

# Expandable Nasogastric Tube

Week 8 October 26<sup>th</sup> – November 2<sup>nd</sup>

**Team:** Darren Klaty – Co-Team Leader  
Mike Rossmiller – Co-Team Leader  
Alex Broderick – BWIG  
Megan Halley – Communicator  
Sarah Czapski - 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 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- Order materials for tubes to test in lab.
- All- Determine testing date to get lab scheduled.

## Team Role Accomplishments:

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

## Summary of Design Accomplishments:

- All – Ordered materials
  - Mike – PVC tubing
  - Sarah – Silicon Tubing
- All – Narrowed down materials between PVC and Silicon

## This Week's Goals/Individual 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

## 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>Background Research</b>	<b>1.0</b>	<b>1.5</b>	<b>18.5</b>
<b>Mike</b>	<b>Background Research</b>	<b>2.0</b>		
	<b>Progress Report</b>	<b>.5</b>	<b>2.5</b>	<b>18.25</b>
<b>Alex</b>	<b>Talking with Nurse</b>	<b>1.0</b>	<b>1.0</b>	<b>15.0</b>
<b>Sarah</b>	<b>Background Research</b>	<b>3.0</b>		
	<b>Brainstorming prototype production</b>	<b>1.0</b>	<b>4.0</b>	<b>28.0</b>
<b>Megan</b>	<b>Background Research</b>	<b>1.0</b>		
	<b>Communication with SIM Lab</b>	<b>1.0</b>	<b>2.0</b>	<b>18.5</b>
<b>Team</b>	<b>Meeting to order interior tubes for testing</b>	<b>1.0</b>	<b>1.0</b>	<b>10.0</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						
Design Alternatives				X	X									
Final Design					X	X	X							
Materials							X	X						
Design Modeling							X	X						
Testing														
<b>Presentations</b>														
Mid-Semester							X							
Final														
<b>Deliverables</b>														
Progress Reports	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						
Advisor Meetings	X	X	X	X	X	X	X	X						
Client Meetings	X				X									
<b>Website</b>	X	X	X	X	X	X	X	X						

**Expenses:**

No expenses to date