

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: May 1 to May 8, 2009

Problem Statement

The goal of this project is to develop an endotracheal tube adaptor that can consistently deliver aerosolized medication (Albuterol or Ipratropium) to an anesthetized patient during surgery by anesthesiologists at the UW-Hospital. The adaptor will be used on an intubated patient who is anesthetized with medication from an anesthesia circuit. 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) made by GlaxoSmith&Klein, specifically the addition of an actuation counter on the top of the canister, has rendered our client's current adaptor ineffective. Our client would prefer an adaptor that either works with the patient's plastic dose dispenser, directly with the new MDIs, or as an addition to the current adaptor used. The adaptor we are pursuing acts as a "syringe" to dispense medication in a simple fashion, with one hand, into the Luer port of a readily available plastic anesthesia elbow. The elbow has a locking cap on the Luer port which will be used to prevent the circuit from being broken when the "syringe" adaptor is not in use.

Last Week's Goals

- Finish report

Summary of Accomplishments

- Finished report

This Week's Goals

- Finish provisional patent and run MOUDI later this summer (all outside of class time)

Activities

Ozair Chaudhry

5.01.2009 Poster presentation	2.00 hr
5.07.2009 Finishing report (group)	2.00 hr
~~~~~ Writing report section (individual)	2.00 hr
~~~~~ Researching MOUDI	1.00 hr

Timothy Barry

5.01.2009 Poster presentation	2.00 hr
5.04.2009 Final report work	1.00 hr
5.05.2009 Provisional patent work	1.00 hr
5.06.2009 Writing report section (individual)	2.00 hr
5.07.2009 Finishing report (group)	2.00 hr
~~~~~ Website	2.00 hr

### Ryan Childs

5.01.2009 Poster presentation	2.00 hr
5.06.2009 Writing report section (individual)	2.00 hr
5.07.2009 Finishing report (group)	2.00 hr

### Evan Joyce

5.01.2009 Poster presentation	2.00 hr
5.04.2009 Final report work	1.00 hr
5.05.2009 Writing report section (individual)	2.00 hr
5.05.2009 Editing entire report	2.00 hr
5.06.2009 Formatting and organizing final report	2.00 hr
5.07.2009 Finishing report (group)	2.00 hr
5.07.2009 Progress report	0.50 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

- Prototype cost -- \$675 from Physics shop (\$15 materials, \$660 labor)
- Additional touch-up -- \$55 from Physics shop (labor)
- Poster -- \$50 from college library