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Return to Sport After ORIF with Plate Fixation of Clavicular Fracture: A Systematic Review and Meta-Analysis

Grace E. Johnston, BS[1]; Claire E. Noyes, BS[1,2]; Philip Austin Serbin, MD[1]; Eric C. McCarty, MD[1]; Rachel M. Frank, MD[1]

1. University of Colorado, Anschutz Medical Campus, School of Medicine, Department of Orthopedics, Aurora CO
2. Anne Burnett Marion School of Medicine at Texas Christian University, Fort Worth, TX

Disclosures

- No relevant disclosures

Objectives

Clavicular fractures account for about 10% of injuries incurred during sports with approximately 50% of them taking place during athletic participation. [3,4,15] Operative treatment has been shown to have positive outcomes with faster, more predictable return to sport at the desired level of function and performance. [6,9] This review aims to provide an overview of the literature on return to sport timelines following open reduction internal fixation (ORIF) for clavicular fractures in the athlete population.

Methods

Twelve studies were included in this systematic review, which reported on return to sport time, level and rate. 542 patients defined themselves as athletes aged 31.87 +/- 9.27 years treated surgically with ORIF for a mid-shaft or lateral third clavicular fracture.

Table 1: Return to Sport time and rates

Average Time to Return to Sport (days)	42.88 +/- 1.06
Overall Return to Sport (%)	92.45 +/- 2.76
Return to Pre-Injury Level (%)	90.07 +/- 3.42

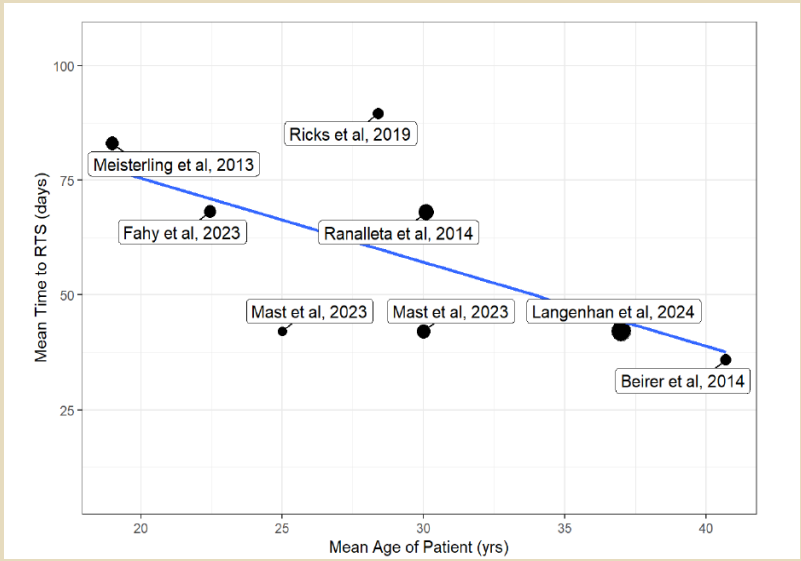

Fig 1: Relationship between Mean Patient Age (yrs) & Time to Return to Sport (days)

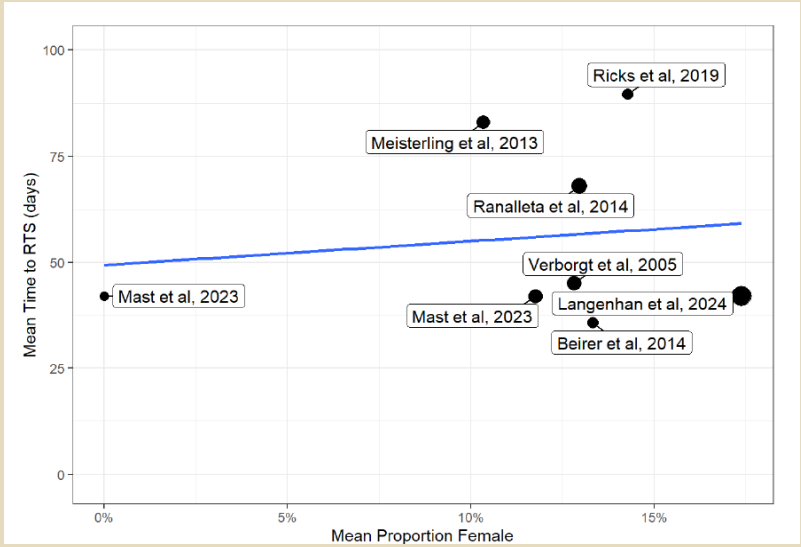

Fig 2: Relationship between Sex and Time to Return to Sport

Results

A total of 434 (87%) patients returned to any level of sports. A total of 329 (84%) patients returned to pre-injury level of sport. Average return to sport (RTS) time was 42.8 days. This was a mix of professional and recreational athletes. (Table 1) There is statistically significant evidence that there is a trend between mean age of patients and RTS ($p=0.002$). (Fig 1) An increase in an athlete's age by one year correlated with an increase in time taken to return to sport (RTS) by 2.7 months. There is statistically significant evidence that there is a trend between mean proportion female and mean time to RTS ($p=0.032$). As the mean proportion of females increases by 1%, the time to RTS increases by 2.694 days. (Fig 2)

Conclusion

There is a high rate of return to sport following clavicular fractures in the athlete population. Furthermore, athletes can RTS at their previous injury level following ORIF of both mid-shaft and lateral fractures independent of sport. RTS among recreational athletes and professional athletes is not comparable. However, athlete age and RTS time has been proven comparable.

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