

Title: Emergency Cricothyroidotomy

Date: February 1st, 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 been brainstorming new ways to ensure successful testing of our device. This includes engineering a holder for the canine larynx in order to effectively test on it and mimic any supports that are typically *in vivo*.

Difficulties / advice requests

The team is looking to potentially test on a cadaver or a mannequin and are currently looking at resources on campus. Any insight is welcomed.

Current design



Materials and expenses

Item	Description	Manufacturer	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	

Major team goals for the next week

1. Begin testing our device

Next week's individual goals

- Katerina
 - Edit our existing testing protocols or create new testing protocols
 - Begin testing
- Zac
 - Set up a meeting time with client

- Brainstorm testing we might want to conduct
- Megan
 - Discuss with the team and then finish up the WARF application
 - Begin testing on the MTS machine after finding a way to secure the sample
- Mateo
 - Reach out to Dr. Wille about testing with the MTS machine
 - Reach out to outreach contact, set a date for our 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																
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

Previous week's goals and accomplishments (N/A)

- Katerina
 - n/a
- Zac
 - n/a
- Megan
 - n/a
- Mateo
 - n/a
- Team
 - n/a

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Katerina	1/26, 2/1	First day activities; Measured larynx for accurate engineering of laryngeal holder	1.5	1.5	1.5
Zac	1/26	First day activities	1	1	1
Megan	1/26, 2/1	First day activities; Started filling out the WARF patent application/idea disclosure form for our device	1	1	1
Mateo	1/26	First day activities;	1	1	1