

EVALUATION OF LANDING MECHANISMS POST INJURY TO THE FOOT OR ANKLE

Foot and ankle injuries are among the most common injuries of the lower limb and often have lasting effects, including chronic instability and lingering pain when left untreated. Outside of the athletic context, less than 50% of ankle and foot injuries are referred to rehabilitation services. Lack of rehabilitation and/or treatment following injuries can have long-term effects on the stability and force production of the lower limb. Residual strength issues can impact landing stability and lead individuals to be at higher risk for reinjury. Therefore, this study examines landing mechanisms of individuals following ankle or foot injury. This is done by recruiting healthy participants with a history of unilateral ankle and/or foot injury. Following a dynamic warm-up, participants perform three barefooted, single-legged jumps on a ground reaction force plate (AMTI), with each foot. The raw data collected from each participant is analyzed using the Balance Analysis Module of the BioAnalysis Software (AMTI). Specifically, BioAnalysis Software is used to determine the center of pressure (COP) in the X and Y axes, average displacement in the X and Y axes, and the 95th percentile ellipse area. This will provide an idea of the amount and magnitude of movement in each foot upon landing. Student's paired T-tests will be performed to compare injured foot to uninjured foot. Data collection is on progress, but we expect to see greater displacement in the X and Y axes as well as significantly higher magnitude of movement upon landing for the previously injured limb compared to the un-injured limb. Information from this study is important because it can provide knowledge on potential risks of landing post-injury and assist in the recommendation of rehabilitation and treatment.