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: 11/4/05 – 11/10/05

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:
- Obtain client feedback
- Finish constructing the prototype
- Work on signal display
- Start putting together the poster presentation

Individual Goals:
Laura – Progress report, outline paper/presentation, prototyping (drilling)
Jon – Prototyping (lath plug), send reminders to team regarding meetings
Noelle – Work on project website, prototyping (drilling)
Kevin – Prototyping (lath plug), measure head coil, circuit diagram, sign up for time on MR for testing

Summary of Accomplishments:
- Met with client and obtained feedback on Monday, 11/7
- Made a project schedule for the remainder of the semester
- Worked on prototype: drilled hole for transducer and lathed plug
- Divided up tasks among team members
This Week’s Goals:

Friday:
- Attend human subjects presentation
- Plan out electronics work
- Make a list of part needed for the supports
- Finalize design and measurements for the supports
- Time permitting: shorten up the tube in the machine shop (to make the design lighter)

Over the weekend:
- Shop for support parts (Noelle and Laura) and Al box (Kevin)

Monday (5 pm at ECB shop):
- Shorten tube
- Build supports
- Electronics work

Tuesday (if needed):
- Additional supports building and electronics work

Project Difficulties: None

Activities:
- Laura – Progress report, in-class meeting, team prototype construction meeting, work on paper: 6 hours
- Jon – In-class meeting, client meeting, team prototype construction meeting: 6 hours
- Noelle – Work on project website, in-class meeting, client meeting, team prototype construction meeting: 6 hours
- Kevin – In-class meeting, client meeting, team prototype construction meeting, measuring MR head coil: 6 hours

Team Total Hours for this Week: 24 hours

Project Schedule for the Remainder of the Semester:
Goals/Deadlines: Prototype finished by 11/18, Testing on 11/19 and 11/20
Expenses:

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<th>Store</th>
<th>Item</th>
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