

Endotracheal tube adaptor for administration of nebulized medications

Client: Dr. Mark E. Schroeder

Team Members: Ryan Childs (BSAC)
Ozair Chaudhry (Communicator)
Timothy Barry (BWIG)
Evan Joyce (Leader)

Date: February 28 to March 6, 2009

Problem Statement

The goal of this project is to develop an endotracheal tube adaptor that can be used to consistently deliver aerosolized medication to an anesthetized patient during surgery by anesthesiologists at the UW-Hospital. The device should not impede the anesthesia circuit which flows at a rate of 4–5 Liters of air/minute and should solely act as a port to deliver medication should it be needed during surgery. A recent change to the metered dose inhalers (MDI) used by our client, specifically the nipple housing, has rendered our client's current adaptor ineffective. Our client would prefer an adaptor that either works with the patients plastic dose dispenser, directly with the new MDIs (Albuterol or Ipratropium), or as an addition to the current adaptor used.

Last Week's Goals

- Further develop design matrix and rate top three alternatives
- Finish PowerPoint presentation and begin working on mid-semester report
- Meet with client on 2.26.09 to discuss design alternatives
- Finish up any research deemed relevant by individual group members

Summary of Accomplishments

- Finished design matrix, chose top three alternatives, and evaluated alternatives
- Finished rough draft of PowerPoint
- Met with client and came to group consensus on top three alternatives as well as top pick
- Completed majority of research that will be needed to build and test prototype

This Week's Goals

- Make final version of PowerPoint
- Begin work on mid-semester report
- Begin looking for company to fabricate prototype

Project Difficulties

- Thus far have not met with a fluid mechanics Professor however this may be more relevant once a finalized design has been drawn up

Activities

Ozair Chaudhry

2.27.2009 Team meeting/PowerPoint slides	2.00 hr
3.01.2009 PowerPoint slides	1.50 hr
3.05.2009 PowerPoint practice	3.00 hr

Timothy Barry

2.27.2009 Team meeting/PowerPoint slides	2.00 hr
3.01.2009 PowerPoint slides	1.50 hr
3.05.2009 PowerPoint practice	3.00 hr
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### Ryan Childs

2.27.2009 Team meeting/PowerPoint slides	2.00 hr
3.01.2009 PowerPoint slides	1.50 hr
3.05.2009 PowerPoint practice	3.00 hr

### Evan Joyce

2.27.2009 Team meeting/PowerPoint slides	2.00 hr
3.01.2009 PowerPoint slides	1.50 hr
3.03.2009 Luer lock research	1.00 hr
3.04.2009 Progress report	1.00 hr
3.05.2009 PowerPoint practice	3.00 hr

## Project Schedule

Tasks	January		February				March				April				May	
	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8
<b>Research and Development</b>																
Research	█	█	█				█								█	
Brainstorm		█	█	█			█								█	
Develop Prelim. Designs				█	█	█	█								█	
Detail/Evaluate Designs							█	█	█						█	
Build Prototype							█			█	█	█	█		█	
Test Prototype							█					█	█	█		█
<b>Website</b>		Timothy														
<b>Deliverables</b>							█	█							█	
Midsemester Presentation							█	█							█	
Midsemester Report							█	█							█	
Final Presentation							█							█	█	
Final Report							█							█	█	█
<b>Progress Reports</b>	Evan															

## Expenses

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