

Ankle Sprain Rehabilitation through Innate Stability Training

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Background

It has been demonstrated that after an acute ankle sprain, the likelihood of recurrence is significantly higher than for those who have no prior history of ankle injury. There are currently two prevailing theories behind the cause of ankle sprain recurrence: proprioceptive deficit and connective tissue laxity.

The hypothesis in this study is that traditional rehabilitative therapy for ankle sprains addresses connective tissue laxity and muscular weakness but neglects to address the true nature of joint instability. As such we propose an alternative rehabilitation protocol whereby the emphasis of rehabilitation is placed on autonomic and reflexive ankle stabilization rather than overt and intentional stabilization. Ankle stability is a largely unconscious process and by that logic, the hypothesis is that rehabilitation should reflect the unconscious and innate nature of ankle stability. The proposed alternative rehabilitation protocol would provide balance and coordination exercises that emphasize autonomic stability, such as providing a balance exercises while concurrently being instructed to perform a distractor task that requires enough cognitive resources as to prevent the individual from concentrating on the balance aspect.

Procedure:

This study will be conducted in person at Carleton University. Prior to selection into the study, consulting clinicians will ascertain the suitability of potential participants. Suitable participants should have suffered a grade I inversion ankle sprain and entering the remodelling phase of rehabilitation. Applicants choosing to participate in the study will be asked to complete a qualifying questionnaire, to determine suitability for the study. The questionnaire will include inquiries into demographics, nature of injury, symptoms, background on injury, and past health history. At the beginning of the questionnaire, participants will be advised that they are able to refuse to answer any question or questions and that if they choose, they may end their participation in the study. Once fully qualified, participants will be asked to have their joint stability and muscular activity tested once a week for 4 weeks at Carleton University. Participants that are sorted into the experimental group will be asked to undergo ankle stability and balance training at Carleton University once a week, in addition to the testing session. Upon completion or termination, a written debriefing will be provided.