Patient Positioning Aid
Week 5
02/21/06
Christen Thomsen

Work Completed:

During the fifth week of design two I got a lot accomplished. I was able to drill and tap the holes in the arm stabilizer base which will allow for the 80/20 pivot to be attached. This process can be seen in figure 1 and finished bases in figure 2.

Figure 1: Tapping the arm stabilizer base
Figure 2: Drilled and Tapped arm stabilizer bases.

I completed both bases taped with ¼ -20 holes, which works with our hardware. Also in the machine shop I was able to cut the 80/20 extrusions needed for the arm stabilizer (seen in figure 3). I cut them to 12” each.
Once I had the necessary pieces cut and tapped, I was able to attach the pivot to the base of the arm stabilizer. Then I attached the extrusion to the pivot (seen in figure 4).

Figure 3: Cutting the 80/20 extrusion.

Figure 4: Arm stabilizer base and pivot.
I then cut the carriage bolts for the track and the pivot down so that they were of the correct size (see figure 5).

**Figure 5:** Cutting of bolts

Following this I attached the linear bearings to the extrusion and then attached the whole assembly to the board as seen in figure 6.
Figure 6: Arm stabilizer base, pivot, and bearing attached to board.

Once I had this attached I assessed ways to make the device more aesthetically pleasing. I decided that I will trim excess base off and round the corners of the base so it looks better.

**Future work:**

For next week, I will trim the excess material off of the arm stabilizer base and round the edges. I will also mill the slots so the stabilizer can be removed without removing the knobs. I also plan on making the cap bolt from aluminum needed to attach the pivot hub to the extrusion securely, as it is not securely attached now. I also would like to cut the arm rest portion of the stabilizer this week as well.

**Project Review:**
I am currently meeting the objectives set forth for me and am on schedule. No immediate action is required at this time to complete the project on time.

**Hours worked:**

BME Lab – 6.5 hrs  
Machine Shop – 4 hrs  
Independent work – 2 hrs  
Total – 12.5 hrs