

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 6 to February 13, 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. The device should not impede the anesthesia circuit which flows between 4–5 Liters/minute and should solely act as a port to deliver medication if needed. Recent changes to the aerosolized medicine canisters due to environmental concerns over the propellant have rendered current adaptors 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

- Begin research on related patents, anesthesia circuit, and medical grade plastics
- Contact client for next meeting
- Begin brainstorming
- Develop PDS
- Start project website

Summary of Accomplishments

- Found information on relevant patents and the anesthesia circuit
- Met with client for second time and received important medical instruments for measurements (endotracheal tube, MDI, canister, and “Bush adaptor”)
- Began brainstorming design alternatives
- Put together preliminary PDS
- Attended Solid Works seminar as a team

This Week’s Goals

- Research cleaning methods (CIDEX) and what impacts this would have on material choice and device longevity
- Become more fluent in Solid Works through tutorials
- Finalized PDS and put on website
- Brainstorm for design alternatives and product specifications/limitations
- Set up meeting with Professor Fronczak for flow dynamics

Project Difficulties

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Activities

Ozair Chaudhry

2.6.2009 Team Meeting	2.00 hr
2.6.2009 SolidWorks Tutorial	1.00 hr
2.11.2009 General research	3.00 hr
~~~~~ PDS	1.00 hr
~~~~~ Contacting Professors	1.00 hr

Timothy Barry

2.6.2009 Team Meeting	2.00 hr
2.6.2009 SolidWorks Tutorial	1.00 hr
~~~~~ PDS	1.00 hr
2.11.2009 General research	1.00 hr
2.11.2009 Website	1.00 hr

### Ryan Childs

2.6.2009 Team Meeting	2.00 hr
2.6.2009 SolidWorks Tutorial	1.00 hr
2.8.2009 General research	1.00 hr
2.12.2009 Research/brainstorming	1.00 hr
2.13.2009 BSAC Meeting	1.00 hr
~~~~~ PDS	1.00 hr

Evan Joyce

2.6.2009 Team Meeting	2.00 hr
2.6.2009 SolidWorks Tutorial	1.00 hr
2.7.2009 Brainstorming/measurements	1.00 hr
2.12.2009 CIDEX/materials research	2.00 hr
2.6.2009 Progress report	1.00 hr
~~~~~ PDS	1.00 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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