

Field Measurement of Running Impacts

Client: Bryan Heiderscheit, PhD, PT

Team Members: Feest (co-leader)

Wanta (co-leader)

Kudek (communications)

Daehn (BSAC)

Carlson (BWIG)

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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

- Meet with client to finalize accelerometer design
- Continue coming up with ways to calibrate accelerometer
- Find good materials to use to attach accelerometer to leg
- Find a belt/fanny pack to attach the data logger to the waist

Summary of Accomplishments

- Met with client and clarified expectations
- Further developed our method of calibrating the accelerometer

This 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

Project difficulties

- Figuring out components of our own accelerometer

Activities

- Group met with client
- Individual research for attachment system

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

