

Veterinary bone marrow aspirate models

Date: 9/12/2024

Client: Dr. McLean Gunderson

Advisor: Prof. Randy Bartels

Team:

- Avery Schuda - Co-Leader - aschuda@wisc.edu
- Helene Schroeder - Co-Leader, BSAC - hschroeder4@wisc.edu
- Anya Bergman - Communicator - ambergman2@wisc.edu
- Ella Cain - BWIG - elcain2@wisc.edu
- Ellie Kothbauer - BPAG - ekothbauer@wisc.edu

Problem Statement

Veterinary professionals commonly collect bone marrow aspirates from three main sites in dogs and cats: the Iliac crest, the Trochanteric fossa, and Proximal humerus. This project aims to create a low-cost 3D anatomically correct model with relevant soft tissue structures and skin that mimics the consistency and structure of the bones and allows for insertion of "bone marrow" for collection, allowing veterinary students to practice the skill of bone marrow aspiration.

Brief Status Update

This week the team did individual research on the topic of veterinary bone marrow aspiration and prepared for the meetings with the client and advisor.

Difficulties / advice requests

Nothing right now!

Major team goals for the next week

- First meeting with client
- Complete the Product Design Specifications (PDS)

Next week's individual goals

- Avery
 - Work with team to update the problem statement after client meeting
 - Continue research to inform the PDS & work on PDS with team
- Helene
 - Continue research on bone marrow aspiration to understand the project more and to help when working on the PDS.
 - Work on the PDS with the entire team.
- Anya
 - Continue researching bone marrow aspiration, and begin researching current models.
 - Work on PDS with the team.
- Ella
 - To continue researching the process of aspiration and look at other competing veterinary aspiration models.
- Ellie
 - Work on continuing to research bone aspiration and how it can best be modeled
 - Work on PDS with the team

Timeline

| Task | Sept | | | | Oct | | | | Nov | | | | | Dec | |
|------------------------|------|----|----|----|-----|----|----|----|-----|---|----|----|----|-----|----|
| | 6 | 13 | 19 | 27 | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | 6 | 11 |
| Project R&D | | | | | | | | | | | | | | | |
| Empathize | | | | | | | | | | | | | | | |
| Background... | | | | | | | | | | | | | | | |
| Prototyping | | | | | | | | | | | | | | | |
| Testings | | | | | | | | | | | | | | | |
| Deliverables | | | | | | | | | | | | | | | |
| Progress Reports | | | | | | | | | | | | | | | |
| PDS | | | | | | | | | | | | | | | |
| Prelim presentation | | | | | | | | | | | | | | | |
| Final Poster | | | | | | | | | | | | | | | |
| Final Report/Notebook | | | | | | | | | | | | | | | |
| Meetings | | | | | | | | | | | | | | | |
| Client | | | | | | | | | | | | | | | |
| Advisor | | | | | | | | | | | | | | | |
| Website | | | | | | | | | | | | | | | |
| Update | | | | | | | | | | | | | | | |

*Subject to change after first advisor/client meetings

Filled boxes = projected timeline
 X = task was worked on or completed

Previous week's goals and accomplishments

- Team
 - First meeting with advisor
 - Client meeting scheduled for Friday 9/13 @12:30
- Avery
 - Created question list for client to help define the PDS and project goals
 - Set up design notebook, project information/timeline, and problem statement
 - Began researching bone marrow aspiration and competitive models
- Helene
 - Began to research information about bone marrow aspiration, what it is, and how procedures are done in both humans and animals.
 - Helped create questions to ask the client for the first meeting.
- Anya
 - Set up the first meeting with client.
 - Began initial research on background for bone marrow aspirations.
- Ella
 - Began researching the purpose of veterinary bone marrow aspiration and the method of aspiration.
 - Uploaded progress report onto the project website.
- Ellie
 - Began to research information related to veterinary Bone marrow aspiration as well as competitive models.

Activities

| Name | Date | Activity | Time (h) | Week Total (h) | Sem. Total (h) |
|------------------|-----------|---|----------|----------------|----------------|
| Avery Schuda | 9/12/24 | - Researched bone marrow aspiration -Set up progress report template -Set up project info in LabArchives -Created question list for client | 4 | 4 | 4 |
| Ellie Kothbauer | 9/12/24 | - Research on bone marrow aspiration | 2 | 2 | 2 |
| Anya Bergman | 9/10/24 | - Researched bone marrow aspiration on dogs - Facilitated meeting set up with client | 2 | 2 | 2 |
| Helene Schroeder | 9/11/2024 | - Research bone marrow aspiration | 2 | 2 | 2 |

| | | | | | |
|-----------|---------|---|---|---|---|
| Ella Cain | 9/12/24 | -Researched veterinary bone marrow aspiration -Uploaded progress report to project website | 2 | 2 | 2 |
|-----------|---------|---|---|---|---|

Current design

Materials and expenses

| Item | Description | Manufac-turer | Mft Pt# | Vendor | Vendor Cat# | Date | # | Cost Each | Total | Link |
|-------------------|-------------|---------------|---------|--------|-------------|------|---|---------------|---------------|------|
| Category 1 | | | | | | | | | | |
| | | | | | | | | | \$0.00 | |
| | | | | | | | | | \$0.00 | |
| Category 2 | | | | | | | | | | |
| | | | | | | | | | \$0.00 | |
| | | | | | | | | | \$0.00 | |
| | | | | | | | | TOTAL: | \$0.00 | |