27 - Title: Trauma in a Small Space: Characteristics, Outcomes, and Considerations for Pediatric Penetrating Neck Trauma

***Author(s)*:** Netanel Sapir, MD, Nina D.Kosciuszek, DO, MS, Robert Moore, MD, Richard Scriben, MD, Ehab Al Bizri, MD, Helen Hsieh, MD, PhD

***Faculty Mentor(s)*:** Helen Hsieh, MD, PhD

***Background*:** Penetrating neck injuries are rare in the pediatric population. Although uncommon, these injuries can have devastating consequences as the pediatric neck contains many significant anatomic structures within a small area. This study aims to characterize penetrating neck injuries in a pediatric level I trauma center to help improve the understanding and management of such injuries.

***Methods/Research Design*.** A retrospective review was performed on penetrating neck trauma patients identified through the trauma registry from Jan 2012-Jan 2024. Demographic data, type of injury, diagnostic studies, management, and outcome were collected. Univariate statistics were performed.

***Results (or Preliminary Results, as applicable for a project in progress)*:** Thirteen patients were included with an average age of 4.3 ±4.0 (SD). The most common injury was oropharyngeal lacerations (46%). Other injuries included neck puncture (8%), deep neck laceration (46%), and superficial neck laceration (7.7%). The most common diagnostic test was CTA of the neck (85). Mechanisms of injuries included dog bites (46%), falls with an object in the oral cavity (38%), falls onto an object (7.7%), and stabbing (7.7%). 62% of patients were taken to the operating room; Surgical interventions included laceration washout/repair (88%), neck exploration (63%), and embolization (13%). Two patients required emergent intubation.

***Conclusion (or Preliminary Conclusion, as applicable for a project in progress)*:** Despite a small sample size, our data suggests that pediatric penetrating neck trauma occurs from diverse mechanisms of injury and can lead to significant morbidity. Thus, early airway protection is vital. Additionally, we found that CTA of the neck has an important role in early injury detection and can serve to reduce negative neck explorations.