

Chorionic Villus Sampling- Transcervical Model

Client: Dr. Jesus Iruretagoyena

Advisor: Professor Kreeger

Team Members: Derek Klavas (Leader)
Mason Jellings (Communications)
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Week of February 6- February 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:

- Meet with Dr. Iruretagoyena to discuss the project design and receive design specifications
- Meet with Professor Kreeger to discuss client meeting and PDS
- Brainstorming as a group all possible ideas for design matrix
- Individual research on materials to use for prototype and research for any existing models
- Begin writing PDS
- Contact any faculty that may have expertise in biomechanics or gynecology

Accomplishments:

The entire group was able to finally meet with our client Dr. Iruretagoyena at his office in Meriter Hospital. Joining us was one of Dr. Iruretagoyena's colleagues, Dr. Droste, who portrayed to us a very good picture of what exactly she needs us to design and incorporate into the transcervical model. Dr. Iruretagoyena laid out several design specifications, which can be seen in our PDS document.

The following Tuesday, February 10th, our group met with Dr. Kreeger to discuss the client meeting and the upcoming due date for the PDS document. At the meeting Dr. Kreeger stressed the importance of getting in contact with someone at the hospital that will be able to

Expenses:

There are currently no expenses to report.