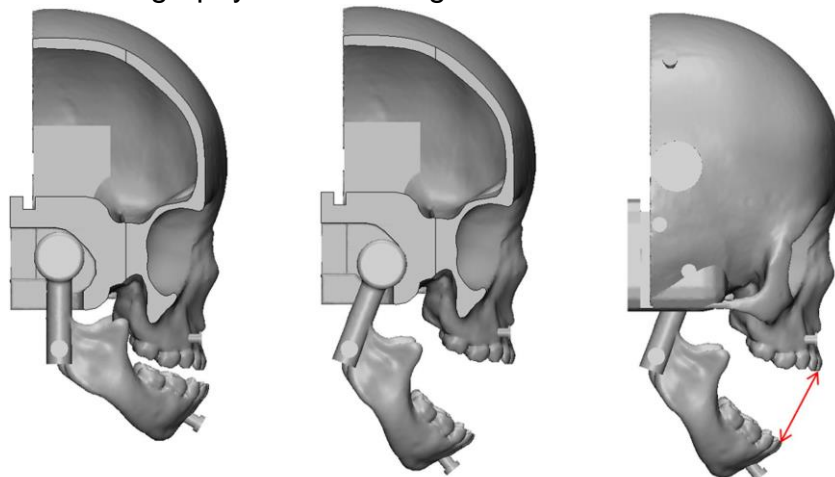


Master thesis!

Design of a head for a body-realistic simulator

Motivation

The goal of the project is to create a body-realistic simulator, for use in training volunteer, public, and corporate rescue services. The functionality should both match and surpass the current state of the art in patient simulators. The simulator should enable a proper training of intubation (for artificial ventilation). Therefore, a passage to the thorax is necessary. Another issue is the movement of the jaw and the connection of the head to the spine. These functions have to be provided by a 3D-printed head based on a computed tomography of an existing human.



Ock, J., Gwon, E., Kim, Dh. *et al.* Patient-specific and hyper-realistic phantom for an intubation simulator with a replaceable difficult airway of a toddler using 3D printing. *Sci Rep* **10**, 10631 (2020). <https://doi.org/10.1038/s41598-020-10631-0>

Tasks:

- Literature review to the state of art of body simulators for rescue training
- Creation of solutions for the different functions (passage for intubation, connection spine, movement jaw)
- Selection of the best solutions
- Design of the whole head
- Manufacturing, testing and evaluation of the prototype
- Poster of the scientific work
- Documentation as master thesis



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