

Chorionic Villus Sampling- Transcervical Model

Client: Dr. Jesus Iruretagoyena

Advisor: Professor Kreeger

Team Members: Derek Klavas (Leader)
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Week of March 6- March 12, 2009

Problem Statement:

Chorionic villus sampling is a prenatal diagnosis procedure that involves extracting placental tissue from the uterus of a pregnant woman in her first trimester of pregnancy. This tissue contains the same genetic information as the unborn fetus. Testing thus allows chromosomal abnormalities and genetic defects to be diagnosed early on in the gestation period. The current, and most difficult, method for chorionic villus sampling requires a catheter to be inserted through the woman's vagina and into the cervix (also known as the transcervical approach). However, doctors and residents currently do not have a model to simulate female anatomical structures and practice the transcervical method. The goal of this project is to develop a realistic and affordable model that precisely replicates the anatomy of a pregnant woman, is constructed out of ultrasound permeable materials, and can be repeatedly used to practice the transcervical approach.

Last week's goals:

- Get in touch with Greg Gion about ordering materials and gaining knowledge about how to synthesize the EcoFlex silicone.
- Brainstorm ideas on how to support the model under its own weight. Look into gels from Jim Zagzebski's website for support.
- Contact Dr. Iruretagoyena to approve ordering of materials.

Accomplishments:

- Compiled and presented mid-semester Power Point presentation on Friday March, 6.
- Compiled and handed in mid-semester report.
- Looked into urethane rubber or hydrogel tissue mimicking material from ATS laboratories and concluded that they were our best option for supporting the model.

Expenses:

There are currently no expenses to report.