

Development of an ultrasound probe holder for arterial function testing (Probe Holder)

Client: James H. Stein, MD

Dept. of Medicine, Cardiology
UW School of Medicine and Public Health
Phone: 263-5131
email: jhs@medicine.wisc.edu

Team: Leon Corbeille (BWIG)

Neal Haas (Communicator)
Peter Kleinschmidt (Leader)
Lein Ma (BSAC)

Progress Report for Week 12: April 17 – April 23

Problem Statement:

To aid in the ultrasonography of arterial reactivity, a simple, stable, adjustable probe holder is needed. The stabilization provided by such a holder could potentially improve probe imaging quality and diagnostic effectiveness. The device should be able to be finely adjusted with 6 degrees of freedom, and free the hands of the technician for the duration of the study.

Last Week's Goals:

- Obtain clamp and get full device assembled.
- Deliver device for preliminary testing
- Begin preparation of poster and paper for final presentation

Summary of Accomplishments

- Due to an error by the supplier, the magnetic base for the arm that we received is not of the proper size for the arm.
 - A new magnetic base has been ordered
- Device is fully assembled with the exception of the magnetic base and the probe clamp.
- Still waiting on the arrival of the clamp as well

This Week's Goals

- Obtain remaining parts and finish assembly. Test performance of device
- Create poster for final design presentation. Rehearse presentation for May 1st.

Project Difficulties:

The magnetic base was far from the device we will require for proper functionality. In addition to being too small and not generating enough force, the threading on the top is not compatible for attachment of the arm. A new part has been ordered and we are awaiting its arrival.

Team Activities

Members	Activity	Time Spent	Total
Team	Construction, Planning	1.00 hr.	23.00 hr.
Lein	Design Notebook Documenting	0.50 hr.	19.50 hr.
Leon	Website, Design Notebook	0.50 hr.	22.00 hr.
Peter	Progress Report, Design Notebook	0.50 hr.	21.00 hr.
Neal	Communication	0.50 hr.	19.75 hr.

Project Timeline

Task	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8
Project Development																
Brainstorm/Design Development																
Finalize Design																
Prototyping																
Deliverables																
Progress Reports																
Mid-semester Paper																
Mid-semester Presentation																
Final Paper																
Final Poster																
Meetings																
Client																
Advisor																
Website																

Budget/Expenses – Updated April 2, 2009

Item	Product No.	Supplier	Cost
4x2 PVC Pipe*	611942112760	Home Depot	5.74
Sheet Metal (1'x1')	43374560329	Home Depot	5.84
Emory Paper	76607478559	Home Depot	5.47
23 3/4 x 48 Melamine	40933106189	Home Depot	11.98
1x4x2 Poplar	10286399428	Home Depot	2.63
Positioning Arm	9560384	MSC-Direct	193.81
Sales Tax			1.61
Total			227.08

*To be returned, size won't work