

FEMALE BARRIER LEARNING MODEL

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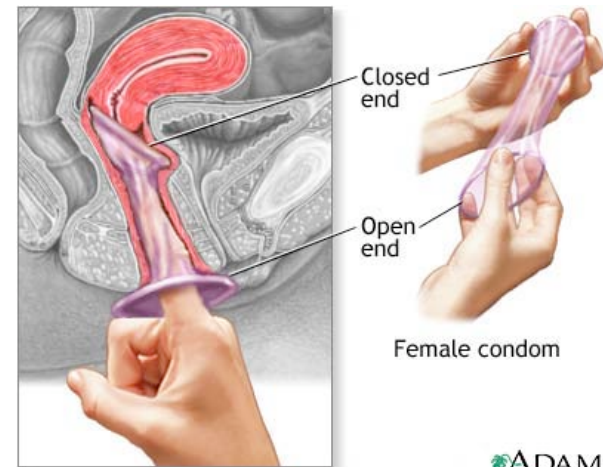
Client: Marge Sutinen

Karen Chen, Chou Mai, Rexxi Prasasya

3/6/2009

Background

- STD prevention method controlled by women
- Illustrations for proper use of female barrier
- Female condom (polyurethane)
 - Efficacy rate:
 - Proper use: 95.7%
 - Improper use: 87.6%
- Dental dam (latex)
 - Used in oral and anal intercourse

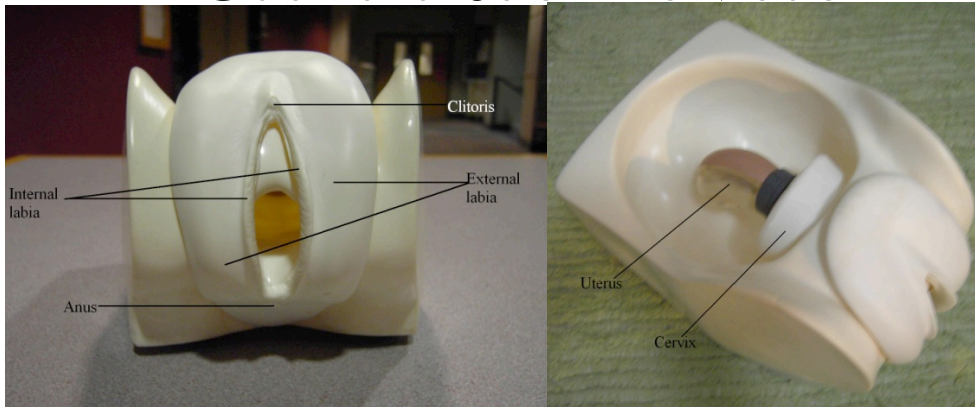


Problem Statement

- Help learn proper use of female barriers
- Current model incorrectly represented
- Goal: a pelvic model as an educational tool
- Compatible with over-the-counter female condoms and dental dam

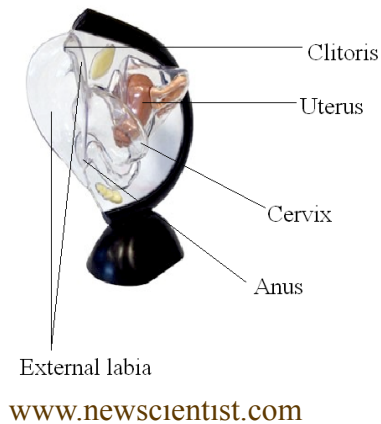
Competition

Gaumard Scientific Model



- Appropriate opening and texture
- Rigid, hard plastic
- Anatomically incorrect
- Weighed 3.5 lbs
- \$155.00

LINDI Pelvic Model



- Transparent
- Less than 1 lb
- Rigid, hard plastic
- Anatomically incorrect
- Not ergonomic
- \$85.00

Design Requirements

- Anatomical representation
 - Outer labia, inner labia, urethra, clitoris, anus
 - 1 x life-size
- Less than 2 lbs
- Meet major airlines carry-on restriction
- Transparent

Design Proposals

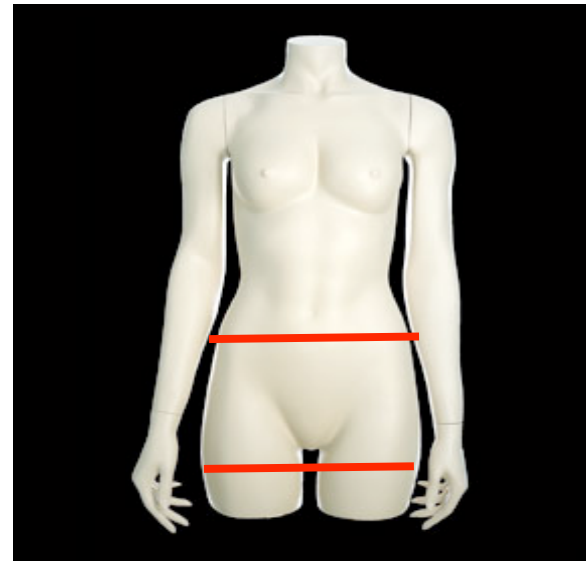
- External tissues (labia)
- Mold separately from silicone
 - Attach to the desired model

Mannequin Model

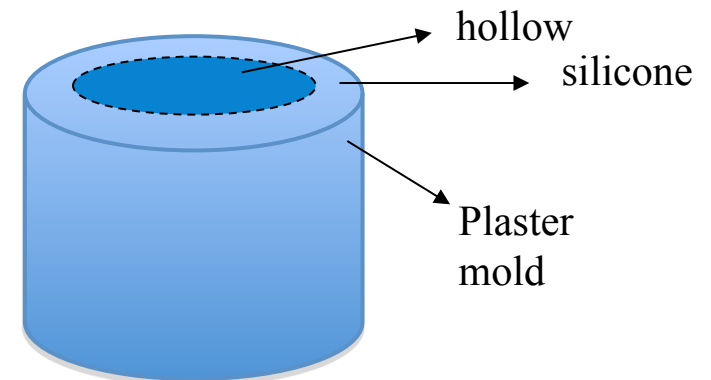
Inflatable Doll Model

Design 1: Mannequin Model

- Mold plaster around pelvic region
- Fill plaster mold with clear silicone (1 cm thickness)
- Form hollow silicone pelvic model
- Incorporate anatomical details



<http://www.effigy.uk.com/images/mannequin1.jpg>



Design 1: Pros and Cons

Pros

- ▣ Controllable elasticity
- ▣ Can be transparent
- ▣ Exact visual representation

Cons

- ▣ Complex fabrication
- ▣ Lots of material (2 pint units, ~4 lbs of silicone)
- ▣ Expensive (~\$80)

Design 2: Inflatable Doll Model

- Customize inflatable pelvic model
- Purchase and modify inflatable doll
- Molded anatomical tissues from anatomical model



<http://www.bigmouthtoys.com/images/products/inflatables/bm1258/bm1258.gif>

Design 2: Pros and Cons

Pros

- De-flatable
- Controllable resistance
- Inexpensive (< \$50)

Cons

- Complicated modification of existing inflatable doll
- Require accessory (pump)

Design Evaluation

Criteria	Weight	Mannequin model	Inflatable Model
Accuracy	0.1	7.0	5.0
Feasibility	0.35	8.0	7.0
Portability	0.25	5.0	10.0
Aesthetics	0.05	6.0	6.0
Ease of Use	0.1	7.0	5.0
Cost	0.15	3.5	7.0
Total	1	36.5	40.0
		6.275	7.3

Future Work

- Obtain an anatomical pelvic model
- Test how to appropriately seal inflatable material
- Order a customized or obtain over the counter doll
- Testing on the class as subject

References

- Marge Sutinen, personal conversation
- Jenny Shafer, personal conversation
- Mannequin model.
 - <http://www.effigy.uk.com>
- LINDI Pelvic Model Female Contraception Demonstrator <http://www.totalaccessgroup.com>
- Sex-out-loud Organization. Personal conversation
- OP materials
 - <http://www.opmaterials.com/xcart/product.php?productid=16141&cat=0&page=1>