

**Title:** Hydrocephalus Shunt Valve

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

**Date:** 4/7/17-4/13/17

**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
- *Andrew Miller, Communicator/BPAG:* Contacted individuals for purchasing
- *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 made purchases and plans to start fabricating the device in a few days.

**Activities:**

<b>Name</b>	<b>Total Hours</b>	<b>Activities</b>
Emma Alley	3	2017/04/9 Design Meeting and Material Purchasing (3hrs)
Andrew Miller	3	2017/04/9 Design Meeting and Material Purchasing (3hrs)
Karl Fetsch	3	2017/04/9 Design Meeting and Material Purchasing (3hrs)
Catherine Flynn	3	2017/04/9 Design Meeting and Material Purchasing (3hrs)

**Statement of Team Goals:** The team plans on building and testing the device.

**Individual Goals:**

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

**Difficulties:** The O-rings and piston needed to be ordered online, so they limit the speed at which we can build our device.

**Project Schedule/Timeline:**

<b>Week (starts on Fridays)</b>	<b>Goals Before the Start of the Week</b>
April 14	Build a Prototype and plan for testing
April 21	Testing

**Expenses:**

<b>Equipment</b>	<b>Price</b>
O-Rings (10)	\$8
UHMWPE rod	\$12.96
<b>Total</b>	<b>\$20.96</b>