

# BME Design: Progress reports

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## VET Stand: Adjustable bite block assembly for radiation therapy for pet

**Date:** September 10, 2026 - September 18, 2026

**Client:** Dr. James Sohn

**Advisor:** Prof. Randy Bartels

**Team Members:**

Norah Greer (njgreer2@wisc.edu) - Co-Leader

Cole Hwang (nahwang@wisc.edu) - Co-Leader

Zhien Luo (zluo244@wisc.edu) - Communicator

Bridget Jensen - (bcjensen2@wisc.edu) - BSAC

Ethan Abitz - (eabitz@wisc.edu) - BWIG

Isabel Hillwalker - (hillwalker@wisc.edu) - BPAG

## Problem statement

Veterinary radiation oncology requires dogs and cats to undergo sedation during every treatment session. A common tool used to secure an anesthesia delivery hose and hold the animal's head still is a bite block, however, common bite blocks are cumbersome and lack adjustability. This project aims to create an adaptable bite block with a wide range of widths and heights, allowing technicians to precisely and repeatedly position the block for each patient over multiple treatment sessions.

## Brief status update

The team recently drafted a document that outlines the Product Design Specifications for the VET Stand. In the next week, the team will draft design ideas and create a design matrix to evaluate the designs based on how well they fit design requirements.

## Difficulties / advice requests

None at this time

## Current design

No design at this time

## 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        |      |
|            |             |               |         |        |             |      |   | <b>TOTAL:</b> | <b>\$0.00</b> |      |

## Goals

### *Major team goals for the next week*

1. Get together as a team to brainstorm and start drafting design ideas
2. Create a design matrix to evaluate the 3 top designs we have chose

### *Next week's individual goals*

- Norah Greer
  - Brainstorm designs, create criteria for design matrix, and evaluate designs
- Cole Hwang
  - Start design matrix, continue with researching and design ideas
- Luo Zhien
  - Begin designing and fabricating ideas on the product itself.
- Bridget Jenson
  - Start creating design ideas, plan how to fabricate them, research more about the anatomy of a canines jaw.
- Ethan Abitz
  - Brainstorm design ideas, work on design matrix
- Isabel Hillwalker
  - Work on design matrix, Brainstorm design ideas, get in touch with vet techs to see what's being used now

## Timeline

| Task                   | Sep | Feb |   |    |    | March |   |    |    |    | April |    |    |    | May |    |
|------------------------|-----|-----|---|----|----|-------|---|----|----|----|-------|----|----|----|-----|----|
|                        | 26  | 2   | 9 | 16 | 23 | 1     | 8 | 15 | 22 | 29 | 5     | 12 | 19 | 26 | 3   | 10 |
| <b>Project R&amp;D</b> |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Empathize              |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Background...          |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Prototyping            |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Testings               |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| <b>Deliverables</b>    |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Progress Reports       |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Prelim presentation    |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Final Poster           |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| <b>Meetings</b>        |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Client                 |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Advisor                |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| <b>Website</b>         |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |
| Update                 |     |     |   |    |    |       |   |    |    |    |       |    |    |    |     |    |

Filled boxes = projected timeline

X = task was worked on or completed

## Detailed accomplishments

### Previous week's goals and accomplishments

- Norah Greer
  - Continue researching existing designs, meet with the client, meet with team to discuss client's specifications, and start PDS.
- Cole Hwang
  - Continue with research, find some competitive designs. Think of and draw out some potential designs/ideas.
- Luo Zhien
  - Continue researching existing designs/requirements, dig deeper into the issue we're trying to solve, and keep the client informed. Explained and created a design idea for the stand to group.
- Bridget Jensen
  - Continue doing research, start coming up with designs, meet with the client, brainstorm design ideas with the team.
- Ethan Abitz
  - Research competing designs, update website with progress report and PDS draft, meet with client
- Isabel Hillwalker
  - Learn more about thermoplastics
  - Come up with designs for bite block

**Activities**

| Name              | Date                                                          | Activity                                                                                   | Time (h)               | Week Total (h) | Sem. Total (h) |
|-------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------|----------------|----------------|
| Cole Hwang        | 9/11/26<br>9/17/26                                            | PDS Work<br>Research                                                                       | 2<br>1                 | 3              | 5              |
| Norah Greer       | 9/11/26<br>9/16/26<br>9/17/26                                 | PDS work<br>PDS work<br>Team meeting                                                       | 1.5<br>1<br>1          | 3.5            | 5.5            |
| Ethan Abitz       | 9/16/26<br>9/17/26                                            | PDS work<br>Team Meeting                                                                   | 1<br>1                 | 2              | 4              |
| Zhien Luo         | 9/11/2026<br>9/17/2026<br>9/17/2026<br>9/17/2026              | Idea/Design pitch to team<br>PDS work<br>More research<br>Team meeting                     | 1<br>1<br>.5<br>1      | 3.5            | 5.5            |
| Bridget Jensen    | 9/11/2026<br>9/11/2026<br>9/17/2026<br>9/17/2026<br>9/17/2026 | BSAC meeting<br>Team meeting<br>Research<br>PDS work<br>Team meeting                       | 1<br>1<br>.5<br>1<br>1 | 4.5            | 5.5            |
| Isabel Hillwalker | 9/11/26<br>9/13/26<br>9/17/26                                 | PDS work/Team Meeting<br>Design Idea<br>Research<br>(did 2 hours last week, forgot to log) | 1.5<br>.5<br>1.5       | 4              | 5.5            |