

BME Design: Progress reports

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

Date: September 24, 2026 - October 1, 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 collected all design ideas and created a design matrix to score and rank all options according to the product design specifications. A final design was decided upon, and the team began drafting a presentation to share our progress with other BME design groups.

Difficulties / advice requests

None at this time

2

Goals

Major team goals for the next week

1. Get final design made in CAD
2. Figure out specifics of internal mechanisms (gear/teeth sizes, rack sizes, etc.)

Next week's individual goals

- Norah Greer
 - Begin CAD modelling of final design, try to create and initial prototype
- Cole Hwang
 - Begin working on the cad for design, start working on the preliminary report..
- Zhien Luo
 - Begin working on the CAD for design, and researching future works.
- Bridget Jensen
 - Work on the preliminary report and researching more standards
- Ethan Abitz
 - .Work on preliminary report, assist in creating prototype, think up testing plans
- Isabel Hillwalker
 - Start work on prelim report, research standards

Timeline

Task	Aug	Sep					Oct				Nov					Dec	
	31	7	14	21	28	5	12	19	26	2	9	16	23	30	3	10	
Project R&D																	
Empathize																	
Background...																	
Prototyping																	
Testings																	
Deliverables																	
Progress Reports																	
Prelim presentation																	
Final Poster																	
Meetings																	
Client																	
Advisor																	
Website																	
Update																	

Filled boxes = projected timeline

X = task was worked on or completed

Detailed accomplishments

Previous week's goals and accomplishments

- Norah Greer
 - Work on preliminary presentation, take feedback from other BME groups to improve the design.
- Cole Hwang
 - Continue with research, start working on the preliminary design presentation, try building current design on solid works.
- Zhien Luo
 - Begin designing the actual product in CAD after approval from the client + advisor.
- Bridget Jensen
 - Look into materials to replace the dental putty with and prepare for the preliminary presentation
- Ethan Abitz
 - Work on preliminary presentation, adjust design based on client feedback, research mechanisms involved in design
- Isabel Hillwalker
 - Work on design matrix for bite block, research dogs' jaws and average sizes of dogs

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Cole Hwang	9/30 9/30	Work on the slides Practice for presentation	1.5 1	2.5	10.5
Norah Greer	10/1/26	Sketched design ideas Worked on preliminary presentation	1.5 0.5	1.5	10.5
Ethan Abitz	9/25/26 9/29/26 9/30/26	Client Meeting Practiced presentation Worked on preliminary presentation	0.5 1 1	3.5	10.5
Zhien Luo	9/25/26 9/30/26 9/30/26	Client Meeting Practiced presentation 3D-printed a rack and pinion demo	0.5 1 0.5	2	11
Bridget Jensen	9/25/26 9/27/26 9/29/26 9/30/26 9/30/26	Client Meeting Worked on Preliminary Presentation Research Research Practiced Presentation	0.5 0.5 0.5 0.5 1	3	12
Isabel Hillwalker	9/25 9/27 9/30	client meeting Work on design for bite block Practiced Presentation	0.5 0.5 1	2	10

