

## **Ophthalmic Dose Compliance Monitor Project Report #1**

September 8, 2005

**Project Title:** Ophthalmic Dose Compliance Monitor

**Team Members:** Arinne Lyman, Anita Zarebi, Becky Koszalinski, Michael Alexander

**Client:** Christopher J. Murphy DVM, PhD

**Advisor:**

**Date:** 9-2-05 to 9-8-05

### **Problem Statement:**

Develop a dose compliance monitor that would record (unknown to the client) when (date and time) a topical ophthalmic medication was delivered. There are several older studies performed in the 80's that used a compliance monitor specifically designed for topical ophthalmic medications, and I am hopeful that we would be able to develop a cost effective improved model. Ideally we would be able to manufacture approximately 10 of these devices for use in studies. It could be as simple as some of the older models that recorded when the top of the bottle was removed and the bottle inverted. Maintenance of sterility of the medication is imperative. The simplest designs would simply provide a thin sleeve that the commercial 5, 15, or 30 ml topical ophthalmic medication bottle slid into. There are many possibilities and I am hopeful that some of your students would find this challenging. These would initially be used in research of patient compliance.

### **Statement of Team Goals:**

1. Problem statement
2. Create first draft of PDS
3. Set up meeting with client
4. Begin to research and develop design ideas
5. Continue the design project.
  - a) Research all possible background information.
  - b) Research existing solutions on the market
  - c) Brainstorm in individual teams
  - d) Meet with experts to gain ideas about possible solutions
  - e) Develop possible design solutions
6. Continue to develop final design alternatives
7. Write midterm paper
8. Create power point presentation
9. Discussed possible final design alternative
10. Finalize design
11. Further develop and test prototype
12. Present final design

### **Summary of Team Accomplishments:**

1. Problem statement
2. Met with client and obtained design specifications
3. Divided up jobs within team for research on Friday

### **Project Schedule:**

|       |   |
|-------|---|
| 9/2   | Form team, contact client, assign team roles, set up client meeting             |
| 9/9   | Literature search, create problem statement, begin PDS                          |
| 9/16  | PDS, brainstorming, begin developing designs, fix prototype                     |
| 9/23  | Work on mid-semester presentation paper and presentation (oral and power point) |
| 9/30  | Mid-semester presentation   |
| 10/7  | Hand in report and notebook   |
| 10/14 | Decide on final design  |
| 10/21 | Work on final design (i.e. develop a prototype, testing, etc)                   |
| 10/28 | Continue working on final design  |
| 11/4  | Work on design  |
| 11/11 | Work on design  |
| 11/18 | Continue working on design, start working on presentation                       |
| 11/25 | No Class (Thanksgiving)   |
| 12/2  | Prepare final presentation and paper  |
| 12/9  | Final poster presentation   |
| 12/16 | Hand in report and notebook   |
| 12/23 | Last day of finals  |

### **Activities:**

#### **Arinne:**

Team Roles (1 hr)  
Meeting with client (1.5 hrs)  
Research (1 hr)  
**Total: 3.5 hrs**

#### **Anita:**

Team Roles (1 hr)  
Meeting with client (1.5 hrs)  
Research (1 hr)  
**Total: 3.5 hrs**

#### **Becky:**

Team Roles (1 hr)  
Meeting with client (1.5 hrs)  
Research (1 hr)  
**Total: 3.5 hrs**

#### **Michael:**

Team Roles (1 hr)  
Meeting with client (1.5 hrs)  
Research (1 hr)  
**Total: 3.5 hrs**

**Team Total Hours for this week: 14.0 hrs**