

Title: Emergency Cricothyroidotomy

Date: March 21, 2024

Client: Dr. Lenard Markman

Advisor: Darilis Suarez-Gonzalez

Team:

Katerina Smereka

Zac Mayhew

Megan Finell

Mateo Silver

Problem statement

Every year in the United States over 5,000 people die due to choking. There are only a few precious minutes between loss of the airway and brain death. By creating a device which can establish an airway in case of blockage (either caused by choking or anaphylaxis), many of these people could be saved. Crucial to the success of the device is its availability. The device will be low-cost and easy to use, so it can be added to first aid kits and placed in public areas. Unlike current devices on the market, which are expensive and difficult to use, our product aims to be accessible when emergencies occur.

Brief status update

The team has completed the outreach activity and is reflecting on the experience and the impact that engineers have on the Madison area.

Difficulties / advice requests

None to report

Current design



Materials and expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Semester 1 Expenses										
All expenses									\$29.67	
Semester 2 Expenses										
Porcine Skin		N/A		Asian Midway Market		2/10/2024	1	2.97	\$2.97	
									\$2.97	
								TOTAL:	\$32.64	

Major team goals for the next week

None

Next week's individual goals

- Katerina
 - Complete outreach reflection
 - Acquire new animal models
 - Finish and submit WARF application

- Zac
 - Update handle design and 3d print
 - Finish and submit WARF application
- Megan
 - Help complete outreach reflection
 - Contact Dillon again about picking up the porcine tissue samples
 - Complete BPAG request for funds (for porcine samples)
 - Finish and submit WARF idea disclosure
- Mateo
 - Finish and submit WARF disclosure
 - Helped coordinate and complete outreach activity

Timeline

Task	Jan	Feb				March					April				May	
	26	2	9	16	23	1	8	15	22	29	5	12	19	26	3	10
Project R&D																
Empathize	X	X	X	X	X	X	X	X	X							
Background...	X	X	X	X	X	X	X	X	X							
Prototyping				X	X											
Testings				X												
Deliverables																
Progress Reports	X	X	X	X	X	X	X	X	X							
Prelim presentation			X			X										
Final Poster																
Meetings																
Client		X														
Advisor	X	X	X	X	X	X	X	X	X							
Website																
Update	X	X	X	X	X	X	X	X	X							

Filled boxes = projected timeline

X = task was worked on or completed

Previous week's goals and accomplishments

- Katerina
 - Present outreach activity to Tracy and the high school
 - Purchase more animal models for testing
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- Zac
 - Practice outreach activities

- Present outreach activity
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- Megan
 - Complete outreach activity
 - Discuss and plan out future testing timeline with the team
 - Consider continuation of WARF application
- Mateo
 - Test outreach activity as a team
 - 3D print bone models
 - Perform outreach activity

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Katerina	3/15	Team meeting	1	5	23
	3/18	Acquiring outreach materials	0.5		
	3/19	3D printing materials and testing outreach activity	1.5		
	3/20	Outreach activity	2		
Zac	3/15	Team meeting	1	4	22
	3/19	Testing outreach activity	1		
	3/20	Outreach	2		
Megan	3/15	Team meeting and outreach planning	1	4	22
	3/19	Testing outreach activity	1		
	3/20	Outreach activity	2		
Mateo	3/15	Team meeting	1	4	21
	3/19	Test outreach activity	1		
	3/20	Perform outreach activity	2		