

# The Impact of Gun-Violence: Understanding Surgical Intervention for Spinal Cord Injury from Gunshot Wounds

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## Background:

Surgical management of GSW-related SCIs remains controversial; most patients do not undergo surgical intervention. Time to surgery and indications in this group are not well understood, and these factors may impact prior data suggesting patients with GSW-SCI have worse outcomes, regardless of surgical intervention.

## Objective:

To understand the timing and indications for surgery in patients with GSW-SCI.

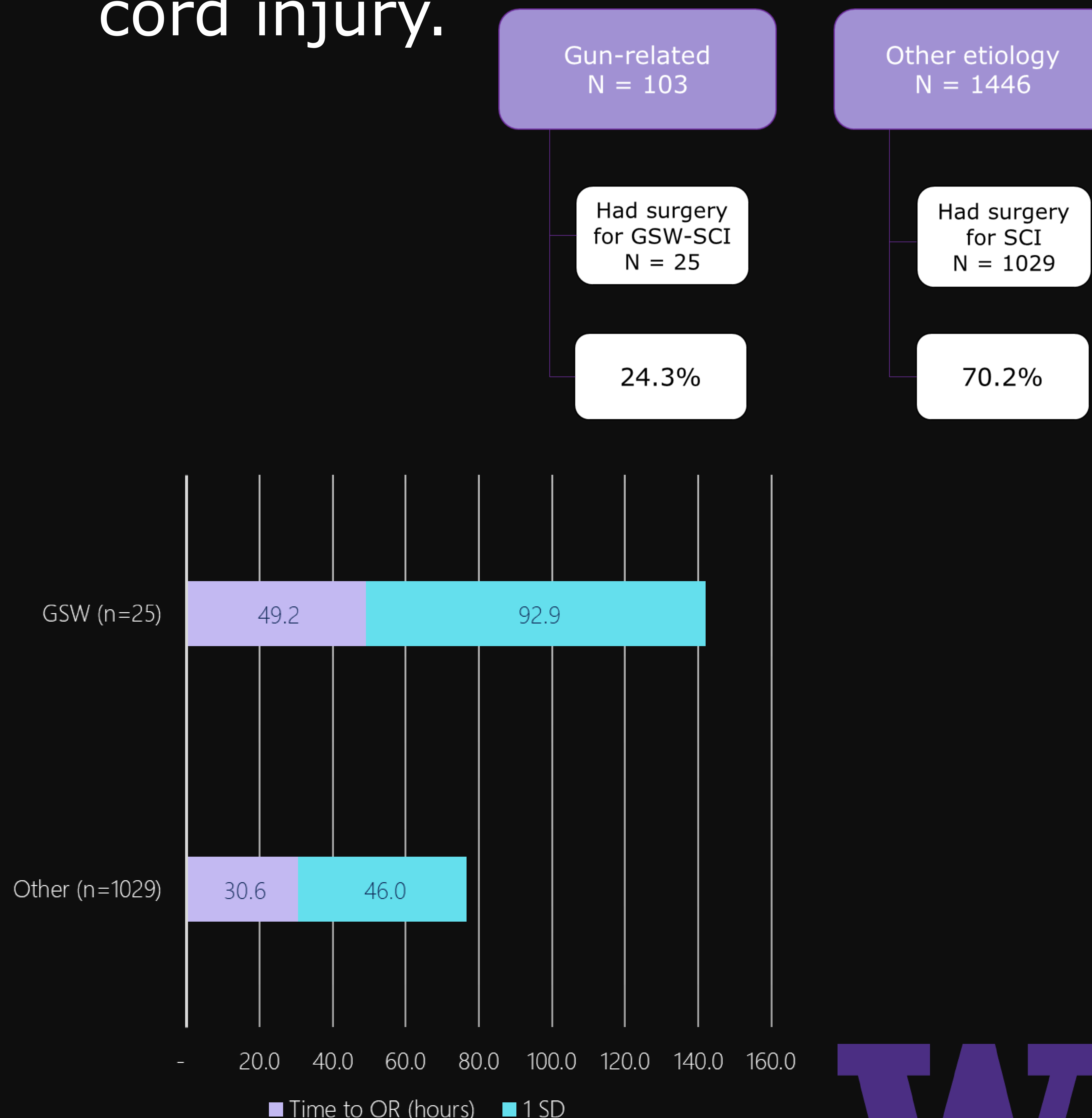
## Design:

Retrospective Cohort Study

## Methods:

- Patient with traumatic SCI from July 2012- July 2022 (n=1569) were identified from Trauma registry.
- **GSW related SCI, n= 103**
- **Other etiology SCI, n= 1446**

# Surgical care details should be considered in the interpretation of surgical outcomes after gunshot wound related spinal cord injury.



## Results:

- Patients with GSW-SCI were less likely to undergo surgery compared to other etiologies
  - 24.3% vs. 70.2%
  - $p < 0.0001$
- Time to surgery for GSW-SCI was longer.
  - 49.2 hours  $\pm$  92.9 vs. 30.6 hours  $\pm$  46.0
  - $p = 0.012$
- The most common reason for delays in spinal surgery were other emergent surgeries (52%)
- The most common indications for surgery were:
  - Retained bullet in spinal canal (20%, n=5)
  - Unstable spine fractures (20%, n=5)
  - Incomplete injury (12%, n=3)
  - Combination of the above (24%, n=6)

## Conclusion:

Surgery was delayed in patients with GSW-SCI compared to other etiologies with average time to surgery >48 hours with high variable in timing and indication.

## References:

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