Progress Report

Title: Active Ankle/Foot Orthotic (AFO) to Enhance Walking and Balance

Names: Jessica Hause: Co-leader
Erin Main: Co-leader
Emily Andrews: BSAC
Josh White: Communicator
Tony Schuler: BWIG

Date: February 16, 2007 – February 23, 2007

Problem Statement:
Create a device that actively enhances forefoot step-off and increases proprioception to improve balance for people experiencing ankle weakness, foot-drop and the inability to walk and balance safely as a result of various neurological diseases such as Charcot-Marie-Tooth disease, multiple sclerosis and stroke. The device should be non-obtrusive, fit in a shoe, comfortably attach to the leg, and be economical.

Last Week’s Team Goals:
- Continue brainstorming ideas for our project
- Research existing spring materials for our orthotic
- Begin to establish three major project ideas
- Meet with a PT who specializes in foot drop-off
- Continue with questions for our client and patient
- Research foot and ankle anatomy
- Research the major muscles, nerves, and pressure points involved in walking

Last Week’s Individual Goals:
- Erin Main: Progress Report, research existing spring materials, brainstorm
- Jessica Hause: Complete PDS, research anatomy of the foot, brainstorm
- Josh White: Establish a budget, research walking, brainstorm
- Tony Schuler: Work on team website, research foot anatomy, brainstorm
- Emily Andrews: BSAC meeting, research walking, brainstorm

Summary of Accomplishments:
- Met with physical therapist and gained a better understanding of walking patterns and existing AFO’s on the market
- Wrote letter to Biomedical Engineering Department about budget
- Researched walking patterns and the nerves, muscles and pressure points involved
- Researched and became familiar with ankle anatomy
- Brainstormed several ideas for project
- Completed rough draft of PDS
This Week’s Goals:

- E-mail physical therapist and find out about possibility of getting our patients walking pattern analyzed
- Establish budget
- Arranged meeting with contact once budget has been established so we can inform him of our limitations
- Begin to narrow down design matrix constraints and rank their importance
- Generate possible design ideas
- Arrange another meeting with our patient
- Improve and update PDS
- Continue researching walking patterns

Project Schedule:

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<th>February</th>
<th>March</th>
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Difficulties:

Our team continues to struggle with the budget. Our project was approved without any prior budget being established. This week we wrote a letter to the Biomedical Engineering Department asking for funding and we will hopefully be able to get a response early next week. It has been difficult for us to generate our possible designs because we have no idea the kind of budget that will end up being established.

This Week’s Activities:

2/16/2007  Team: Met with PT and client  3 hours
2/18/2007  Erin: Completed PDS        1 hour
           Emily: Researched ankle anatomy  1 hour
2/19/2007  Jess: Researched walking patterns 1 hour
Josh: Researched walking patterns 1 hour
Tony: Website 1 hour
2/21/2007 Erin & Jess: Progress report 1 hour
Josh: Letter to PT 1 hour
2/21/2007 Team: Budget letter to BME department 2 hours

**Week Total** 33 hours

**Overall Total Hours:**

**Individual**

Erin: 21 hours
Jess: 21 hours
Josh: 19 hours
Tony: 19 hours
Emily: 19 hours

**Team Total** 99 hours