Valve for an Endotracheal Tube Cuff
Progress Report #10, November 15, 2006

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

November 11 to November 15, 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
• Begin Fabrication
• Find sensitive manometer
• Initial testing

Summary of Accomplishments
These past few days, we have been anxiously awaiting the arrival of our various construction materials. Fortunately, today saw the late arrival of the bulk plastic we purchased. With the plastic we can begin fabrication tomorrow.

Claire and Tyler have been especially busy searching out various forms of resistance. We currently have a bevy of springs and foams for testing in our prototype.

This upcoming Friday, we have a meeting with our client. He has a monometer that we can use for testing.

This Weeks Goals
• Fabrication
• Testing / Calibration
**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

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**Activities**

**Michael:**
- Finalize prototype dimensions (3 hrs)
- Parts Research (1 hr)
  
*Total: 4 hrs*

**Claire:**
- Resistance supplier Contact (2 hrs)
- Resistance Research (3 hr)

*Total: 5 hrs*

**Tyler:**
- Plastic Supplier Contact (2 hr)
- Resistance Research (2 hrs)

*Total: 4 hrs*

**Samantha:**
- Communications (2 hrs)
- Acquire Testing Equipment (2 hrs)

*Total: 4 hrs*

**Lucas:**
- Finalize prototype dimensions (1 hr)
- Update Graphics/Schematics (3 hrs)

*Total: 4 hrs*