

Female Barrier Model

Week 13: April 14th – April 20th 2009

Advisor: Professor William Murphy

Client: Marge A. Sutinen

Team members: Karen Chen (Leader)
Tu Hoang Anh Mai (BWIG)
Rexxi Prasasya (Communication/BSAC)

Problem statement: Students in the advance Contemporary Issues of HIV/AIDS of the Medical Genetic department need to learn to demonstrate the proper use of female barriers against sexually transmitted disease by the end of the semester. Currently, an adequate model to show proper use of female barrier is unavailable, thus, instructors have resort to illustrated figure to educate students in this matter. The goal of this project is to design a pelvic model to be used as a teaching tool to demonstrate proper installation of female barrier devices. The model needs to be compatible with over-the-counter female condoms and dental dam.

- Last week goals:**
1. Borrow the “optimal model” from Dr. Bersu
 2. Cut that “new member”
 3. Contact Red Letter News to confirm the transparent tube that we will be using
 4. Confirm the meeting time with Greg, and we will bring along the following items to his office:
 - i. The purchased transparent tube
 - ii. The models/sleeve borrowed from sex-out-loud (to show Greg the texture)
 - iii. The model to be borrowed from Dr. Bersus and images to help the fabrication process
 - iv. We will be molding the external tissue, and attach/glue it to the transparent tube
 5. Participate in EXPO! And work on the outreach reflection.
 6. Look into the educational journal (hopefully) and start laying out the structure

Summary of accomplishments:

- On 4/14, Karen and Rexxi met to test the sealing ability of the newly purchase vinyl adhesive. We made a new cut on the swimming float and placed the two cut edges side by side, and then applied a thin coat of adhesive along the seam. We left the float still for a minimum of 30 minutes, and then applied a thick coat of adhesive over the previous layer. The float is left for 24 hours before further tested.
- On 4/15, the team met to inflate the testing float after 24 hours that the sealant has been applied. When inflating the float, we have observed that the adhesive property is generally good along the edges of the cut. However, we still encounter problems near the corners. After discussion, we think that by avoiding the creation of corners might resolve this problem.

- On 4/16, Karen looked up several journal article structures for the final paper submission. Two major categories were found: 1) journal focuses on the use of a model; 2) journal that focuses on the medical perspective/HIV/AIDS. Both journals might be suitable for the future paper submission, but it is still open for discussion.
- On 4/17, the team participated in Engineering Expo to satisfy the outreach requirement. We presented various aspects of biomedical engineering through the BMES exposition.
- On 4/17, the team met with the advisor to update on the current progress. It seems like we have made good progress, and now we just need to start cutting and molding. We also talked about the structure of the journal. It seemed like we will be following the structure of the paper will be focusing on the use of a model. We also confirmed with Greg about the visit to his office about molding the external tissues. We will be visiting on Wednesday (22nd).
- On 4/17, the team measured the inflatable doll and cut along the drawn edge. Three major cuts were made at the thighs and the waist. Three separate flaps were attached to the cuts to seal up the openings. Vinyl glue was applied along the edge of the cuts (circumference of the waist and thigh). Since there were some time limitations, we will be working tomorrow on the rest of the sealing process.
- On 4/18, the team met to finish sealing the large cut opening around the waist. During the process of sealing, we ran out of vinyl adhesive. Karen picked up more vinyl adhesive after the meeting, and put more glue along the waist circumference.
- On 4/19, Karen and Rexxi visited Red Letter News to find a possible masturbation sleeve in replace of the vaginal tube. However, we were not able to locate the desired sleeve that we previously encountered. We will probably try to locate that in another adult entertainment shop (“A woman’s touch”).

This week goals:

1. Borrow model from Dr. Bersu on Monday
2. Test the pressure content of the inflatable pelvic model on Tuesday; Generate the survey questions and ask Marge about them; Visit “A Woman’s Touch” to look for suitable masturbation sleeve
3. Meeting with Greg on Wednesday at 3pm, and we will bring along the following items to his office:
 - i. The models/sleeve borrowed from sex-out-loud (to show Greg the texture)
 - ii. The model to be borrowed from Dr. Bersu and images to facilitate the fabrication process
 - iii. We will be molding the external tissue, and attach/glue it to the transparent tube
 - iv. The inflatable pelvic model to try if the silicone tube fits
4. Try to combine the two separate sections into one piece on Friday
5. Prepare a rough budget outline

Project Challenges: We wanted to borrow the optimal model from Dr. Bersu, but he was not in his office,

and nor did her respond to our email. We will try to get hold of him before Wednesday. Also, we were not able to find the ideal clear and colorless masturbation sleeve in Red Letter News, which means we will have to ask Greg to mold it for us.

Activities:

| Date | Group/Individual | Description | Hours |
|----------|--------------------|---|-------|
| 4/14 | Karen, Rexxi | Tested the vinyl adhesive sealing property | 1.50h |
| 4/15 | Chou, Karen, Rexxi | Tested the ability of the float to hold air without leakage | 1.00h |
| 4/17 | Chou, Karen, Rexxi | <ul style="list-style-type: none"> - Volunteered at Expo & Outreach - Meeting with advisor - Borrow model from Dr. Bersu - Team meeting to cut the inflatable doll - Rexxi got reply from Greg, confirming the details about the meeting | 4.00h |
| 4/18 | Chou, Karen, Rexxi | <ul style="list-style-type: none"> - Met to finish sealing the inflatable pelvic region - Karen picked up more vinyl glue at ACE | 1.00h |
| 4/19 | Karen, Rexxi | Visited Red Letter News to buy a clear, colorless masturbation sleeve, but did not find the ideal one | 2.00h |
| 4/19, 20 | Karen | Progress report | 1.00h |
| N/A | Chou, Karen, Rexxi | Layout meeting agenda/ week goal/journal research | 1.00h |

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---------------------|---------|-------|----------|------------|------------|------------|-------------|------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | January | | February | | | | March/April | | | | April/May | | | | |
| Research | Grey | Grey | Grey | Diagonal | | | | | S | | | | | | |
| Brainstorming | | | | Purple | Purple | Diagonal | | | P | | | | | | |
| Prototype Design | | | | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | B | | | | | | |
| Ordering/shopping | | | | | | | | | I | Cyan | Cyan | Cyan | Diagonal | | |
| <i>K12 Outreach</i> | | | | | | | | | N | | | | Diagonal | | |
| Manufacturing | | | | | | | | | G | Yellow | Yellow | Yellow | Yellow | Yellow | |
| (Re)Testing | | | | | | | | | | | | | Orange | Orange | Orange |
| Re-design | | | | | | | Dark Blue | Dark Blue | B | Dark Blue | Dark Blue | Dark Blue | Dark Blue | Dark Blue | Dark Blue |
| Client meeting | Grey | Grey | Grey | | | | | | R | Grey | Grey | | | | |
| Group meeting | | Green | Green | Green | Green | Green | Green | Green | E | Green | Green | Green | Green | Green | Green |
| Presentations | | | | | | | Cyan | | A | | | | | Cyan | |
| Deliverables/PDS | | | Blue | Blue | | | | | K | | | | | Blue | |
| Progress Report | | Pink | Pink | Pink | Pink | Pink | Pink | Pink | | Pink | Pink | Pink | Pink | Pink | Pink |