

Field Measurement of Running Impacts

Client: Bryan Heiderscheit, PhD, PT

Team Members: Feest (co-leader)

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Problem Statement

Design an instrument that measures the impacts of running using tibial acceleration data. The device should combine the use of accelerometers and gyroscopes, which will record data to an incorporated data logger. The device must be easily worn by the user, and the hardware should have the ability to do most of the data processing. This instrument will be used to diagnose stress fractures and other injuries related to running.

Last Week's Goals

- Find good materials to use to attach accelerometer to leg
- Find a belt/fanny pack to attach the data logger to the waist
- Once accelerometer is received, start reverse engineering our own accelerometer

Summary of Accomplishments

- Group meeting to discuss design specifics
 - Leg band to secure accelerometer
 - Purchasing and modifying a clip or waist belt to hold the data logger
 - Materials and design of calibration device

This Week's Goals

- Buy materials for the tester and build
- Buy materials for the leg band and sew
- Continue looking into waist attachment for data logger
- Set up a time to calibrate accelerometer in the client's lab

Project difficulties

- Products are not coming in from the UK

Activities

- Group meeting
- Individual research on attachment systems

- Amanda-2 hours
- Chelsea-2 hours
- Matt-2 hours
- Lindsey-2 hours
- Nicole-2 hours

