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## The effects of an ankle injury risk reduction program in elite junior Australian football players

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### INTRODUCTION:

Published research indicates ankle injuries are consistently one of the most common injuries in junior Australian Football (AF) (1). Injury prevention programs have proven successful in reducing ankle injuries in similar sporting codes; however, there are time burden and associated compliance issues with more generalised programs (2). Therefore, the primary aim of this study was to evaluate the implementation of an ankle injury risk reduction program (AIRRP) in junior AF athletes. Secondly, the effectiveness of the AIRRP on ankle injuries and changes in ankle function and stability were explored.

### METHODS:

214 healthy elite junior male (15-18 years) athletes from four clubs competing in the state level under-18 competition participated. The study was a non-randomised control trial using historical club control data for comparison (2015-21). Club medical staff reported injuries that resulted in a missed regular season game. Injury burden was the product of injury incidence (number of ankle injuries) and severity (missed games per ankle injury). Players at participating clubs undertook a multiple hop test (MHT) at the start of preseason to determine baseline ankle function and stability. The clubs implemented the program consisting of balance and sport specific exercises, increasing in intensity and difficulty over the course of the season. The players completed follow-up MHT at the start and conclusion of the regular season. Implementation evaluation was determined by conducting exit interviews with club strength and conditioning coaches and exit surveys with players.

### RESULTS:

Exit interviews with club strength and conditioning coaches concluded that the program was beneficial and served as an important addition to attempt to reduce the risk of ankle injuries, however, player adherence and engagement were common reported issues. 89% of players agreed that the AIRRP was a valuable use of training time. There were 12 new ankle injuries in the 2022 season compared to 12.5 in the control years across the four clubs. The burden in the 2022 season was 56 missed games compared to 40.5 missed games in the control years. There was no significant difference in ankle burden (IRR=1.6; 95% CI=0.8-3; P=0.159). There was a significant positive effect on ankle function and stability across the season as measured by the MHT (all  $p < 0.05$ ). Player exit surveys concluded that 91% of players perceived their ankle stability was better at the final MHT compared to the baseline MHT.

### CONCLUSION:

Coaches and players perceived the program to be beneficial. Although the AIRRP did not significantly reduce ankle injuries, the MHT analysis did note improvements in ankle function and stability.

1. Scase E, Magarey ME, Chalmers S, Heynen M, Petkov J, Bailey SJJos, et al. The epidemiology of injury for an elite junior Australian Football cohort. 2012;15(3):207-12
2. OBrien J, Finch CFJCjasm. Injury prevention exercise programs for professional soccer: understanding the perceptions of the end-users. 2017;27(1):1-9.

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