

**Title:** Hydrocephalus Shunt Valve

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

**Date:** 3/2/17-3/9/17

**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 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 pre-prototype prototype and made preparations to create a solidworks model.

**Activities:**

Name	Total Hours	Activities
Emma Alley	4	3/3/17 Built a model (2hrs) 3/4/17 Team meeting (2hrs)
Andrew Miller	2.5	3/3/17- Research (0.5hrs) 3/4/17 Team meeting (2hrs)
Karl Fetsch	2	3/4/17 Team meeting (2hrs)
Catherine Flynn	2.5	3/2/17- Research (0.5hrs) 3/4/17 Team meeting (2hrs)

**Statement of Team Goals:** The team plans on creating a solidworks model, ordering silicone, and printing the model.

**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 biggest difficulties came through the discussions of how to fabricate the prototype, but we believe we can simplify these issues by 3D-printing

**Project Schedule/Timeline:**

<b>Week (starts on Fridays)</b>	<b>Goals Before the Start of the Week</b>
March 16	Create a solid works design, order materials, and possible print the device
March 22	SPRING BREAK
March 29	Build a Prototype and plan for testing

**Expenses:** The team has not made any purchases yet.