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Abstract Title: Orthopedics Team Member Sharp Injuries: A Retrospective Evaluation

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Problem or Need Addressed by the Project/Aim Statement: The purpose of this study is to determine the circumstances under which team member injuries (TMIs) are most likely to occur during orthopaedic surgery. Additionally, authors sought to evaluate relative rates of TMI in various subspecialties.

Description of measures/QI methodology or approach used in development of the interventions: This study examined Be Safe data collected in Orthopaedics from July 2019 to October 2022 across 56 TMI events. Team member injuries were defined as incidents in which a medical professional was exposed to a sharp such as a needle, wire, bone fragment, or saw. Types of team members analyzed in this study included medical students, residents, and attending physicians. Other collected details regarding the injury included orthopaedic surgery department, surgical stage, OR location (inpatient vs. outpatient), and time of day. This data was evaluated to identify trends in sharps-related injuries.



Figure 1. Demonstrates surgical stage during which TMI occurred.

Figure 2. Demonstrates absolute number of TMI by orthopaedic division.

Figure 3. Demonstrates location of operating room: hospital, outpatient surgery center, or outpatient orthopaedic center, which opened for surgery during July of 2022.

Figure 4. Demonstrates time of day when team member injuries occurred by hour.

Figure 5. Demonstrates breakdown of TMI occurrence by role of injured person.

Discussion/Conclusion/Next Steps: Of the normal elective surgery hours, the 13:00 to 15:00 window was notable for increased rate of TMI. This time frame coincides with OR staff shift change and the latter portion of the elective day, which may be a contributing factor. Orthopaedic surgery resident physicians sustain TMIs more often than attending physicians and a significant number of TMI events occur during closure – a portion of the case that consistently involves resident physicians and employs sharps. While all subspecialties were at risk, relative rates of

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TMI for these groups will be helpful in understanding where to focus improvement efforts. Moving forward, increased awareness to prevent TMI during closure and at the end of the elective day is beneficial, especially for resident physicians.