

**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