Patient Positioning Aid

Week 1
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Work Completed:

Chris and I took the machine shop class and are certified. Used the parts order to make sure everything ordered was received. Measured the sheets of PVC to check dimensions using measuring tape. Set up positioning aid using the base PVC sheet, narrow economy polyfoam, and the headrest as a visual. We tested the comfort of the basic setup by lying down and sitting on the aid.

Figure 1: Setup of Positioning Aid
This week we also searched for needed hardware for the track system and locking in mechanism for the leg stabilizer. For the track system we need flat head screws made from nonferrous material such as aluminum and knobs. I checked at Home Depot, where most of them were zinc plated, or had a zinc head. We might end up making the screws ourselves out of aluminum so that the desired structure can be obtained. The plastic knobs at Home Depot were too big. They were 1-1/4 inches when the screws will be about 1/8 in thick. We were able to find knobs online with aluminum inlay that will suit our purpose. For the leg stabilizer either the use of pins or clamps will be needed. Aluminum pins were hard to find in the dimension we need. If we go with the pins we will most likely make them ourselves out of a long rod. Clamps will provide a wider range of heights since the bar will be able to clamp down anywhere where as with the pins only predetermined heights with holes will be available.

Future Work:

For this week we plan to finish parts order and get started on the base of positioning aid. Each week we plan to complete a major component starting with the base. We need to make machine shop drawings, mark the PVC board for milling, then mill, file down all sharp edges and make sure everything is smooth.

Hours Worked:

I worked a total of 6 hours.
4 hours in lab
1 at Home Depot
1 searching online for parts