

Background

- Ankle sprains are one of the most common musculoskeletal injuries and up to 40% of those with a previous ankle sprain report symptoms consistent with Chronic Ankle Instability (CAI).^{1,2}
- CAI, which can be characterized by giving way episodes of the ankle, impacts the integrity of the ligaments and muscles in the affected ankle.^{2,3}
- There lacks a modern, comprehensive diagnostic tool that has the capacity to measure laxity and strength of the ankle, which is the driving rationale for the development of the Ankle- Portable Laxity and Strength Tester (Ankle-PLAST).

Aims

1. To generate a new prototype of the Ankle-PLAST device with updated features, including a biofeedback mechanism
2. To determine the validity of the Ankle-PLAST compared to industry standard
3. To assess the test-retest reliability of the Ankle-PLAST



Figure 2. First prototype of the Ankle-PLAST with load cells, heel cup, and an automated ankle stress plate

Figure 3. Frame of current prototype with heel cup included

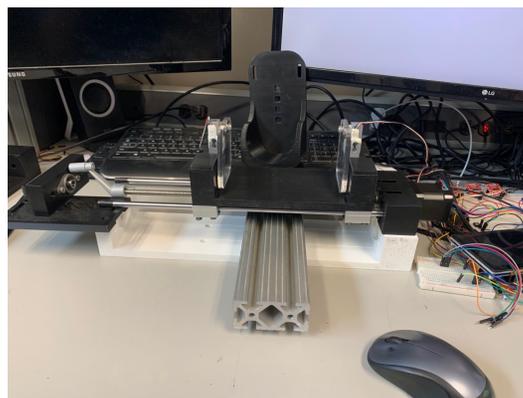
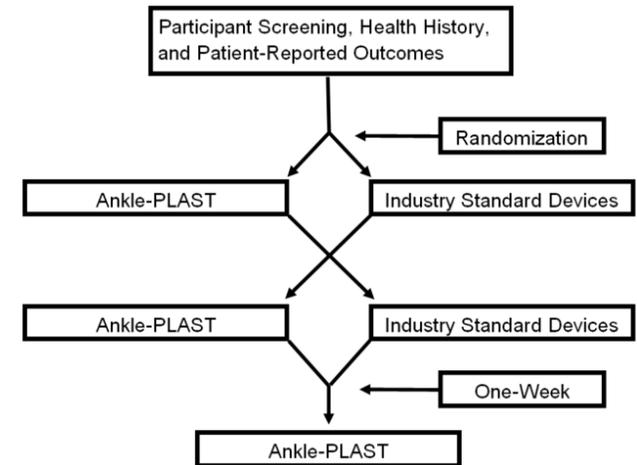


Figure 4. Automated ankle stress component with reference to the location of the heel cup. Three heel cup sizes will be printed to accommodate all size feet



REFERENCES

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