BME Design: Progress reports

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

Date: October 15, 2026 - October 22, 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.

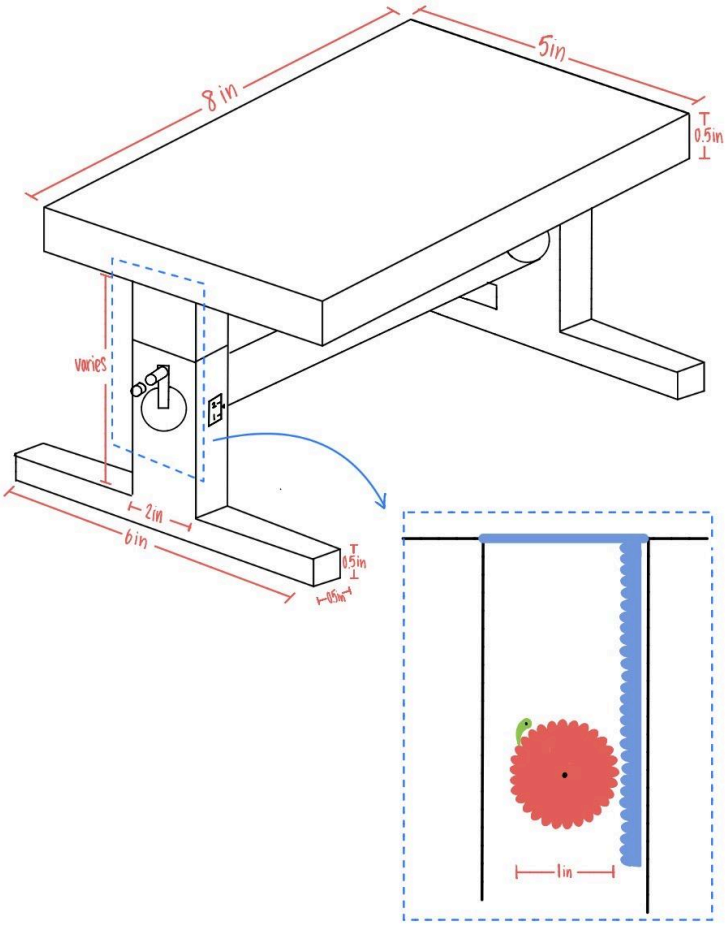
Brief status update

The team continued working on the bite block design matrix as well as the CAD model of the stand. An initial prototype was 3D printed.

Difficulties / advice requests

None at this time

Current design



Materials and expenses

Item	Description	Manufac-turer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Category 1										
PLA	Used for 3D printing			UW-Makers pace		10/21			$4.51	
									$0.00	
Category 2										
									$0.00	
									$0.00	
								TOTAL:	**$0.00**	

Goals

Major team goals for the next week

1. Finalize Bite Block design
2. Finalize Stand Prototype
3. Purchase or Print Gears

Next week's individual goals

- Norah Greer
    - Make edits to CAD model if needed based off initial prototype. Add pawl and height markings. Get feedback during show and tell on the design.
- Cole Hwang
    - Work on 3D printing the bite block design, prepare for show and tell.
- Zhien Luo
    - Test the 3D-printed prototype.
- Bridget Jensen
    - Start 3D modeling the bite block design and do more research on materials
- Ethan Abitz
    - Prepare elevator pitch for show and tell, test prototype
- Isabel Hillwalker
    - Finish Bite block designs, help 3-D print

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
    - Adjust CAD model to accommodate new bite block design, print it.
- Cole Hwang
    - Continue calculating different stresses within the stand, work on design matrix for the bite block
- Zhien Luo
    - Researching on potential solutions for the biteblock.
- Bridget Jensen
    - Start modeling the bite block and finishing that design
- Ethan Abitz
    - Continue to work on bite block design, work on design matrix
- Isabel Hillwalker
    - Work on design matrix, figure out gear components of stand vs bite block

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Cole Hwang	10/19 10/21 10/22	Research 3D Printing Design Matrix	1 .5 1	2.5	18.5
Norah Greer	10/20 10/21 10/22	Worked on CAD model 3D printing CAD adjustments and 3D printing	1 0.5 1.5	3	23
Ethan Abitz	10/22	Design Matrix	1	1	20
Zhien Luo	10/18 10/22	Design Matrix Research	0.5 1.5	2	20
Bridget Jensen	10/18 10/22	Design Matrix Research	0.5 1	1.5	20.5
Isabel Hillwalker	10/18 10/21	Design Matrix 3D printing	0.5 0.5	1	19