

INTRODUCTION

- In efforts to decrease the spread of severe acute respiratory syndrome coronavirus 2 (SARS-COV-2), stay-at-home orders and social distancing measures were placed by the federal and local government.
- It is unknown if these measures and change in population behaviors during this time changed the number and characteristics of orthopaedic injuries seen at United States trauma centers during the pandemic.

OBJECTIVES

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

METHODS

- Design:** Retrospective database review
- Patients:** Adults presenting to hospitals with Pennsylvania Trauma Systems Foundation (PTSF) designations
- Inclusion:** Patients 18 years of age and older who presented with orthopaedic injuries
- Exclusion:** Patients younger 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

Demographics		Pre-COVID Cohort n (%)	COVID Cohort n (%)	p-value
Age	18-39 years	1747 (21.2%)	401 (21.2%)	<0.01
	40-59 years	1698 (22.5%)	381 (20.1%)	
	60-79 years	2231 (29.6%)	627 (32.9%)	
	80+ years	1856 (24.6%)	482 (25.5%)	
Gender	Male	4194 (55.7%)	1056 (55.8%)	0.88
	Female	3342 (44.3%)	835 (44.2%)	
Race	Caucasian	6067 (80.5%)	1495 (79.1%)	0.09
	Black	929 (12.3%)	268 (14.2%)	
	Other/Unknown	540 (7.2%)	128 (6.8%)	
	Hispanic/Latino	376 (5.0%)	77 (4.1%)	
Ethnicity	Non-Hispanic/Latino	7003 (92.9%)	1750 (92.5%)	<0.01
	Unknown	157 (2.1%)	64 (3.4%)	
	Medicare/Medicaid	4989 (66.2%)	1283 (67.8%)	
Insurance	Private Insurance	2225 (29.5%)	488 (25.8%)	<0.01
	Self-Pay	300 (4.0%)	101 (5.3%)	
	Unknown	22 (0.3%)	19 (1.0%)	
	Total [n (% of Total)]	7536 (79.9%)	1891 (20.1%)	

Table 1. Demographic Information

Location of Orthopaedic Injuries

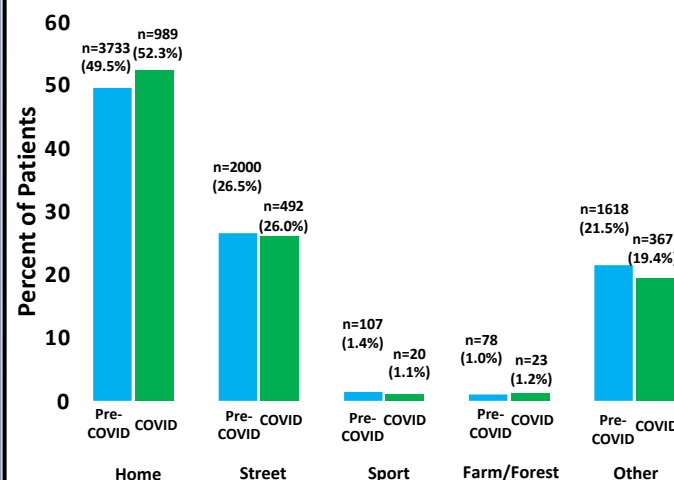


Figure 1. Location of Injury. There was no difference in location patterns (p=0.11) between the pre-COVID (April 2017-2019) cohort and COVID (April 2020) cohorts.

RESULTS

Mechanism of Orthopaedic Injuries

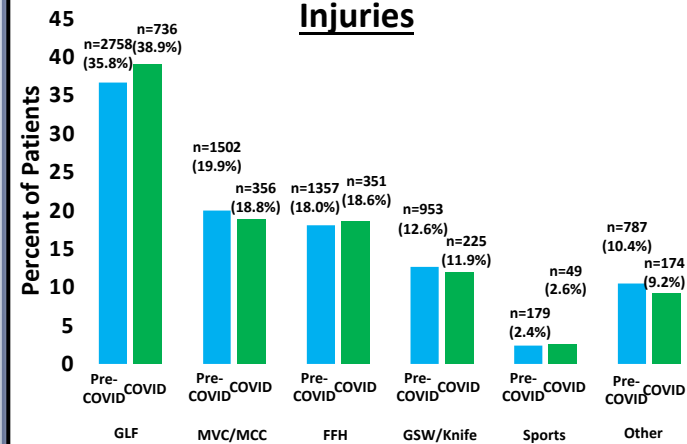
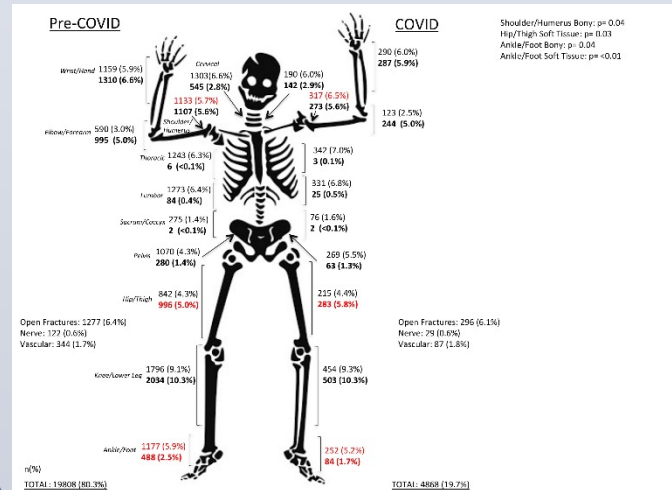
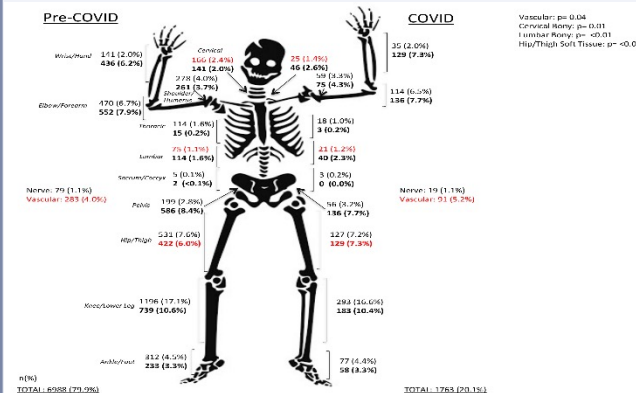


Figure 2. Mechanism of Injury. There was no difference in injury mechanism (p=0.40) between the pre-COVID (April 2017-2019) cohort and COVID (April 2020) cohorts.

Figure 3 and 4. Adult 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



Hospital Outcomes in Adult Orthopaedic Injuries

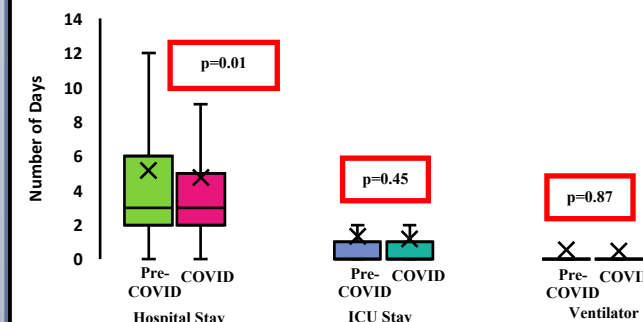


Figure 5. Hospital Outcomes in Adult Orthopaedic Injuries.

- There was higher mortality rate in the COVID-19 cohort (n=115, 6.1%) compared to the pre-COVID cohort (n=305, 4.0%)

CONCLUSIONS

- The characteristics of traumatic orthopaedic injuries sustained by patients during the COVID pandemic were not different from prior to the pandemic.
- There were decreases in the number of orthopaedic injuries and procedures and a 50% increase in mortality seen in these patients during the pandemic.
- Resources should be appropriately marshalled to prevent rises in-hospital mortality for patients with orthopaedic trauma treated during a pandemic help to secure more patient referrals for a physician.