Early Unprotected Return to Play after Metacarpal Fixation in Professional Athletes

Matthew Yalizis, MBBS, FRACS, Sans Souci, Australia
Gregory Hoy, MD, Windsor, Australia
Eugene Ek, MD, PhD, Melbourne, Australia

INTRODUCTION: Australian Rules Football players who underwent metacarpal fixation return to early unprotected professional play at mean of two weeks with no reduction in intra-game performance.

METHODS: A total of 13 patients (all professional Australian Rules Football players) with a mean age of 25 years were identified as having non-thumb metacarpal fractures and underwent open reduction and internal fixation using plate and screw fixation. Intraoperatively we placed emphasis on the use of long plates and interfragmentary screws to obtain a rigid construct. We compared the players’ professional intra-game performance statistics before and after the injury to ascertain any poor performance postoperatively. We collected clinical outcome information including radiographs and abbreviated Disabilities of the Arm, Shoulder and Hand questionnaire.

RESULTS: Nine out of 13 players sustained their fracture during the season and the mean time to return to unrestricted professional play was two weeks (+1 week) with no restrictions. Mean age at time of surgery was 25 years (range, 21-30y). The 13 patients had a mean follow up of 62 months (range, 28-130 months). Dominant hand was involved in eight out of 13 athletes (61%). Mean time to surgery from injury was 1.65 days (range, 5 hours - 3 days). All the player performance variables showed no reduction in their performance postoperatively (apart from two variables out of 36 variables analyzed). The average Quick DASH score was 3.41 (out of a possible maximum of 100; lower score the better). All patients achieved union. Two players had their plates removed electively. There were no other complications such as infection, wound breakdown, or periprosthetic fracture.

CONCLUSIONS: Our data suggests that professional athletes who sustain a non-thumb metacarpal fracture can undergo operative fixation and safely return to professional play at two weeks with no restrictions. Furthermore, our data shows there is no appreciable reduction in player performance or increase in postoperative complications as consequence of their early return.