# 3D Printing Airway Trainers: BME 301

Dates: 3/31/25 - 4/4/25

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

There still has been a delay with getting the file from the client so the team is looking into alternatives or other ways to make progress on the project. The team also reviewed all the information we got from show and tell and will be sure to apply any of the useful information to our project.

## Weekly Goals and Accomplishments

- Team
    - Reached out to the client for the scan and made further contact
- Matt Sheridan
    - Wrote durability testing protocol
- Dan Altschuler
    - Reviewed notes from show and tell
- Cody Kryzer
    - Receive and reflect on feedback and advice from 402's
- Lance Johnson
    - Revised the airway scan slice to include the epiglottis
    - Wrote volume-testing protocol

## Upcoming Goals

- Team
    - Continue practicing segmenting
    - Consider work on other facets of the project

- Matt Sheridan
    - Start to combine the printed airway to the existing trainer to figure out a good implementation method
- Dan Altschuler
    - Look to make some progress getting a scan
- Cody Kryzer
    - Continue to write protocols
    - Work on implementing our printed airway onto the manikin
- Lance Johnson
    - Print new STL file with the team
    - Start modifying the manikin to accept our airway