

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: March 24, 2007 – March 30, 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 Goals:

- Obtain the video of observational gait analysis from our orthotic specialist
- Contact Professor Thelen to discuss gait patterns
- Decide on a final design that fits within our budget
- Order materials and supplies that we will need for our final design
- Use data from gait analysis to assure that our final design will support the forces being applied

Summary of Accomplishments:

- Obtained video and gait analysis information from orthotics specialist
- Brainstormed different parts and design for our final project
- Finalized our design with a rough list of materials to be ordered in the coming week
- Made a rough sketch of our final design with the various parts to be ordered
- Researched available parts and prices
- Attempted to contact our orthotics specialist, Dr. Thelen, and an expert on carbon fiber

This Week's Goals:

- Meet with Dr. Thelen to discuss our final design
- Meet with our orthotics specialist and materials expert to discuss our final design and potential help with its fabrication
- Look in to possible methods of fabrication
- Finalize our research on gait in order to incorporate our knowledge of gait patterns during fabrication

- Order parts
- Begin fabrication

Project Schedule:

Task	Jan	February					March					April				May
Project Research	26	2	9	16	23	2	9	16	23	30	6	13	20	27	4	
Research																
Contact Patient																
Contact Client																
Meet with PT																
Brainstorming																
Design																
Develop Prototype																
Website																
Deliverables																
Mid-semester Presentation																
Mid-semester Report																
Final Presentation																
Final Report																
Progress Reports																
Meetings																
Semester Wrap-up																

Difficulties:

Our team is continuing to have difficulty finding a time to meet up with Dr. Thelen to discuss our final design due to his fairly busy schedule. However, we were able to get in contact with him and discuss times that he would be available to meet up with us in the coming week. In addition, we are finding that our knowledge of fabrication using carbon fiber and thermoplastics is fairly limited and as a result, we have contacted our orthotics specialist as well as several experts on carbon fiber and thermoplastics asking for help with fabrication.

This Week's Activities:

3/23/2007	Team: Brainstormed and finalized design ideas	2 hours
3/24/2007	Tony: Updated website	1 hour
3/25/2007	Team: Finalized design and looked at parts	2 hours
3/26/2007	Josh: Discussed potential meeting times with Dr. Thelen	1 hour
3/27/2007	Jess: Contacted orthotics specialist and various materials experts for help with fabrication, progress report	1 hour
3/27/2007	Emily and Erin: Looked at parts	1 hour

Week Total 25 hours

Overall Total Hours:

Individual

Erin:	53 hours
Jess:	53 hours
Josh:	51 hours
Tony:	50 hours
Emily:	51 hours

Team Total 258 hours