

Title: Hydrocephalus Shunt Valve

Names: Emma Alley, Andrew Miller, Karl Fetsch, Catharine Flynn

Date: 2/24/17-3/2/17

Problem Statement: When the heart beats, it approximately moves blood at a rate of 1000 ml/min. Only about 1 ml/min enters the blood brain barrier and is later reabsorbed. For patients with hydrocephalus, the body's ability to reabsorb the fluid is significantly diminished, causing pressure to accumulate in the skull. In order to decrease the intracranial pressure, hydrocephalus patients must have surgery to insert a shunt valve to allow for fluid drainage. The current valves are not without fault, and fail 40% of the time. The goal of this project is to improve upon mechanical shunt valves by incorporating ambient pressure like in US patent 9526879.

Summary of Team Roles and Accomplishments:

- *Emma Alley, Leader:* Set up meeting times and sent out the report in word to the client
- *Andrew Miller, Communicator/BPAG:* Contacted client about meeting
- *Karl Fetsch, BWIG:* No updates to the webpage were needed this week.
- *Catharine Flynn, BSAC:* BSAC meetings as necessary

Summary of Design Accomplishments: The team has created a design matrix and synthesized a few ideas for how to approach the design.

Activities:

Name	Total Hours	Activities
Emma Alley	1.5	2/28/17 Researching materials and equations (45min) 3/1/17 client meeting (45min)
Andrew Miller	2.25	2/28/17 Materials and testing methods research (1.5 hrs) 3/1/17 Client Meeting (45min)
Karl Fetsch	0	NA
Catherine Flynn	1.25	3/1/17 client meeting (45min) 2/24/17 Materials and equations search

Statement of Team Goals: The team plans on discussing our research for modeling the design.

Individual Goals:

- *Emma*: Plan the tentative schedule for moving forward
- *Andrew*: Contact the client about team meetings
- *Karl*: Update the website as necessary
- *Catherine*: Attend BSAC meetings as necessary.

Difficulties: Scheduling conflicts prevented everyone on the team from meeting in the same place this week.

Project Schedule/Timeline:

Week (starts on Fridays)	Goals Before the Start of the Week
March 9	Plan out testing procedures, fabrication procedures, and modeling procedures for our design
March 16	Place material orders

Expenses: The team has not made any purchases yet.