Valve for an Endotracheal Tube Cuff
Progress Report #8, November 1, 2006

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

October 26 to November 1, 2006

Problem Statement
Develop a valve for an endotracheal tube cuff that will not allow inflation pressures to exceed 25 cm H2O 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 H2O so the cuff can be safely utilized in pediatrics.

Last Weeks Goals
• Pursue Plastic Fabrication
• Finalize Prototype dimensions
• Machine shop logistics
• Find resistance component

Summary of Accomplishments
This week seemed to go by extremely fast. With several people out of commission for various reasons (illness, exams, insatiable need to shoot at things that fly) we only got a fraction of the tasks completed that I was hoping have done for tomorrow. But that isn’t to say we aren’t moving forward. Through our research, we now have several possible components for the resistance component. We also have found several suppliers for that plastic we require, as well as the inflation valve that will have to be incorporated onto our design. Hopefully, the relatively laid back week will leave everyone refreshed and ready for the labor ahead.

This Weeks Goals
• Pursue Plastic Fabrication
• Finalize Prototype dimensions
• Machine shop logistics
• Contact suppliers
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)
  Resistance Research (1.5 hrs)
  Total: 2.5 hrs

Claire:
  Team meeting (1 hr)
  Plastic Specs Research (2 hrs)
  Total: 3 hrs

Tyler:
  Team meeting (1 hr)
  Plastic Supplier Research (1 hr)
  Total: 2 hrs

Samantha:
  Communications (1.5 hrs)
  Total: 1.5 hrs

Lucas:
  Team meeting (1 hr)
  Plastic Supplier Research (2 hrs)
  Total: 3 hrs