

Title: Quantifying aspects of orthosis in relation to ankle sprain

Objectives: To detect whether various types of ankle bracing affect dynamic postural stability. Investigation of attenuation of vertical forces in different conditions. To determine range of motion for each orthosis.

Methods: Monitoring of dynamic variables by piezoelectric measuring device – Kistler recording of dynamic changes. Mathematical modeling of damping characteristics and detected variables. Measuring of range of motion by goniometer with and without orthosis.

Results: Results suggest, that bracing conditions have an effect on dynamic postural stability and orthosis limit range of motion. Attenuation of vertical forces is affected by using orthosis.

Keywords: ankle instability, orthosis, mathematical modeling, stabilization