# 3D Printing Airway Trainers: BME 400

Dates: 9/25/25 - 10/2/25

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 met with Karl Vigen and Dr. Schroeder to get MRI scans in the sniffing position. The team made their preliminary presentation slideshow and is prepared to present tomorrow. The team also queued 3D prints for the decent simulator mold.

## Weekly Goals and Accomplishments

- Team
    - Got MRI scans
    - Preliminary presentation
- Matt Sheridan
    - Created preliminary presentation with team
    - Got new scans from volunteer, began segmenting the best scan
- Dan Altschuler
    - Started the print from Decent Simulators
- Cody Kryzer
    - Went to hospital to get scans
    - Worked on preliminary presentation
- Lance Johnson
    - Worked on the preliminary presentation
    - Cued 3D print at makerspace
- Elle Thom
    - Went with Dan and Cody to start 3D prints at the makerspace. Worked on preliminary presentation with the team.

## Upcoming Goals

- Team
    - Work on segmenting the new scans
    - Finalize the preliminary presentation
- Matt Sheridan
    - Continue segmenting scan, try different softwares
    - Begin creating manikin prototype
- Dan Altschuler
    - Work on segmenting
    - Give the presentation
- Cody Kryzer
    - Give presentation tomorrow
    - Get 3D prints from makerspace and create mold
- Lance Johnson
    - Begin modeling the manikin skull and outlining the size of the overall assembly in CAD
- Elle Thom
    - Start building a prototype
    - Work on segmenting the new MRI scan
    - Work on the preliminary report.