The influence of optimal handheld load on the technical ability to apply ground reaction forces during horizontal jumping in female netball players

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Handheld load may be the earliest tool used for the purpose of athletic performance enhancement. In particular, it has been reported to enhance horizontal jump performance; however, little is known about its influence on the direction and magnitude of ground reaction forces (GRF), especially in female athletes. This presentation will report on the findings of an experimental study, investigating the effects of individualised handheld loading on the technical and physical ability to apply GRF during horizontal jumping in female athletes.

For this study a quantitative research approach was used. Maximal effort, horizontal jumps were performed by 13 female netballers. Participants performed the jumps under two conditions: 1) unloaded, and 2) loaded with individualised optimal handheld load. Study measures included jump distance, vertical and horizontal, mean and peak, eccentric and concentric ground reaction forces, as well as the ratio of force application (%) and the total force application. This presentation will highlight the main findings from this research which could have practical implications for the strength and conditioning coach, sports trainer and athlete, and provide a rationale for future research on this topic.

References