3D Printing Airway Trainers: BME 400

Dates: 2/27/26 - 3/5/26

Client: Kristopher Schroeder, MD
Advisor: Dr. Paul Campagnola

Team:
Matt Sheridan (Communicator)
Dan Altschuler (Team Leader)
Cody Kryzer (BPAG)
Lance Johnson (BSAC)
Elleana 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 has been working on the preliminary report, peer reviews, and will be attending the Tong lecture this week.

Weekly Goals and Accomplishments

- Team
    - Met to complete the preliminary report, completed peer reviews, Tong lecture on friday
- Matt Sheridan
    - Finished preliminary report
- Dan Altschuler
    - Finished up the report
- Cody Kryzer
    - Finish up preliminary report
- Lance Johnson
    - Worked on modeling vocal chords & attachments to the airway insert
- Elle Thom
    - Turn in preliminary report

Upcoming Goals

- Team
    - Print the airway(s) and fabricate the base that we will place our airway on
- Matt Sheridan
    - Go to tong
- Dan Altschuler
    - Go to the Tong lecture
- Cody Kryzer
    - 3D print parts for facial features
- Lance Johnson
    - Finish modeling the vocal cord attachments and growths
    - Model the mold for the airway negative
    - Print modified negative with attachments
- Elle Thom
    - Attend the Tong Lecture