Inspiratory and expiratory flow meter

Client: Christopher Green, M.D.

Team Members: Andrew Eley (Leader)
Sarah Offutt (Communicator)
Darshan Patel (BSAC)
Eric Bader (BWIG)

October 28 to November 03, 2005

Problem Statement
Our client desires a peak inspiratory and peak expiratory flow meter in a single device to monitor for symptoms of asthma and vocal cord dysfunction. It should measure flows up to about 700 liters per second for adults, be cheap, durable, and easy to use with clear measurement readings.

Last Week’s Goals
• Look into ways of building a prototype, what can we use
• Start building prototype from old flow meters
• Find parts either online, in hardware store, or other source.

Summary of Accomplishments
• Our team met on Friday, we met briefly with our Advisor and then walked to ECB 1088 to begin construction of the flow meter.
• We built a prototype from the parts we had.
• We determined which parts we could use and ones we still needed.

This Weeks Goals
• Start building a separate prototype of our own design.
• Finalize designs by setting proper spring tensions, and find/build functional indicator arrows.
• Meet on Friday and find parts to build other prototype with.

Difficulties
Some difficulties in properly setting spring tension, when breathing in the needle maxed out.

Activities
Team: 2.0 hours Team Meeting on Friday
Sarah Offutt 0.50 hours Independent research, notebook
Andrew Eley 0.50 hours Independent research, notebook, wrote progress report
Darshan Patel 0.50 hours Independent research, notebook, attended BSAC
Eric Bader 0.50 hours Independent research, notebook, update website
### Project Timeline

<table>
<thead>
<tr>
<th>ask</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2  9  16  23  30</td>
<td>7  14  21  28</td>
<td>4  11  18  25</td>
<td>2  9  16  23  30</td>
</tr>
</tbody>
</table>

**Preliminary Designs**
- Meeting with client
- Design brainstorming
- Presentation preparation
- Mid semester Paper preparation
- Final Paper preparation
- Friday Team preparation
- Solid Works Design

**Deliverables**
- Progress Report
- Mid semester Presentation
- Mid semester paper
- End Semester Presentation
- End Semester Paper
- Web site
- Semester Wrap-up with Advisor

**Prototyping**
- accounting/budgeting
- final design developments
- rapid prototyping
- analysis/testing
- final prototype manufacturing
- final Testing

**Expenses** none