

INTRODUCTION

- While government-placed social distancing measures and stay-at-home orders had a profound effect on the lives of the entire population, children, in particular, were forced to alter their lives completely.
- The shift away from outside, school, and playground settings towards more time spent at home during the pandemic had the possibility to effect injury patterns in the pediatric population.

OBJECTIVES

- Primary:** To identify differences in the location at which and mechanism by which orthopaedic injury types occurred prior to and during the COVID-19 pandemic.
- Secondary:** To compare the incidences of orthopaedic injuries' types and procedures as well as hospital outcomes before and during the COVID-19 pandemic.

METHODS

- Design:** Retrospective database review
- Patients:** Pediatric patients presenting to hospitals with Pennsylvania Trauma Systems Foundation (PTSF) designations
- Inclusion:** Patients younger than 18 years of age who presented with orthopaedic injuries
- Exclusion:** Patients older than 18 years of age, those who did not incur orthopaedic injuries, and those that did not have complete records
- Outcomes:** Demographic information, injury and hospital stay details, and mortality

DISCLOSURES

- Disclosures and Funding Sources:** None
- IRB Approval:** IRB approval was obtained from the St. Luke's University Health Network IRB Committee

RESULTS

		Pre-COVID	COVID	p-value
Age	0-4 years	323 (34.7%)	62 (34.1%)	0.85
	5-9 years	232 (24.9%)	41 (22.5%)	
	10-14 years	212 (22.8%)	46 (25.3%)	
	15+ years	163 (17.5%)	33 (18.1%)	
Gender	Male	585 (62.9%)	119 (65.4%)	0.52
	Female	345 (37.1%)	63 (34.6%)	
Race	Caucasian	599 (64.4%)	114 (62.6%)	0.90
	Black	189 (20.3%)	39 (21.4%)	
	Other/Unknown	142 (15.3%)	29 (15.9%)	
Ethnicity	Hispanic/Latino	95 (10.2%)	25 (13.7%)	0.37
	Non-Hispanic/Latino	810 (87.1%)	152 (83.5%)	
	Unknown	25 (2.7%)	5 (2.7%)	
Insurance	Medicare/Medicaid	475 (51.1%)	98 (53.9%)	0.12
	Private Insurance	404 (43.4%)	67 (36.8%)	
	Self-Pay	47 (5.1%)	15 (8.2%)	
	Unknown	4 (0.4%)	2 (1.1%)	
Total		930 (83.6%)	182 (16.4%)	

Table 1. Demographic Information

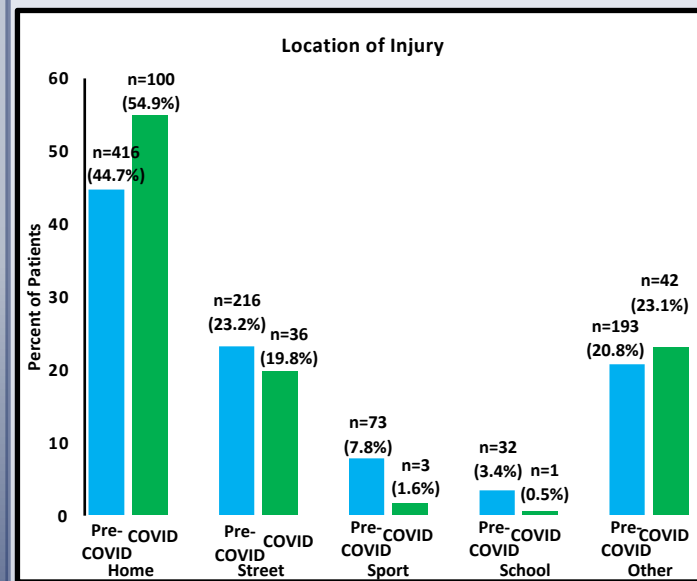


Figure 1. Location of Injury. There was a significant difference in injury locations between the pre-COVID (April 2017-2019) cohort and COVID (April 2020) cohorts (p<0.01).

RESULTS

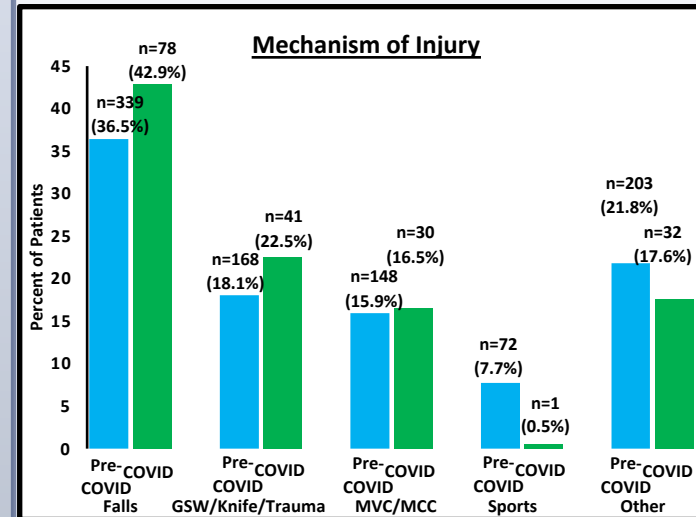
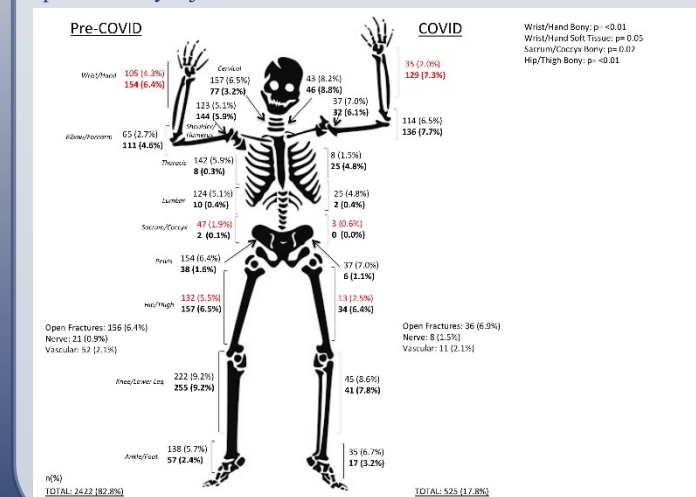


Figure 2. Mechanism of Injury. There was a significant difference in injury mechanism between the pre-COVID (April 2017-2019) cohort and COVID (April 2020) cohorts (p=0.02).

Figure 3 and 4. Pediatric Orthopaedic Injury (Below) and Procedure (Upper Right) Breakdown by Type and Cohort. Red values are significant. All bold values represent soft tissue injuries in the corresponding anatomic location, and all non-bolded values represent bony injuries.



RESULTS

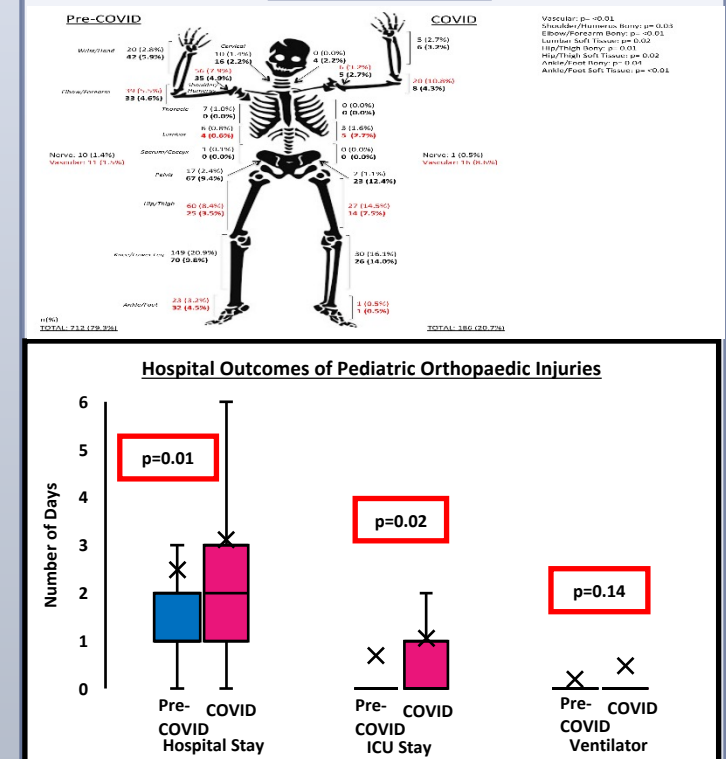


Figure 5. Hospital Outcomes in Pediatric Orthopaedic Injuries.

- A significantly higher mortality rate was found in the COVID (n=7, 3.8%) compared to the pre-COVID cohort (n=12, 1.3%)
- This corresponds to approximately 2.5% increase in mortality between the groups (p=0.02).

CONCLUSIONS

- Pediatric orthopaedic injuries were more likely to occur at home and less likely at sporting events, parks, or school during the COVID-19 pandemic.
- The number of orthopaedic injuries and patients needing surgical intervention decreased during the pandemic.
- Pediatric patients who sustained orthopaedic injuries during the pandemic had worse hospital outcomes, with a longer hospital stay, ICU stay, and mortality rates.