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Earlier Return Among Returners Is Not Equivalent to Earlier Occupational Reintegration

YASIN TAŞKIN, MD[1]

[1]*Department of Neurosurgery, Faculty of Medicine, Tokat Gaziosmanpaşa University, Tokat, Turkey*

YT, 0000-0002-9109-7826

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To the Editor—I read with great interest the systematic review and meta-analysis by Aly et al examining return-to-work (RTW) outcomes after surgical vs conservative management of neurologically intact thoracolumbar burst fractures.[1] I commend the authors for prioritizing an outcome that is directly meaningful to patients, families, and health care systems. Their synthesis, however, also reveals an important methodological distinction that may refine the clinical interpretation of the findings.

Surgery was associated with a 104-day shorter mean time to RTW, yet the odds of having returned to work at approximately 6 months were lower in the surgical group, and no difference was present at the final follow-up. These findings may represent more than a simple separation between short- and long-term effects. Mean time to RTW and the proportion returning by a fixed time point estimate different quantities. Unless patients who had not returned were included through censoring, the calculation of mean time to RTW can be conditional on eventual return and may therefore exclude the patients with the poorest occupational outcomes. Under this circumstance, a treatment may appear to shorten RTW among selected returners while not increasing—and potentially reducing—the probability of RTW in the full cohort.[2–4] I therefore suggest tempering the statement that surgery "facilitates earlier RTW" to specify that the observed mean time was shorter among the patients represented in the available time-to-RTW data. A complementary time-to-event approach would strengthen the analysis. Kaplan–Meier or cumulative-incidence estimates, pooled hazard ratios, and restricted mean time to RTW would retain patients who had not resumed work at the end of follow-up.[4,5] Competing events such as retirement, unemployment unrelated to the injury, reoperation, or death should also be distinguished from simple censoring when data permit. The recent international prospective cohort by Dvorak et al demonstrates the feasibility of time-to-event methods in the same fracture population.[6] The marked heterogeneity in RTW definitions is equally informative rather than merely statistical noise. First RTW, sustained RTW, return to the same occupation, modified duties, and full vs partial work represent clinically different endpoints.[2,3] Occupational physical demand, compensation status, national sick-leave systems, baseline employment, and fracture severity may also modify the association between treatment and work participation. A future meta-analysis of individual participant data stratified by these variables could clarify which patients might derive a meaningful occupational advantage from surgery.

This valuable review advances the field by shifting attention from radiographic correction to social recovery. Reframing the main finding as a hypothesis-generating signal of earlier RTW among selected returners—rather than a definitive short-term advantage of surgery—would further improve its precision and usefulness for shared decision-making.

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Corresponding Author: Yasin Taşkın, Department of Neurosurgery, Tokat Gaziosmanpaşa University Faculty of Medicine, Tokat, Türkiye; dryasintaskin@gmail.com

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