Gizani, S. (2021). A 5-year data report of traumatic dental injuries in children and adolescents from a major dental trauma center in Greece. *Dental Traumatology*, 37.10.
2. Pedrini, D., Panzarini, S. R., Tiveron, A., Abreu, V. M., Sonoda, C. K., Poi, W. R., & Brandini, D. A. (2018). Evaluation of cases of concussion and subluxation in the permanent dentition: a retrospective study. *Journal of applied oral science : revista FOB*, 26, e20170287.

## MATERIALS AND METHODS

A retrospective chart review was performed among all patients who presented for an emergency dental visit to the ED at CMCD between 09/01/2016 to 04/01/2021.

The billable ADA codes D0140 (emergency dental visit) and D9420 (hospital call) were used to identify all patients seen for dental emergencies at the hospital.

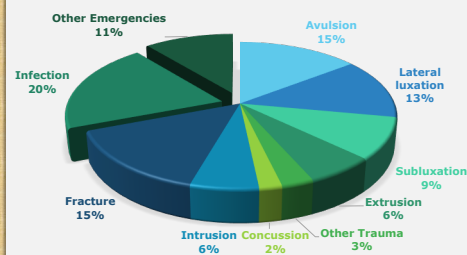
Data collected included:

1. Name of patient
2. Medical record number
3. Gender
4. Date of birth
5. Date of service
6. Age
7. Clinical Diagnosis
8. Tooth (or teeth) involved

Data was collected from 687 patients who presented to the ED at CMCD. Data was analyzed by Chi-Square in SPSS.

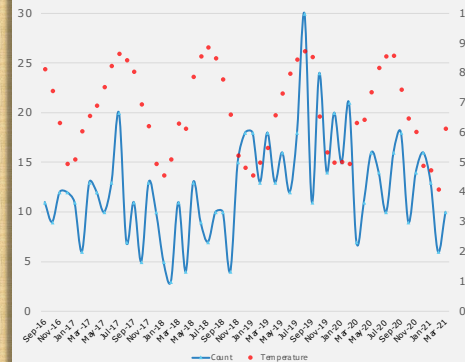
## RESULTS

### TYPE OF DENTAL EMERGENCIES



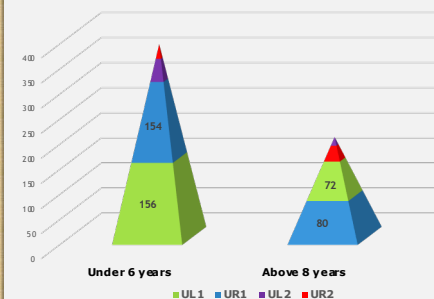
- Trauma related was 69% of all emergencies
- Other trauma included lip laceration, gingival degloving, etc.
- Other emergencies included post op bleeding or pain following dental treatment, mobile primary teeth, pathology, orthodontic wire, etc.

### NUMBER OF CASES VERSUS TEMPERATURE PER MONTH



- R=0.045 showing a positive but weak correlation between temperature and dental emergency

### TOTAL NUMBER OF TEETH INVOLVED DURING TRAUMA IN PRIMARY AND PERMANENT DENTITION



- Most common teeth are upper central incisors in both primary and permanent dentition
- No statistical difference between right and left

## RESULTS CONT'D

- Overall males were 56.33% of all dental emergencies
  - Trauma only increased males to 58.1%
- Median age was 71 months
  - Youngest patient was 8 months and oldest was 20.5 years
- Highest day was Saturday at 18.6% and lowest day was Wednesday at 9.6%
- Probability of dental emergency on any given day was 42%, or 3 days a week
- Probability of dental emergency on Saturday was 54.6%, while Wednesday is 28%
- Weekends had 52.3% of all emergencies

## DISCUSSION

As anticipated, boys presented with more trauma than girls, and trauma was the main cause of dental emergencies in this urban ED. Certainly the weekends were more popular for emergencies, likely due to increased playtime or sports, in addition to parent availability. Similar to previous studies, upper central teeth were most affected, most likely due to their prominence.

In this study, infection rates were lower than anticipated because the ED physician may prescribe antibiotics for minor facial swellings instead of contacting the dentist on call.

## CONCLUSIONS

1. While not all tooth and facial trauma are able to be prevented, emergency room visits due to infections can be with more anticipatory guidance. Within this guidance, gender predilection can also be communicated.
2. No seasonal differences in emergency visits were significant in this study. More studies can be conducted in states where temperatures are lower during wintertime.