Progress Report  
February 9, 2007

Project Title: Animal Ventilator

Team Members:
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Client:  
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Advisor: Willis J. Tompkins

Date: 2/9/2007

Problem Statement:  
Redesign a MRI-compatible small animal ventilator to deliver a variable volume of hyperpolarized helium and oxygen gas at user-specified frequencies. The device should be compatible with the current system in place.

Restatement of team goals:
1. Calibrate first generation prototype  
2. Finalize design plans for second generation prototype  
3. Order parts for second generation prototype  
4. Begin construction of second generation prototype  
5. Calibration and testing of second prototype  
   5.a. Volume output  
   5.b. Timing  
   5.c. Gas mixture

Summary of Team Accomplishments:  
1  Installed stabilizer shim on old prototype  
2  Calibrated old prototype  
3  Made several changes to LabVIEW code
4  Continued machining
5  New parts are in

Summary of Individual Accomplishment:
1  Ashley wrote the progress report
2  Matt tested the device at Waisman with Dr. Fain

Statement of Team Goals:
1. Valve troubleshooting – pneumatic valves may be worn out
2. Construction of new axel, axel support, and motor housing

Project Schedule:
1/26-2/16  Finish construction of second generation device.
2/17-2/23  Software testing and modifications made
2/24-3/16  Written development of test procedures and securing test equipment and sites
3/17-4/6   Non-animal testing of device
4/7-4/27   Write-up of results, final paper, and poster
5/4        Deliver

Difficulties:
Something is wrong with the valves/ventilator (not our ventilator). We are not sure what the problem is because no changes we have made should affect those components. The client thinks the valves may be worn out.

Activities:
(Since device delivery)
Chris: 4.0 hrs– team meeting, machining
Ashley: 4.0 hrs – team meeting, machining, LabVIEW work, progress report
Matt: 6.0 hrs – team meeting, SolidWorks preparation, testing at Waisman
Micah: 4.0 hrs - team meeting, machining

Team Total Hours for this week: 18 hrs
Cumulative Team Hours for Spring 2007: 34.5 hrs
Cumulative Team Hours to date: 284.5 hrs