

3D Printing Airway Trainers: BME 400

Dates: 01/20/26 - 01/29/26

Client: Kristopher Schroeder, MD

Advisor: Dr. Paul Campagnola

Team:

Matt Sheridan (Communicator)

Dan Altschuler (Team Leader)

Cody Kryzer (BPAG)

Lance Johnson (BSAC)

Elleiana Thom (BWIG)

Problem Statement

Airway management is an integral part of keeping a patient stable in many medical environments. While training medical practitioners with simple airway trainers has improved patient outcomes, this has not had the same effect on patients with abnormal airways. The use of 3D printing from existing patient imaging to create realistic and individualized airway manikins would assist medical professionals, allowing them to practice airway management skills on lifelike models.

Brief Status Update

The team is getting ready to start a new semester. For the next few months the main focus will be on creating another prototype, building off of the design from the Fall semester. Another main focus will be on testing procedures. Looking into the next few weeks the team needs to start putting together a presentation that will focus more on that testing aspect.

Weekly Goals and Accomplishments

- Team
 - This week the team is getting ready for the next semester which includes the preliminary presentation that's due February 6th.
 - Finding a time for the first client meeting that works for everyone
- Matt Sheridan
 - Reached out to client to find times for a meeting
- Dan Altschuler
 - Coordinated the first client meeting
 - Looked into testing methods
- Cody Kryzer
 - Brushed up on last semesters work
- Lance Johnson
 - Began process of combining airway model and downloaded upper airway mold to improve the trainer usability
- Elle Thom
 - Looked into articles on testing methods for intubation devices

Upcoming Goals

- Team
 - Combine the mouth and airway into one mold
 - Meet with our client
 - Prepare a preliminary presentation
- Matt Sheridan
 - Meet with the client
 - Start on prelim presentation
- Dan Altschuler
 - Met with the client
 - Prepare for the preliminary presentation
- Cody Kryzer
 - Preliminary presentation
 - Improve the airway apparatus
- Lance Johnson
 - Meet with client
 - Continue combining airway and mouth models
- Elle Thom
 - Start working on the preliminary presentation
 - Meet with client