

3D Printing Airway Trainers: BME 400

Dates: 3/6/12 - 3/12/26

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 finished the preliminary report, peer reviews, and have been attending the Tong lecture this week.

Weekly Goals and Accomplishments

- Team
 - Completed the preliminary report, completed peer reviews, attended Tong lecture
- Matt Sheridan
 - Worked on modeling different obstructions in airway
- Dan Altschuler
 - Helped model different obstructions
- Cody Kryzer
 - Obstruction modeling with team
- Lance Johnson
 - Worked on modeling vocal chords & attachments to the airway insert
- Elle Thom
 - Modeling of obstructions with team

Upcoming Goals

- Team

- Print the airway(s) and fabricate the base that we will place our airway on
- Matt Sheridan
 - Model the mold for the airway negative
- Dan Altschuler
 - Model the mold for the airway negative
- 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
 - Model the mold for the airway negative