

Research EOI and further Information Sydney University and Dr Claire Hiller

I am an Associate Professor in the Sydney School of Health Sciences, Faculty of Medicine and Health, at the University of Sydney. My main research area is ankle sprains and chronic ankle instability, and I have published over 90 peer-reviewed papers with an H-index of 34, and a field weighted citation impact of 2.34 in ankle injuries.

I first became aware of the KiSS brace when Craig contacted me a number of years ago. I was very interested as my background is dance physiotherapy and the KiSS brace allowed complete ankle range of motion and could fit in a dance shoe. This was game changing for rehabilitation as both tape and braces restrict motion too much to allow graded return to dance. When my son ruptured his ATFL I had no hesitation in using the KiSS for support and graded return to work (civil engineering onsite road work) and sport (baseball and netball).

With my 'researcher' hat on, I am very interested in whether restricting ankle range of motion is detrimental for people with no history injury but beneficial for those with chronic ankle instability. In an unpublished systematic review with meta-analysis undertaken in our lab, in the general population ankle supports restricted vertical jump height in both uninjured and CAI populations. However, in athletic populations it was sprint and agility that was impacted negatively in those without injury, while hopping tasks were improved in those with CAI. The results are limited as most research has been undertaken in 'healthy' people and little is done with people who have CAI, particularly those with repeat sprains. There is also little information on the effect of restricting ankle motion higher up the functional chain, particularly at the knee.

When it comes to protection from injury, braces have been shown to prevent ankle sprains in both those who have never sprained and those who have. They are much more effective in those who have sprained before (see my IOC presentation 2021). However the research is old and newer brace types such as the KiSS are not represented. To understand the effect of restricting ankle motion, both locally and proximally, much more research needs to be done. This applies to the rehabilitation process, and those people who are likely to be wearing braces regularly- those with repeat sprains. Our research team, with access to a state-of-the art biomechanics lab, are aiming to help bridge this gap.

I would recommend the NBA investigate the KiSS brace for ankle sprain rehabilitation and prevention, and lack of inhibition in performance.

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