

Cup to Limit Swallowing Volume for Therapy and Evaluation

Client: Laurie A. Matzdorf, Speech Language Pathologist

Team members: Gabe Donatell, Christine Koranda, Mike Kosir, David Meister, Joel Rotroff, Brian Shoet, Bryan Staerkel, and Rebecca Vanderpool

Date: 11/1/01 - 11/7/01

Problem Statement: Develop a cup or bottle that limits and has the ability to vary the swallowing/ bolus size for evaluation and therapy purposes. This device will be used to treat certain swallowing disorders in laboratory and home settings.

Restatement of Team Goals:

- 1) Meet with client to discuss designs
- 2) Decide on final design
- 3) Begin prototype production

Summary of Accomplishments: In class we discussed the revised PDS that Christine had written. A list of prioritized design specifications was created for use in evaluation matrices of our proposed designs. The entire team met on Sunday night to evaluate the proposed designs and to prepare for our second client meeting on Monday. We met with Laurie to get her opinion of some of the design alternatives. This meeting proved to be very useful because we were able to decide upon the basic mechanism that we want to use for production of a prototype.

Statement of Team Goals:

- 1) Create detailed design sketches for prototype design
- 2) Discuss the sketches as a team in class
- 3) Assign team members to subgroups to work on different aspects of the project
- 4) Acquire cup from Laurie that she wants us to use (Mike)
- 5) Search for possible materials
- 6) BME, ME lab visit to look at possible gear mechanisms for prototype

Project Schedule:

- 1) Discuss final designs for prototype
- 2) Begin construction

Difficulties:

- 1) Designing a simple device that can be easily cleaned.
- 2) Discussion with Laurie, we found that a bottle design would most likely not work because infants are generally not allowed to have air in the nipple. Swallowing air after the liquid increment may create some problems. Therefore, Laurie wants us to focus on a

cup design.

Activities:

Gabe Donatell - 4.5 hours- Discussion of revised PDS, team meeting to go over designs, client meeting.

Christine Koranda - 5.0 hours- Discussion of revised PDS, team meeting to go over designs, client meeting, work on combined PDS.

Mike Kosir - 4.5 hours- Discussion of revised PDS, team meeting to go over designs, client meeting.

David Meister - 6.5 hours- Discussion of revised PDS, team meeting to go over designs, client meeting, detailed sketches for prototype design

Joel Rotroff - 4.5 hours- Discussion of revised PDS, team meeting to go over designs, client meeting.

Brian Shoet - 3.5 hours- Discussion of revised PDS, team meeting to go over designs.

Bryan Staerkel - 4.5 hours- Discussion of revised PDS, team meeting to go over designs, client meeting.

Rebecca Vanderpool - 4.5 hours- Discussion of revised PDS, team meeting to go over designs, client meeting.