Project Identity:

Orthodontic Wire Mechanical System Tester
Group 7
Week 10
Bethany Lepine

Work Completed:

Upon hearing that Michael Brault from Ultimate NiTi might not be able to meet our deadline, especially with the difficulty in machining the stainless steel, Michael Holbert suggested that we contact Dr. Peterson in the biomechanics laboratory at the UConn Health Center. He was contacted, and the 90 lb. slab of stainless steel was taken from Michael Brault’s shop and delivered to the Health Center.

Initially it was thought that the machining could be done at Dr. Peterson’s facilities, however the difficulty in machining stainless steel again arose. The absolute last resort was to contact the fabrication shop at the Health Center. The machinist there, Joe, said that he could attempt to machine the stainless steel. The next step was to obtain a work order for it. In order to do this, I had to email Diana in the office through which Michael Holbert has his budget. Once this work order went through, the machining began. It has taken a good deal of time, but progress is still being made.

I spent an enormous amount of time over the past week driving back and forth from the Health Center to get the parts machined. I completed redrew several of the parts, both for the ease of the fabrication lab, but also to get Michael Brault going at Ultimate NiTi. Both places were aware of our deadline, although it was hard to make our project our priority since we were competing with hospital machines needing repair and a business that also has to serve its customers. Hopefully all of this machining will be completed on time.

Some of the updates in machining were completed up until this Sunday. The most recently completed drawing can be seen in Figure 1 on the next page.
Some of the dimensions on this had to be change to accommodate for the vertical brace. Also, changes were completed on the base itself since the diameter of the holes was off, and also due to dimensional error. The image of the base can be seen in Figure 2 below.
The biggest hassle right now is the need for continuous trips to the Health Center. It will be easiest for us to assemble everything there instead of transporting all of the cumbersome, heavy, and expensive equipment and potentially breaking something. However, this requires all of the machining to be completed within the week so that testing can begin. Tomorrow (4/18/07) all of the machining at the fabrication shop at the Health Center should be completed. By Friday all of the machining at the Wire Company should also be completed.

**Future Work:**

This week, the machining must be finished. I plan on going to both the Health Center and the Ultimate wire company tomorrow to make sure that everything is going smoothly. The machining has been the limiting factor in this project, and once it is completed we must begin testing.

We plan on going to the health center all day on Friday to finish assembly and to get everything set up. Then next week we will go to the Health Center as many times as necessary to run tests, to show the equipment to the clients, and to complete any last minute changes.

**Project Review:**

Machining was put on hold until an additional machining supplier was identified at the Health Center. Work is almost finished at the Health Center, but it is unknown whether any significant progress has been made at the wire company. By the end of this week, the device should be completely assembled.

**Hours Worked:** 32:4/11-4/18  
25:4/4-4/11