Hip Aspiration Model to Teach Physicians (Hip Model)

Client: Dr. Matthew Halanski (halanski@ortho.wisc.edu)
Advisor: Dr. Ed Bersu (etbersu@wisc.edu)
Team Members:
- Jessica Brand (jtbrand@wisc.edu), BME 301 - Team leader
- Stephen Schwartz (saschwartz@wisc.edu), BME 301 - Communicator, BPAG
- My An-adirekkun (anadirekkun@wisc.edu), BME 301 - BSAC, BWIG

Date: February 15 - February 21, 2016

Problem Statement:
Septic arthritis of the hip is a rare orthopedic disorder most common in infants under two which, if left untreated, can cause lifelong pain and discomfort. Currently, there is no model on the market which allows residents to practice X-ray and ultrasound-guided hip aspiration, the most critical technique in confirming the diagnosis. The client, Dr. Matthew Halanski, requests that a base infant hip model be developed for training purposes. The design from fall of 2014 will be refined and innovated upon to better meet the client’s long-term goals. Ultimately, the model should be a fully assembled product made with synthetic materials that simulate the mechanical properties of skin, muscle, soft tissue, and fibrous tissue.

Last week’s goals:
- Finish and practice preliminary presentation

Summary of Team Role Accomplishments:
- Jessica (Team leader): Read past team’s final report and noted their successes as well as improvements our group should make, outlined design ideas, submitted PDS and last week’s progress report
- Stephen (Communicator, BPAG): Read past team’s final report focusing on the materials they used, outlined design ideas, remained in contact with the client
- My (BSAC, BWIG): Uploaded the presentation

Summary of Design Accomplishment:
- We finished and practiced presentation

Activities:

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This Week's Team Goals:
- Finish preliminary report

This Week's Individual Goals:
- Jessica: Finished the assigned parts of preliminary report
- Stephen: Finished the assigned parts of preliminary report
- My: Finished the assigned parts of preliminary report

Difficulties:
The client has still not found the radiopaque bones that the last group ordered. Additionally, the client cannot find the model that the last group produced. As a group, we found it somewhat difficult to formulate feasible design ideas that allow for fluid to be aspirated from a hollow cavity. However, we believe our top three designs have the potential to be very successful.

Project Schedule Timeline:
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**Expenses:** We have no expenses at this point.