

# **Expandable Nasogastric Tube**

Weeks 13 November 17<sup>th</sup> – November 29<sup>th</sup>

**Team:** Darren Klaty – Co-Team Leader  
Mike Rossmiller – Co-Team Leader  
Alex Broderick – BWIG  
Megan Halley – Communicator  
Sarah Czaplewski - BSAC

**Advisor:** Paul Thompson

**Client:** Dr. Steven Yale

## **Problem Statement:**

Nasogastric tubes (NG tubes) are commonly used for aspiration of gastric contents and gastric decompression in patients with small bowel obstruction. Placement of a NG tube causes discomfort and pain during insertion due in part to the large diameter of the tube. The project requires a nasogastric a tube which is small enough to reduce discomfort, while still being functional. Secondary design specifications include pH sensitivity, to allow visual confirmation of when the tube reaches the stomach, and recyclability.

## **Previous Weeks Goals:**

- Finalize design for proof of concept
- Mechanical Testing of samples
- Sim Lab testing 11/30
- Poster, paper work begins

## **Team Role Accomplishments:**

- Leaders – Completed Progress Report.
- Communicator – Professional contacts, talked to client about poster session
- BWIG – Put Progress Report online.
- BSAC – Will attend next BSAC meeting.

## **Summary of Design Accomplishments:**

- All –Completed Preliminary Poster
- All - Divided Paper Sections to complete
- Sarah, Megan- Completed Testing for semester

## **This Week's Goals/Individual Goals**

- Complete the poster
- Complete the paper
- Turn in all deliverables
- Pass on contacts from Megan and Sarah to Mike, Darren, and Alex
- Gather remaining materials from Megan and Sarah

## **Difficulties:**

- Difficulties with tube insertion and compression

**Activities:**

<b>Person(s)</b>	<b>Task</b>	<b>Time (hrs)</b>	<b>Weekly Totals</b>	<b>Semester Totals</b>
<b>Darren</b>	<b>Progress report</b>	<b>.5</b>		
	<b>Manufacturing</b>	<b>2.0</b>		
	<b>Paper and Poster</b>	<b>1.75</b>		
	<b>Team Meetings</b>	<b>2</b>	<b>6.25</b>	<b>32.5</b>
<b>Mike</b>	<b>Progress Report</b>	<b>.5</b>		
	<b>Paper and Poster</b>	<b>1.5</b>		
	<b>Team Meetings</b>	<b>1</b>	<b>3.0</b>	<b>29.25</b>
<b>Alex</b>	<b>Fabrication</b>	<b>2.0</b>		<b>21.5</b>
	<b>Paper and Poster</b>	<b>1.5</b>		
	<b>Team Meetings</b>	<b>3</b>	<b>6.5</b>	<b>28</b>
<b>Sarah</b>	<b>Paper and Poster</b>	<b>1</b>		
	<b>Analyzing Data</b>	<b>1</b>		
	<b>Team Meetings</b>	<b>3</b>	<b>5</b>	<b>49</b>
<b>Megan</b>	<b>Poster Compilation</b>	<b>3</b>		
	<b>Team Meetings</b>	<b>3</b>	<b>6</b>	<b>34.0</b>

**Project Schedule:**

Tasks	September				October				November				Dec	
	7	14	21	28	5	12	19	26	2	9	16	23	1	7
<b>Product R&amp;D</b>														
Background Info	X	X	X	X	X			X	X	X	X	X		
Design Alternatives				X	X									
Final Design					X	X	X							
Materials						X	X	X	X	X	X	X	X	
Design Modeling							X	X	X	X	X	X	X	
Testing											X	X	X	
<b>Presentations</b>														
Mid-Semester							X							
Final														
<b>Deliverables</b>														
Progress Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	
PDS	X							X						
Mid-Semester Report								X						
Final Report														
<b>Meetings</b>														
Team Meetings	X	X	X	X	X	X	X	X	X	X			X	
Advisor Meetings	X	X	X	X	X	X	X	X	X	X		X	X	
Client Meetings	X				X				X					
<b>Website</b>	X	X	X	X	X	X	X	X	X	X		X	X	

**Expenses:**

Expenses for tubing. Reimbursement to come in form of checks from Dr. Yale.