3D Printing Airway Trainers: BME 402

Dates: March 13-19, 2026

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 3D modeled facial structures and 3D printed them for use on the new airway trainer. Significant effort was spent towards granting thickness to the face in order to allow for printing.

Weekly Goals and Accomplishments

- Matt Sheridan
    - Helped print manikin face
- Dan Altschuler
    - Found a manikin face to work on in SolidWorks
- Cody Kryzer
    - Worked on manikin face
- Lance Johnson
    - 3D printed manikin face
- Elle Thom
    - Looked into more facial variability to add for a more difficult intubation process

Upcoming Goals

- Team
    - Work on executive summary draft and work on silicone mold
- Matt Sheridan
    - Work on executive summary
    - Start on airway mold

- Dan Altschuler
    - Continue modeling the face and jaw to separate them for the final design
- Cody Kryzer
    - Work on executive summary
- Lance Johnson
    - Work on executive summary
- Elle Thom
    - Work on executive summary and start the silicone mold of the airway