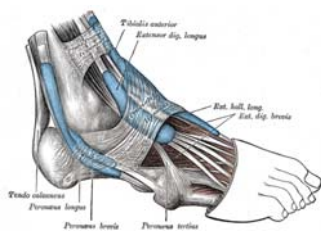


# The Effect of Foot-Core Exercise Training on Ankle Function and Balance in Female Youth Netball Players

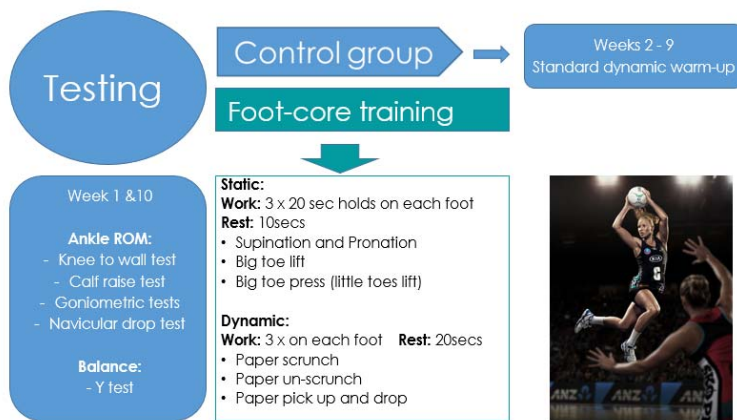
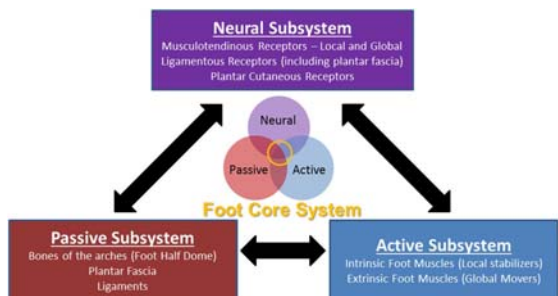
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**Focus:** We were interested in investigating Patrick McKeon's (2014, 2015) new concept of training The Foot-Core System and how it can contribute to improving ankle mobility and stability in youth netball players.



**Participants:** 23 female participants were randomly grouped into either the Foot-Core training (n=11) or the control group (n=12).



**Netball:** There is a great prevalence of acute ankle injuries within the youth (11-18yrs) netball population which are leading to more serious injuries including torn ACL's and chronic ankle injuries (CAI). Most common ankle injuries include inversion and eversion ankle sprains. Due to the intermittent nature and fast change of direction movements, these types of injuries highlight the weakness in landing. Improved mobility and stability would prove beneficial.

**Findings:** Overall there was a beneficial improvement in all measured tests for the foot-core training group compared to the control group. Specifically, there were improvements in all goniometric measures within the foot-core training group, especially on the preferred-foot and non-preferred foot in the eversion position, which suggests an improvement in static range of movement laterally. This did not transfer into dynamic balance activity as assessed by the Y-Balance test.

## Take Home Message

A Foot-Core training program can improve foot muscle strength which may lead to improved landing mechanics in future.



Examples of Foot – core exercises

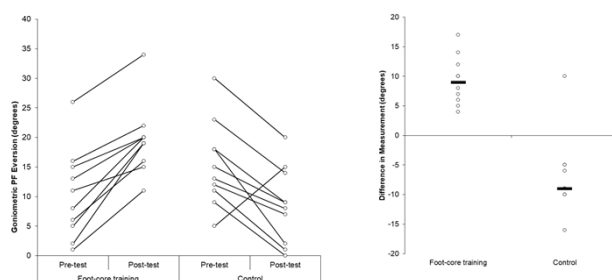


Figure 1. Eversion on the preferred foot

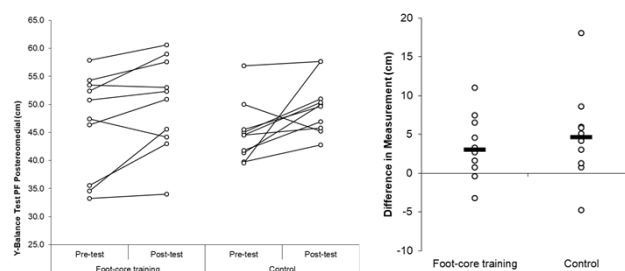


Figure 2. Y-Balance test on the preferred foot

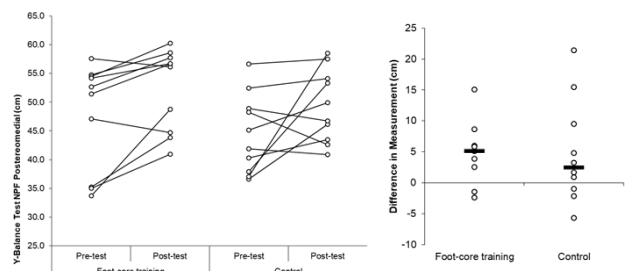


Figure 3. Y-Balance test on the non-preferred foot

## References

- McKeon, P. O., Hertel, J., Bramble, D., & Davis, I. (2014). The foot core system: A new paradigm for understanding intrinsic foot muscle function. *British Journal of Sports Medicine*, 49, 290-298.  
McKeon, P. O., & Fourchet, F. (2015). Freeing the foot: Integrating the foot core system into rehabilitation for lower extremity injuries. *Clinics in Sports Medicine*, 34(2), 347-361.