

Follow-Up for Tooth Trauma Presenting to a Hospital Emergency Department



Seattle Children's
HOSPITAL • RESEARCH • FOUNDATION

Alec Montemayor DDS¹; Celeith Acevedo DDS²; Nestor Cohenca DDS²; Barbara Sheller, DDS, MSD²; Bryan Williams, DDS, MSD, MEd²

1. University of Washington, Department of Pediatric Dentistry 2. Seattle Children's Hospital, Department of Dentistry

Introduction & Purpose

Few studies describe follow up for pediatric patients seen through emergency departments (ED) for dental injuries.

- Parents in a study of 175 patients with dental trauma treated in the ED of Nationwide Children's Hospital reported barriers to receiving follow up care were missing work and/or school and the cost of dental treatment.¹
- Only 42% of 264 patients seen at the Children's Hospital New Orleans ED for dental trauma had follow up care at a dental office or clinic²

Purpose

- Describe a cohort of patients presenting to a pediatric ED with dental trauma including recommendations for follow up
- Assess follow up adherence, treatment(s) and outcomes specific to the injured tooth
- Survey these patients at least one year after the ED encounter to determine efficacy of the dental discharge protocol and identify barriers to obtaining follow up care.

Methods

Patients presenting to the ED with dental trauma are evaluated and managed in the ED by pediatric dentistry residents and attending pediatric dentists. Injuries are managed according to the International Association of Dental Traumatology Guidelines³ and include exam, imaging, reposition and splinting, pulp treatment, and extractions.

The ED discharge protocol includes verbal and printed specifics regarding the recommended timing and plan for follow up.

All patients with dental trauma managed by the pediatric dental team in the ED between 3-01-2021 and 2-28-2022 were in the initial cohort.

- Data collected from electronic health records (EHR) included: injury details, tooth diagnosis, treatment completed in ED, and recommended follow up.

Data collected for patients with follow up through hospital-affiliated clinics included: injured tooth status, treatment completed at the follow up visit, and referrals to endodontics or oral surgery.

All patients/parents were invited to participate in a telephone survey regarding their ED experience

- Questions were asked about venue and timing of follow up, any barriers to follow up, and clarity/helpfulness of ED discharge instructions.

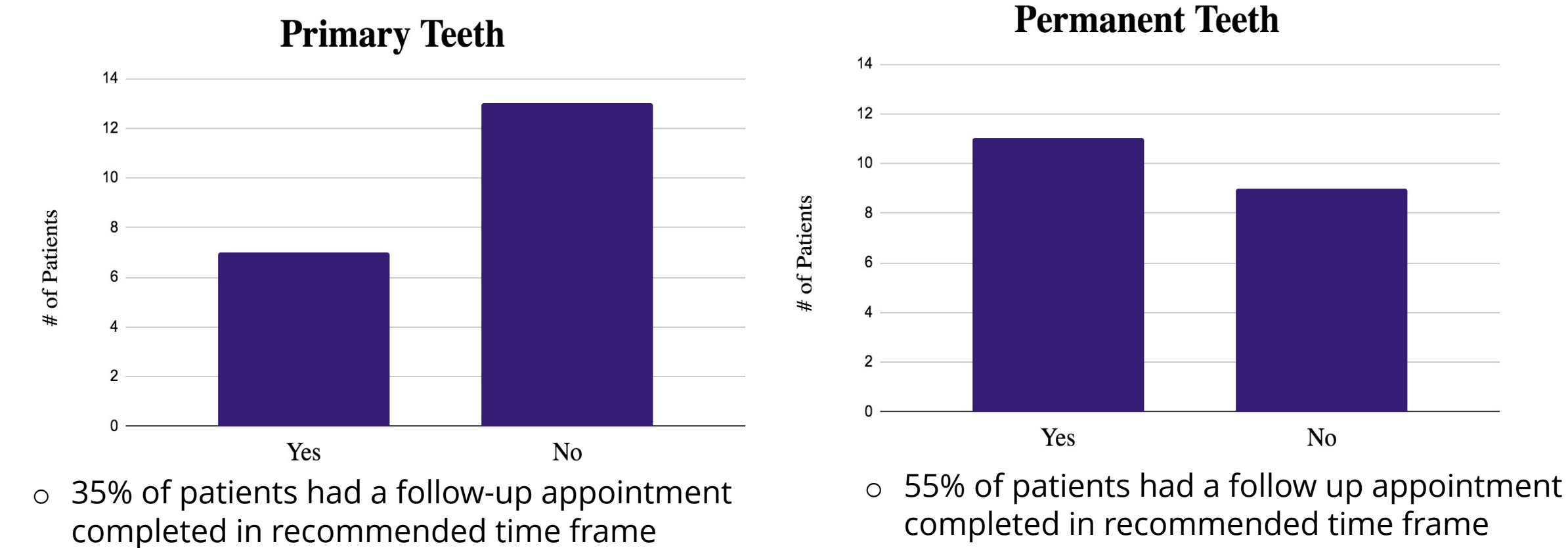
Results

- 168 patients with dental trauma were managed in the study period and characterized through EHR review.
- Follow up data was available for the 42 patients who had their follow up visit at a hospital-affiliated clinic.
- 36 patient/parents participated in the telephone survey about their ED experience (21%).

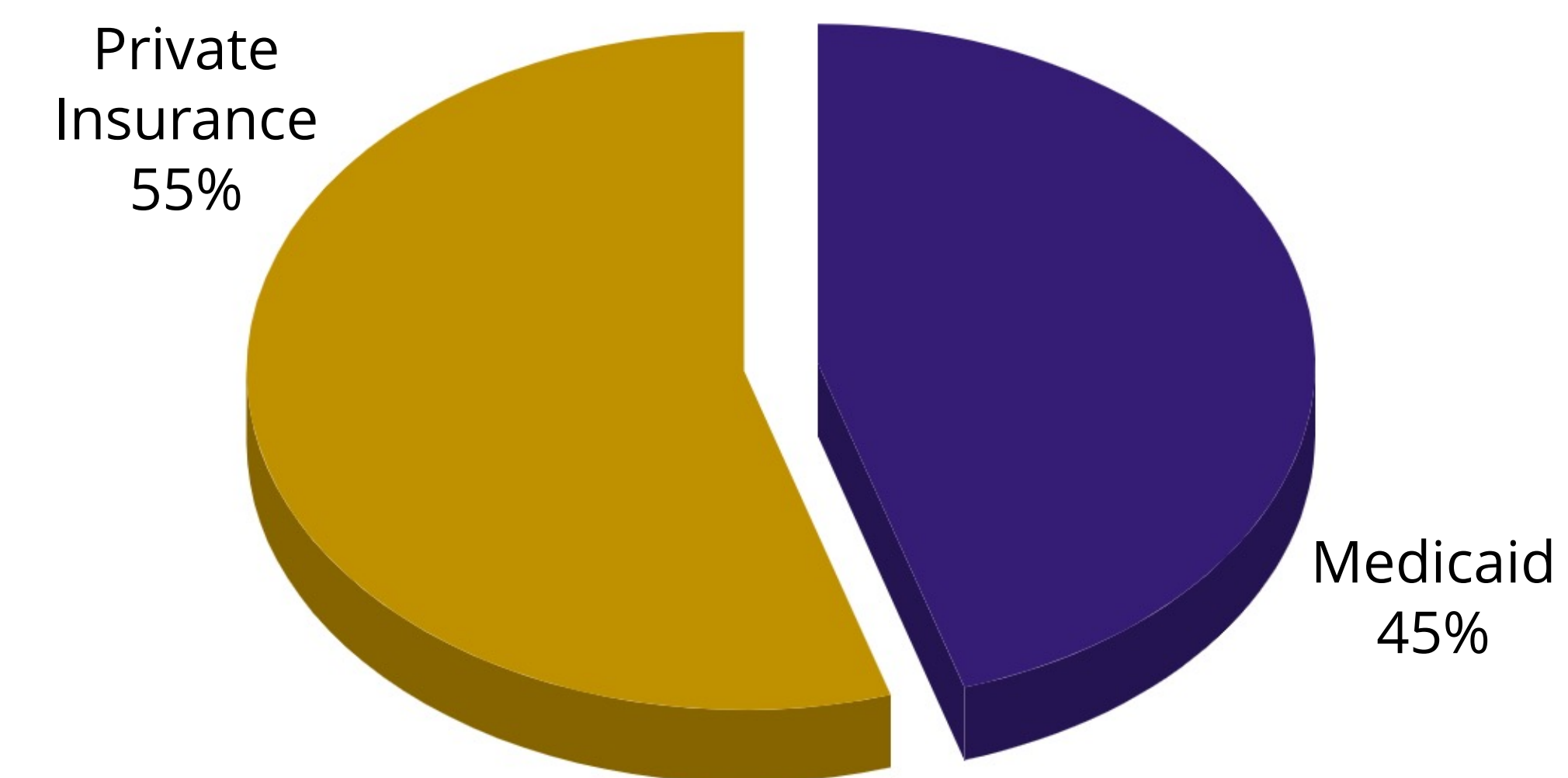
Patient Characteristics:

	ALL PATIENTS N=168		PATIENTS WITH FOLLOW UP N=42		PATIENTS WITH SURVEY N=36		
AGE IN YEARS	MEAN	6.23	7.13	5.87			
	SD	4.08	4.14	4.19			
	RANGE	1.08 - 16.81	1.18 - 15.84	1.08 - 15.85			
GENDER	n	%	n	%	n	%	
	MALE	104	61.9	25	59.5	28	72.2
	FEMALE	64	38.1	17	40.5	10	27.8
RACE	ASIAN	22	13.3	5	12.2	4	11.4
	BLACK	28	15.7	12	29.3	7	20.0
	WHITE	107	64.5	21	51.2	23	65.7
	OTHER	22	12.7	6	14.6	6	17.1
	PATIENT DECLINED	3	3.8	1	2.4	1	2.8
LANGUAGE OF CARE	ENGLISH	155	92.3	37	88.1	33	91.7
	SPANISH	4	2.4	0	0.00	2	5.6
	OTHER	9	5.4	5	11.9	1	2.8
	PATIENT DECLINED	3	3.8	1	2.4	1	2.8
PAYOR	MEDICAID	76	44.6	26	61.9	19	52.8
	PRIVATE	92	54.8	16	38.1	17	47.2
	PATIENT DECLINED	3	3.8	1	2.4	1	2.8
TYPE OF EMERGENCY	PRIMARY TRAUMA	102	60.5	20	47.6	22	61.1
	PERMANENT TRAUMA	66	39.5	22	52.4	14	38.9

Follow-up within Recommended Time Frame:



Dental Insurance of the ED Dental Trauma Cohort:



Survey Participant Experience

"..I don't remember what I was told about when and where to follow up. The treatment in the ED was pretty traumatic. They may have given me a paper telling me where to go. It was hard because there was no communication between the ED dentist and the dental home. No paperwork regarding what happened was given to me.."

- Barriers to follow up, although infrequent, were: taking time off work, unavailability of appointments, and unable to connect with the scheduling department.

Conclusions

- Patients with both private and public insurance (Medicaid) utilized the ED for initial management of dental trauma.
- Post ED follow up at hospital-affiliated clinics was more frequently provided to patients with Medicaid insurance.
- Families were more likely to present for post ED follow up when the injury involved a permanent tooth.
- The dental recommendations given at ED discharge were unclear to some survey participants.
- Many survey participants recalled the ED experience as traumatic and upsetting despite the one year or more time elapsed between the ED visit and telephone survey.

References

- Gustafson D, McTigue D, Thikkurissy S, Casamassimo P, Nusstein J. Continued care of children seen in an emergency department for dental trauma. *Pediatr Dent*. 2011; 33(5): 426-30.
- P. Ritwik, C. Massey, J. Hagan. Epidemiology and outcomes of dental trauma cases from an urban pediatric emergency department. *Dent Traumatol*, 2015; 31: 97-102.
- Levin L, Day PF, Hicks L, O'Connell A, Fouad AF, Bourguignon C, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: general introduction. *Dent Traumatol*. 2020; 36: 309-13.

Acknowledgments

- Dr. Bryan Williams Endowment for Pediatric Dental Medicine, Seattle Children's Hospital
- University of Washington School of Dentistry, Department of Pediatric Dentistry
- Seattle Children's Hospital IRBs #00004431