Project Title: An airway pressure device for use in an MRI machine

Team Members:
Laura Sheehan - Leader
Jon Cappel – Communications
Noelle Simatic – BWIG
Kevin Johnson – BSAC

Client: Victor Haughton, M.D.
UW Department of Radiology
3252 Clinical Science Center-E3
Phone: 263-5306
email: vmhaughton@facstaff.wisc.edu

Advisor: Mitch Tyler

Date: 9/30/05 – 10/6/05

Problem Statement: Our client Dr. Haughton is currently studying CSF flow during Valsalva maneuvers performed by children with Chiari I malformations. Current research suggests that CSF flow decreases during Valsalva maneuvers in these patients. The airway pressure device would help monitor the exhalation force exerted by each child during a Valsalva maneuver in the MR suite. Knowing the pressure exerted by each patient in the study would be extremely beneficial for data analysis and accuracy.

Last Week’s Goals:
• Meet with client at noon on Friday, 9/30 to present preliminary design sketches, system schematic, and demonstration of prototype function
• Invite our client to Midsemester presentation on Friday, 10/14 and obtain time preference
• After receiving client’s feedback, evaluate material options and start ordering parts
• Complete slides for Midsemester Presentation
• Divide up speaking responsibilities for presentation

Individual Goals:
Laura – Progress report, contact Matt O’Brien from the Pulmonary Function Lab
Jon – Research commercially available transducers
Noelle – Work on project website
Kevin – Prepare demonstration for client meeting

Summary of Accomplishments:
• Met with client on Friday, 9/30: Gave demonstration, received input regarding mouthpieces and other design components
• Invited our client to our Midsemester Presentation
• Met with Matt O’Brien, Manager of the Pulmonary Function Lab, and gained feedback regarding mouthpieces and valves
• Obtained numerous materials from Matt O’Brien (including a variety of mouthpieces, several types of tubing, a manometer, a plastic connector piece that attaches to the respiratory physiology mouthpiece, as well as other supplies that he thought might be useful)
• Scheduled a team meeting to work on PowerPoint presentation and divide up speaking responsibilities for the presentation (10/6 at 7:30 pm)

This Week’s Goals:
• Make improvements to the PowerPoint presentation
• Possibly prepare a demonstration for the Midsemester Presentation
• Rehearse presentation as a group
• Make sure that the PDS is up-to-date
• Decide which transducer to order
• Evaluate valve alternatives

Project Difficulties: None

Activities:
  Laura – Progress report, client meeting, team meeting: 5 hours
  Jon – Client Meeting, team meeting: 5 hours
  Noelle – Work on project website, client meeting, team meeting: 5 hours
  Kevin – Client meeting, team meeting: 5 hours

Team Total Hours for this Week: 20 hours

Project Schedule:

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