OTA Position Statement:

Optimizing surgical care of the orthopaedic trauma patient: Recommended orthopaedic trauma operating room resources for trauma centers

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Healthcare systems are dealing with novel challenges resulting from the COVID-19 pandemic. The repercussions of stopping and then resuming elective surgery have affected surgeons, healthcare systems, and patients. Resumption of non-urgent medical care has placed burdens on the efficient, effective allocation of logistically finite resources. The American College of Surgeons mandates daily, daytime operating room access for urgent orthopaedic trauma cases, and this practice has been institutionalized over recent years. Orthopaedic trauma surgeons also have a responsibility to care for less acute injuries that need surgical care, and require surgical resources in addition to the urgent orthopaedic trauma operating room. With the limited operative resources currently available, careful consideration of the resources needed for delivery of medically necessary, time-sensitive orthopaedic trauma care is warranted.

The Orthopaedic Trauma Association suggests scrutiny of current or proposed operating room allocations, to ensure that an OR is available daily for non-elective, though non-emergent fracture care (i.e., medically necessary and time sensitive – MeNTS)¹. This includes, but is not limited to, (1) outpatient cases, such as ankle and distal radius fractures, (2) staged procedures, such as tibia plateau or plafond fractures, (3) traumatic wounds requiring serial debridement and/or coverage, (4) post-acute trauma reconstructive procedures, such as delayed unions or malunions.

It is essential that orthopaedic trauma surgeons are able to rely on regularly available block operating room time that runs efficiently during daytime hours. Orthopaedic trauma surgeons are a limited resource in the United States and are committed to a busy schedule with numerous clinical responsibilities, as well as administrative and academic commitments. With this and the optimal care of the injured patient in mind, operating room access is of utmost importance. This will necessarily also include experienced, capable anesthesia, radiology and nursing staff, required surgical equipment and instrumentation, including radiolucent operating tables, and related C-arm imaging equipment and technical capability.

An abundance of published literature has demonstrated the quality and value of daytime surgery vs "after hours" surgery for non-emergent fracture care. Shorter surgical times, fewer complications, less re-operations, and shorter lengths of hospital stay are among the outcomes supporting the value proposition: better patient care at lower costs. Orthopaedic trauma surgeons who have worked faithfully throughout the ongoing pandemic may face institutional pressures to perform non-urgent procedures during evening and overnight hours in order to accommodate elective practices with a backlog of cases. A simple formula: number of orthopaedic trauma operating rooms = number of pending cases/ 2.5 (the average number of orthopaedic trauma cases that can be done per day in a single operating room) as the minimal amount of operating room time that

should be allocated to accommodate patients with injuries requiring surgical care by an orthopaedic trauma surgeon.

Operating room access should not be affected by onerous scheduling rules that prioritize filling of blocks with elective work; the concept of surgical injuries that have yet to occur needs to be taken into account when blocks are allocated. The OTA recommends the following provisions at a minimum:

- Adequate, protected OR time during appropriate daytime business hours must be available for managing orthopaedic trauma patients based on the formula in this document. This must include adequate time to care for injuries and trauma patients on urgent, semi-urgent and elective bases, in addition to emergent procedures.
- Orthopaedic trauma operating room time should release on the day of surgery and not 3-10 days in advance, since logically, injures that have not yet happened cannot be booked into "block time".
- There should be a "No Bumping" policy of orthopaedic trauma cases for other cases except for other orthopaedic trauma, and with the consent of the orthopaedic trauma surgeon.
- 1. Medically Necessary, Time-Sensitive Procedures: Scoring System to Ethically and Efficiently Manage Resource Scarcity and Provider Risk During the COVID-19 Pandemic [published online ahead of print, 2020 Apr 9]. *J Am Coll Surg*. 2020;S1072-7515(20)30317-3. doi:10.1016/j.jamcollsurg.2020.04.011
- 2. Beebe AC, Arnott L, Klamar JE, Kean JR, Klingele KE, Samora WP. Utilization of Orthopaedic Trauma Surgical Time: An Evaluation of Three Different Models at a Level I Pediatric Trauma Center. *Orthop Surg.* 2015;7(4):333-337. doi:10.1111/os.12209
- 3. Bhattacharyya T, Vrahas MS, Morrison SM, et al. The value of the dedicated orthopaedic trauma operating room. *J Trauma*. 2006;60(6):1336-1341. doi:10.1097/01.ta.0000220428.91423.78
- 4. Brusalis CM, Shah AS, Luan X, Lutts MK, Sankar WN. A Dedicated Orthopaedic Trauma Operating Room Improves Efficiency at a Pediatric Center. *J Bone Joint Surg Am.* 2017;99(1):42-47. doi:10.2106/JBJS.16.00640
- 5. Chacko AT, Ramirez MA, Ramappa AJ, Richardson LC, Appleton PT, Rodriguez EK. Does late night hip surgery affect outcome?. *J Trauma*. 2011;71(2):447-453. doi:10.1097/TA.0b013e3182231ad7

- 6. Featherall J, Bhattacharyya T. The Dedicated Orthopaedic Trauma Room Model: Adopting a New Standard of Care. *J Bone Joint Surg Am*. 2019;101(22):e120. doi:10.2106/JBJS.19.00352
- 7. Halvachizadeh S, Teuber H, Cinelli P, Allemann F, Pape HC, Neuhaus V. Does the time of day in orthopedic trauma surgery affect mortality and complication rates? *Patient Saf Surg.* 2019;13:8. Published 2019 Feb 5. doi:10.1186/s13037-019-0186-4
- 8. Ricci WM, Gallagher B, Brandt A, Schwappach J, Tucker M, Leighton R. Is afterhours orthopaedic surgery associated with adverse outcomes? A prospective comparative study. *J Bone Joint Surg Am.* 2009;91(9):2067-2072. doi:10.2106/JBJS.H.00661
- 9. Steeby SF, Harvin WH, Worley JR, et al. Use of the Dedicated Orthopaedic Trauma Room for Open Tibia and Femur Fractures: Does It Make a Difference?. *J Orthop Trauma*. 2018;32(8):377-380. doi:10.1097/BOT.000000000001232
- 10. Wixted JJ, Reed M, Eskander MS, et al. The effect of an orthopedic trauma room on after-hours surgery at a level one trauma center. *J Orthop Trauma*. 2008;22(4):234-236. doi:10.1097/BOT.0b013e31816c748b