

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 21 to February 27, 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 if needed. Recent changes to the medicine canister's nipple housing due to a propellant change have rendered our client's current adaptor ineffective. Our client would prefer an adaptor that either works with the patients Multi Dosed Inhaler (MDI), directly with the new medication canister (Albuterol or Ipratropium), or as an addition to the current "Bush adaptor" used.

Last Week's Goals

- Become more fluent in Solid Works through tutorials
- Brainstorm for design alternatives and product specifications/limitations
- Set up meeting with Professor Fronczak for flow dynamics
- Begin to develop preliminary drawings and a design matrix to evaluate alternatives

Summary of Accomplishments

- Developed design matrix criteria and alternatives
- Chose top three design choices from pictures supplied by Ryan
- Furthered research in materials and current adaptor
- Started work on PowerPoint presentation

This 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

Project Difficulties

- Thus far have not been able to meet with a fluid mechanics Professor

- Learning the syntax and controls for advanced Solid Works use

Activities

Ozair Chaudhry

2.20.2009 Team meeting/PowerPoint work	2.00 hr
2.26.2009 Client and team meeting	2.00 hr
~~~~~ General research	1.00 hr
~~~~~ Contacting Professors	0.50 hr

Timothy Barry

2.20.2009 Team meeting/PowerPoint work	2.00 hr
2.26.2009 Client and team meeting	2.00 hr
~~~~~ General research	1.00 hr
~~~~~ Website	1.00 hr

Ryan Childs

2.20.2009 Team meeting/PowerPoint work	2.00 hr
2.23.2009 PowerPoint slides	1.50 hr
2.26.2009 Client and team meeting	2.00 hr
2.27.2009 BSAC meeting	1.00 hr
~~~~~ General research	1.00 hr

### Evan Joyce

2.20.2009 Team meeting/PowerPoint work	2.00 hr
2.23.2009 PowerPoint slides	1.50 hr
2.24.2009 Research on new metered dose canister	2.00 hr
2.25.2009 Progress report	1.00 hr
2.26.2009 Client and team meeting	2.00 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															█	█
Progress Reports	Evan															

## Expenses

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