3D Printing Airway Trainers: BME 301

Dates: 4/18/25 - 4/25/25

Client: Kristopher Schroeder, MD
Advisor: Prof. Beth Meyerand

Team:
Matt Sheridan (Communicator)
Dan Altschuler (BWIG and BPAG)
Cody Kryzer (BSAC)
Lance Johnson (Leader)

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 performed material and durability testing on the printed airway prototypes and synthesized the testing results on the poster. The team completed and printed the poster and prepared for the presentation. The team also began work on the final report and deliverables.

Weekly Goals and Accomplishments

- Team
    - Tested 3D printed airways
    - Completed the poster
- Matt Sheridan
    - Finished portions of the final poster
    - Completed section of final report
- Dan Altschuler
    - Completed the poster
    - Presented and finished final report
- Cody Kryzer
    - Completed and presented poster
    - Tested airways
- Lance Johnson
    - Printed the final airway prototype w/ esophagus
    - Helped assemble and test the airway prototypes

Upcoming Goals

- Team
    - Complete the final report

- Matt Sheridan
    - Finish up the report and do peer evaluations
- Dan Altschuler
    - Finalize the notebook
    - Help where I am needed
- Cody Kryzer
    - Finalize notebook and report
    - Complete peer evaluations
- Lance Johnson
    - Complete final report
    - Complete peer evals