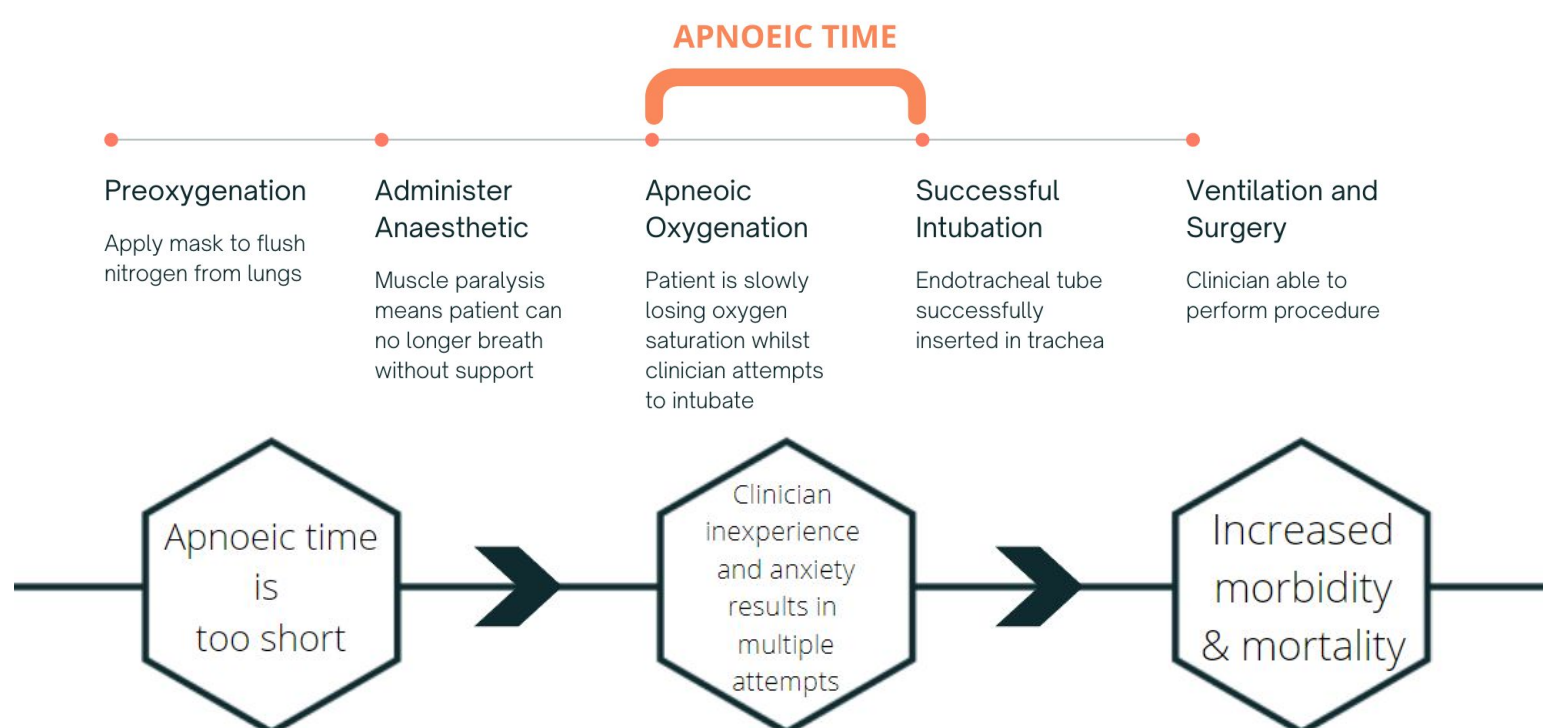


Mission statement

To develop a solution to improve effectiveness of apnoeic oxygenation in patients who are physiologically or anatomically difficult to intubate.

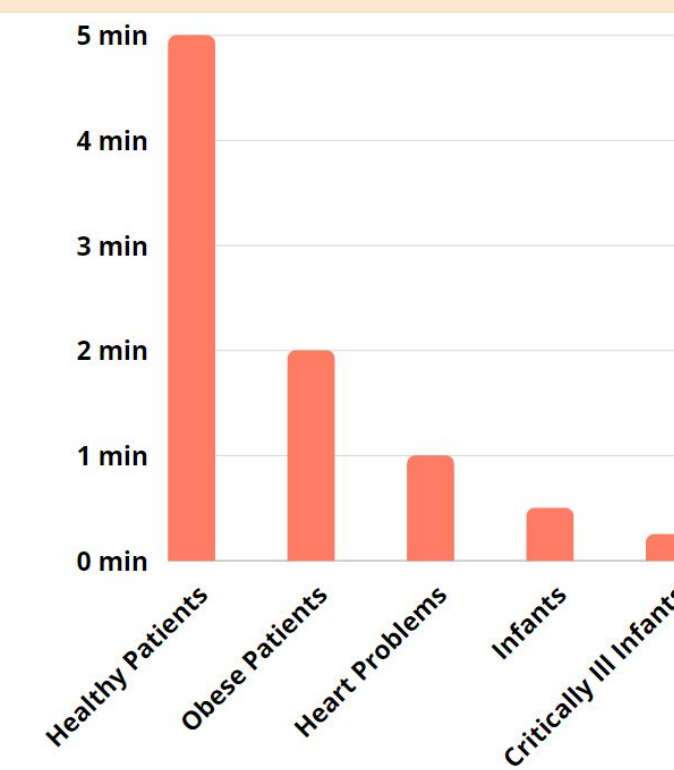
Introduction of Unmet Clinical Need



Impact of Solution upon completion

Our solution will:

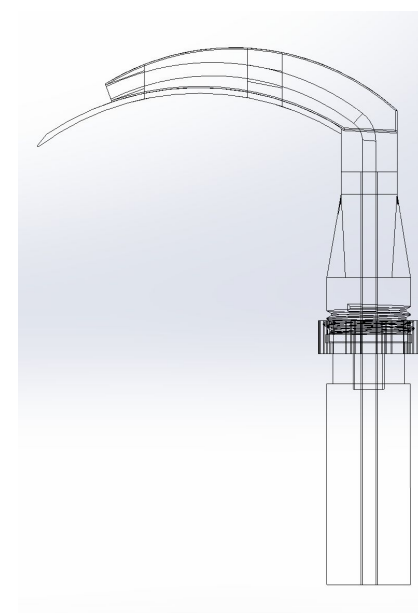
- Result in safe blood oxygen saturations during the apnoeic period
- Complement current workflow techniques in intubation
- Prevent the need for multiple intubation attempts due to desaturation during the apnoeic time, particularly in patients who are difficult to intubate due to anatomical and physiological characteristics



Solution

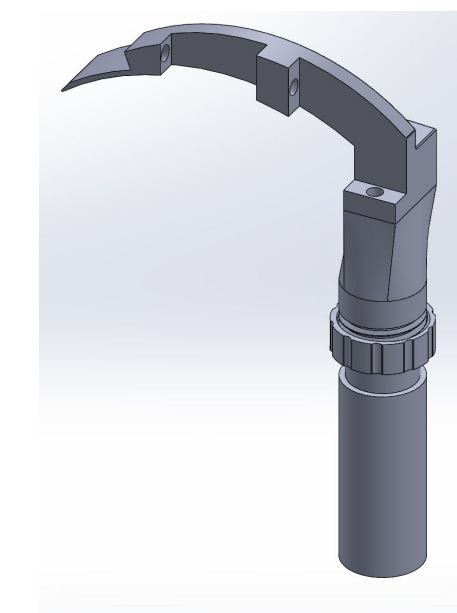
First stage:

- Proposed solution: oxygenating video laryngoscope
 - Combines advantages of video and oxygenating laryngoscopes
 - Provides oxygenation whilst displaying clear visualisation of the glottis
- Prolonging apnoeic time
→ Improving first pass success rate



Second stage:

- Proposed solution: parent unit delivering humidified and warmed oxygen to blade
- Able to accept patient details to deliver an individualised flow characteristics to optimise patient oxygenation
- Will also house video feed from laryngoscope camera



Timeline

Design parent unit

Implement video screen and airflow control circuit into a prototype unit

Perform experiment

Determine efficacy of design on test mannequin lungs

CFD on blade

Characterise flow within laryngoscope blade

CFD into lungs

Characterise flow from blade into upper airway model (1-2 bifurcation)

In-vivo trials

Perform experiment on animal lungs (pig)

Refine design

Streamline design and user interface for clinicians