



# Research Week 2020

## Acute Compartment Syndrome: Do we treat patients differently because of implicit bias?

Jordan Arakawa, B.S., Sean Sterrenberg, MD; Austin Thompson, BS; Emelia Sodders, MS; Darin Friess, MD; Zachary M. Working, MD  
arakawa@ohsu.edu  
OHSU

### Keywords

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### Abstract

#### Purpose

Implicit bias is an unconscious assessment of others that may lead to unintended prejudice. Socioeconomic attributes often complicate the assessment and treatment of trauma patients, particularly in the management of acute compartment syndrome (ACS). Our aim is to evaluate for the presence of social implicit bias among orthopaedic surgeons who performed fasciotomies for ACS. We hypothesize that social implicit bias impacts time to fasciotomy in patients diagnosed with ACS secondary to lower extremity trauma.

#### Methods

A billing database was reviewed to include all lower extremity 4-compartment fasciotomies performed by orthopaedic surgeons between 2008 and 2018. Retrospective review of time to fasciotomy, demographics and implicit bias factors defined as positive urine drug screen, active intoxication, current or prior history of opioid or illicit drug use, homelessness, & lack of medical insurance were included. Patients were divided as "at risk" or "not at risk," based on having implicit bias factors. A t-test analyzed the two groups with respect to time to fasciotomy.

#### Results

A total of 93 patients were identified; 7 patients were excluded by history for non-traumatic mechanisms, leaving 86 patients for analysis. There were 59 patients (68.6%) that met "at risk" criteria. The mean time to fasciotomy was 12.2 hours (range 0.1 – 51.4 hrs, SD 11.4 hrs). There was no significant difference ( $p=.438$ ) in time to fasciotomy between the "at risk" (mean 12.1 hrs, range 0.1 – 51.4 hrs, SD 11.6 hrs) and "not at risk" groups (mean 12.4 hrs, range 1.5 – 45.2 hrs, SD 9.9 hrs).

#### Conclusion

Trauma patients "at risk" for social implicit bias had no significant difference in time to fasciotomy for ACS when treated by orthopedic surgeons. We plan to compare implicit bias in matched cohorts for those who received fasciotomies for possible ACS and those who did not receive fasciotomies.

