

# **Expandable Nasogastric Tube**

Week 9 November 2<sup>nd</sup> – November 8<sup>nd</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:**

- All – Test materials at the SIM Lab
- All – Determine the type of material to be used for the inner tube
- All – Determine size of ID and wall thickness for inner tube
- All – Determine possible size of sleeve to contain inner tube

## **Team Role Accomplishments:**

- Leaders – Completed Progress Report.
- Communicator – Emailed SIM Lab and client.
- BWIG – Put Progress Report online.
- BSAC – Will attend next BSAC meeting.

## **Summary of Design Accomplishments:**

- All – Client meeting to discuss progress so far
- Sarah – Ordered shrink wrap tubing for sleeve from 2 different companies at varying thicknesses and sizes
- Sarah – Planning of mechanical testing for tubing
- Megan and Mike – Meeting to discuss materials and planning

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

- All – Test materials at the SIM Lab on 11/9
- All – Continue examining shrink wrap tearing options,
- All – Look over other team's report once Dr. Yale emails it to us
- All – Determine possible size of sleeve to contain inner tube

## **Difficulties:**

None this week.

**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>Shrink wrap packaging research</b>	<b>1.5</b>	<b>2.0</b>	<b>20.5</b>
<b>Mike</b>	<b>Background Research</b>	<b>2.0</b>		
	<b>Meeting with Megan</b>	<b>.5</b>	<b>2.5</b>	<b>20.75</b>
<b>Alex</b>	<b>Tubing research</b>	<b>2.0</b>	<b>2.0</b>	<b>17.0</b>
<b>Sarah</b>	<b>Mechanical testing research</b>	<b>1.5</b>		
	<b>Tubing research</b>	<b>1.5</b>	<b>3.0</b>	<b>31.0</b>
<b>Megan</b>	<b>Background Research</b>	<b>0.5</b>		
	<b>Meeting with Mike</b>	<b>1.0</b>	<b>1.5</b>	<b>20.0</b>
<b>Team</b>	<b>Client meeting</b>	<b>1.0</b>		
	<b>Meeting Sunday</b>	<b>1.0</b>	<b>2.0</b>	<b>12.0</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					
Design Alternatives				X	X									
Final Design					X	X	X							
Materials						X	X	X						
Design Modeling							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					
PDS	X							X						
Mid-Semester Report								X						
Final Report														
<b>Meetings</b>														
Team Meetings	X	X	X	X	X	X	X	X	X					
Advisor Meetings	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					

**Expenses:**

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