Valve for an Endotracheal Tube Cuff
Progress Report #2, September 20, 2006

Client: Dr. Lester Proctor
Team: Michael Alexander (Leader)
   Claire Edlebeck (BWIG)
   Samantha Bergh (Communicator)
   Tyler Lark (BSAC)
   Lucas Vitzthum (Graphics)

September 14 to September 20, 2006

Problem Statement
Develop a valve for an endotracheal tube cuff that will not allow inflation pressures to exceed 25 cm H\textsubscript{2}O pressure. Overinflation of the cuff that provides a tight seal between the endotracheal tube and the patient’s trachea is a common problem. The excess pressure can cause many complications, especially in children. Our task is to create a cuff that fails predictably at 25 cm H\textsubscript{2}O so the cuff can be safely utilized in pediatrics.

Last Weeks Goals
- Meet with Client
- Find professor with gas flow experience
- Obtain permission to use machine shop
- Brainstorm new valve designs

Summary of Accomplishments
Our client threw us a curveball this week. At our meeting Friday, Dr. Proctor suggested taking the project in a new direction. Instead of a valve that released excess pressure, he wants some visual cue as to the pressure inside of the cuff. This is a totally different product than what we had been planning to design, but I think we’re in good shape and ahead of the curve already.

We had a group meeting yesterday to discuss the future direction of our project and a lot of good ideas were shared. We need to look into various mechanical and maybe even electronic means of sensing pressure. We are currently looking for various professors with parallel specialties to our needs in order to enquire about the feasibility of some of our ideas.

This Weeks Goals
- 3 Design ideas per person
- Research
- Contact Experts
- Look for component sources
**Project Schedule**

9/8  Form team, contact client, assign team roles, set up client meeting
9/15 Literature search, create problem statement, begin PDS
9/22 PDS, brainstorming, begin developing designs, fix prototype
9/29 Brainstorming
10/6 Decide on 3 design alternatives, prepare for mid-semester presentation
10/13 Mid-Semester Presentation
10/20 Hand in report and notebooks
10/25 Work on final design
10/27 Decide on final design
11/3 Work on final design
11/10 Work on final design
11/17 Work on final design, begin preparing poster and paper
11/24 Thanksgiving
12/1 Final Poster Presentation
12/8 Hand in final written report and notebooks
12/13 Final meeting with advisors

**Activities**

**Michael:**
- Team meeting (1 hr)
- Client Meeting (1 hr)
- Research (2.5 hrs)
**Total: 4.5 hrs**

**Claire:**
- Team meeting (1 hr)
- Client Meeting (1 hr)
- Professor lookups (1.5 hrs)
**Total: 3.5 hrs**

**Tyler:**
- Team meeting (1 hr)
- Client Meeting (1 hr)
- Research (1 hr)
**Total: 3 hrs**

**Samantha:**
- Team meeting (1 hr)
- Client Meeting (1 hr)
- Communications (1.5 hrs)
**Total: 3.5 hrs**

**Lucas:**
- Team meeting (1 hr)
- Research (1 hr)
**Total: 2 hrs**