

Title: Emergency Cricothyroidotomy

Date: February 8th, 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 met with the client to discuss the aims of the next semester as well as discussed a plan for the semester. The team will present to our advisor tomorrow to receive feedback on the feasibility of the plan and any assistance the team might need.

Difficulties / advice requests

Nothing 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										
									\$0.00	
									\$0.00	
								TOTAL:	\$29.67	

Major team goals for the next week

1. Begin MTS testing of device on animal models of skin, larynx and trachea

Next week's individual goals

- Katerina
 - Create sound testing protocols with MTS testing
 - Create sound testing protocols with airflow testing
 - Research potential journals for potential submission
- Zac
 - Research methods of testing flow rate

- Megan
 - Continue writing WARF application
 - Review operation on MTS machines to prepare for testing
- Mateo
 - Continue communication with outreach contact
 - Meet with Dr. Wille to discuss MTS testing protocol/sample fixation

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														
Background...	X	X														
Prototyping																
Testings																
Deliverables																
Progress Reports	X	X														
Prelim presentation																
Final Poster																
Meetings																
Client		X														
Advisor	X	X														
Website																
Update	X	X														

Filled boxes = projected timeline
 X = task was worked on or completed

Previous week's goals and accomplishments

- Katerina
 - Brainstorm affixation methods for the larynx on the MTS machine
- Zac
 - Set up a meeting time with client
 - Brainstorm testing we might want to conduct
- Megan
 - Discuss WARF application and concerns
 - Brainstorm grip methods for the device
- Mateo
 - Reach out to Dr. Wille about testing with the MTS machine
 - Reach out to outreach contact, set a date for our activity
- Team
 - Met together to discuss preliminary presentation

- Met with client to get his perspective

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Katerina	2/5	Presentation work and meeting	1	1	2.5
Zac	2/5 2/7	Presentation work and meeting Meeting with client	2 1	3	4
Megan	2/2 2/5 2/7	Discussion with BSACs about idea disclosures/possible issues Presentation work and meeting Client meeting	1 1.5 1	3.5	4.5
Mateo	2/4 2/5 2/6 2/7	Literature Review Presentation work and meeting Communication with outreach contact and with Dr. Wille Client meeting	2.5 1 0.5 1	5	6