

Analysing Fatigue in Chronic Ankle Instability

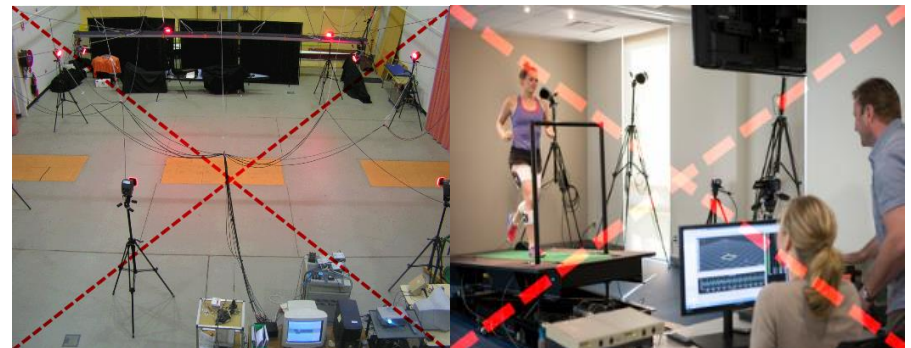
Alexandria Remus, Eamonn Delahunt, Kevin Sweeney, Brian Caulfield

Research Challenge

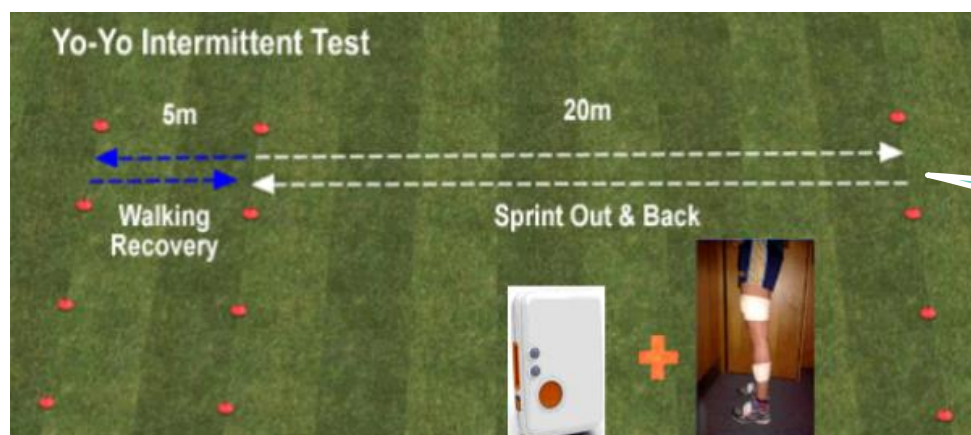
Lateral ankle sprains are one of the most common injuries suffered by athletes in sports. It is estimated that an upwards of 70% of athletes will develop chronic ankle instability following an initial sprain. Despite the high prevalence of CAI, knowledge of the mechanism or prevention of repeated ankle sprains is limited.

Since most sprains occur in the latter halves of matches, the purpose of this study was to determine the effects of fatigue on lower limb movement variability in individuals with and without CAI during running gait using 3D inertial sensors.

Past Research



My Solution



On field data collection

Signal processing

Movement analysis

Analysing fatigue

By using low cost 3D inertial sensors to identify the effects of fatigue on movement variability in a CAI population we hope to identify lower limb movement alterations associated with repeated ankle sprains. Identifying these improper movements may provide better insight on developing a more robust rehabilitation programme following an ankle sprain and may provide insight for developing a more effective injury prevention protocol.

Events occurring around the time of the turn were the features of interest as deceleration during a turn and the subsequent requirement for quick acceleration simulates a high risk sprain situation.

