Past Week:

This meeting weekly meeting was also planned to discuss our progress with our client for the RERC competition to ensure that we are still on track and have enough time to finish the project. Since this is the first week of the semester, our group took the time to refamiliarize ourselves with our optimal design and its specifications. The group also together went over each of the parts orders to ensure that the correct part was delivered. The size and quantity of each part was checked and determined to be correct. This allowed us to skip the lengthy returning procedure, that we had allotted time for in our projected timeline last semester, since all the parts are still required in our optimal design.

Another item of concern was how updating our budget, and determining how much of the $2000.00 budget had been spent thus far. We have calculated that we have $1,512.70 remaining to spend on the prototype. This seems sufficient enough to build a suitable prototype and gives us a cushion in case of possible mishaps or design changes.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base for Position Table</td>
<td>$175.00</td>
</tr>
<tr>
<td>Narrow Economy Polyfoam</td>
<td>$99.00</td>
</tr>
<tr>
<td>Foam Headrest</td>
<td>$80.00</td>
</tr>
<tr>
<td>T-foam</td>
<td>$32.00</td>
</tr>
<tr>
<td>PVC 0.75” Rods</td>
<td>$6.20</td>
</tr>
<tr>
<td>HDPE rectangular bars</td>
<td>$54.48</td>
</tr>
<tr>
<td>PVC 1” Rod</td>
<td>$10.70</td>
</tr>
<tr>
<td>PVC 1” sheet</td>
<td>$25.62</td>
</tr>
<tr>
<td>PVC .75” sheet</td>
<td>$19.22</td>
</tr>
</tbody>
</table>

| Tentative Balance as of 1/24/06      | $1512.70|
This week I spent time looking for pins to use with the function of securing the leg stabilizer. These pins cannot be made of any ferrous metal and therefore we are limited to aluminum pins or PVC pins. My findings for the aluminum pins included ordering a bulk piece of aluminum rod and cutting it down to our exact specifications listed in the optimal design. The rods of the leg stabilizer will have holes drilled through them at ½” intervals, so that an aluminum pin can be placed through the hole that best stabilizes the patients lower extremities (see Figure below). The size of the holes will have a diameter of 1/4” and the size of the aluminum rods will be 3/8” diameter and 1.5” long.

**Figure 17:** Side View of Knee/Leg Stabilizer Base
ROUND ALUMINUM ROD
MD BUILDING PRODUCTS INC
58354 3/8 72IN. ROD

- Mill finish
- Size denotes A diameter x length
- Aluminum shapes
- 6063 alloy T-5 hardness

Details:

SKU #: 7004633
Mfg #: 66311
Part #: 58354
UPC: 043374583540
SIZE: 3/8" x 72"
Weight: 0.7825 lbs
Height: 72 in
Width: 0.38 in
Length: 0.38 in


The other material considered to make the pins of is PVC rod of the same dimensions as the Aluminum rod. The PVC can be purchased by the foot and costs 49 cents per foot and can be purchased through the usplastic website.

[http://www.usplastic.com/catalog/product.asp?catalog%5Fname=USPlastic&category%5Fname=115&product%5Fid=11044](http://www.usplastic.com/catalog/product.asp?catalog%5Fname=USPlastic&category%5Fname=115&product%5Fid=11044)

Our group was also brainstorming other options to secure the leg stabilizer over the patient’s lower extremities. The idea of using a clamp similar to that of a weight bench was suggested by a team member and was also looked into this past week.
These muscle clamps on the website run $45.00 a pair, we are considering designing our own clamp similar to this concept and fabricating it ourselves in the machine shop.


This clamp idea would eliminate the need for the holes in the leg stabilizer bars and the pins and would also ensure a tighter more precise fit for the lower extremities.

Upcoming Week:

This upcoming week I plan on making the final decision on how to secure the leg stabilizer base and have the parts order submitted by 5pm on Friday so that when the group is scheduled to start building the leg stabilizer these pins will be available. Our group has decided to build the design from the base up. This approach has us scheduled to work on the PVC transfer board and complete it by this coming Friday. I have been assigned to create the drawings for the holes on the patient transfer board so that Drew and I can mark the board mid-week and Chris has time to cut the board. These holes are necessary for the hospital staff to maneuver and transport the patient.
Project Review:

As of right now everything is on schedule according to our timeline.

Hours Worked:

4 labs Lab Friday

2 hours researching pin parts

1 hour researching clamp idea