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.
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Advisor: Mitch Tyler

Date: 11/18/05 – 12/01/05

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:
• Electronics work
• Testing in the MR
• Redesigning (if necessary)
• Poster and paper work

Individual Goals:
Laura – Progress report, outline paper/presentation, prototyping, testing
Jon – Prototyping, send reminders to team regarding meetings, testing
Noelle – Work on project website, prototyping, testing
Kevin – Prototyping, testing, electronics work

Summary of Accomplishments:
• Completed electronics work
• Calibrated device
• Completed and painted prototype
• Tested device on team members
• Tested device in MR suite
• Constructed support system for device
• Made figures, slides, and videos for the poster presentation
• Worked on paper
This Week’s Goals:
• Poster Presentation on Friday, 12/2
• Finish work on paper
• Get website and notebooks up-to-date
• Complete peer/self/project evaluations
• Meet with advisor to wrap up the semester

Project Difficulties: None

Activities:
Laura – Progress report, prototype work, testing, work on presentation and paper: 16 hours
Jon – In-class meeting, prototype work, testing, work on presentation and paper: 16 hours
Noelle – Work on project website, prototype work, testing, work on presentation and paper: 16 hours
Kevin – In-class meeting, prototype work, testing, work on presentation and paper: 16 hours

Team Total Hours for Past 2 Weeks: 64 hours