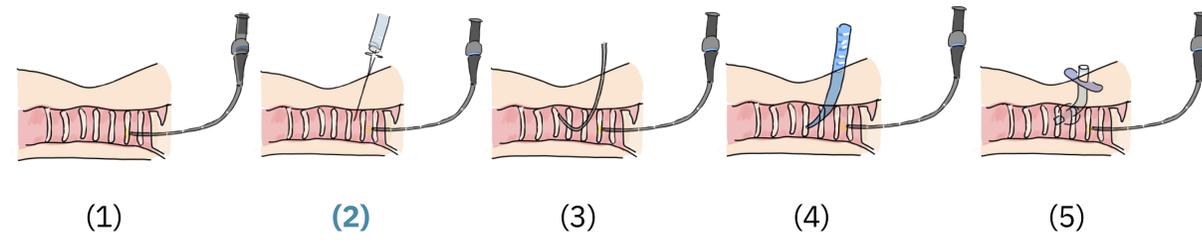


TracheoShield: Preventing Backwall Perforation in Percutaneous Dilational Tracheostomies (PDTs)



BACKGROUND

Percutaneous dilatational tracheostomy (PDT), a procedure to insert a breathing tube for long-term ventilation, is performed over **110,000** times annually in the U.S., making it one of the most common ICU procedures.



A challenging step in PDT is knowing where to insert and how deep to insert the needle.



TracheoShield®

PROBLEM

A **Bronchoscope** is a visualization device that provides real-time feedback of what occurs in the trachea during PDT.



Operating the bronchoscope requires expertise and expense.



Tracheal rupture (Lim et al.)

Without bronchoscope visualization, the risk of tracheal backwall perforation increases.

- We designed a solution to**
- Remove the need for a bronchoscope
 - Simplify the procedure
 - Protect the tracheal backwall

SOLUTION

- TracheoShield** – An expandable device that
- is thin enough to bypass the endotracheal tube
 - deploys inside the trachea to cover the backwall

Simple to use

Extra protection

Seamless integration

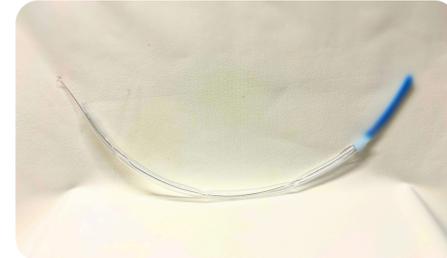
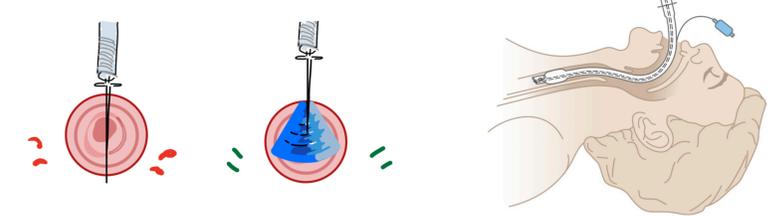
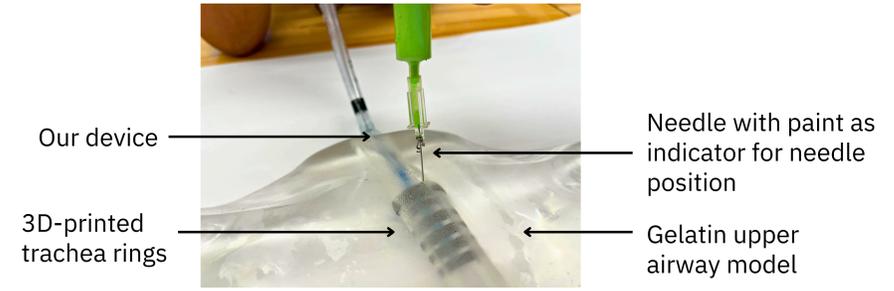


Image of Prototype Blurred for IP Protection



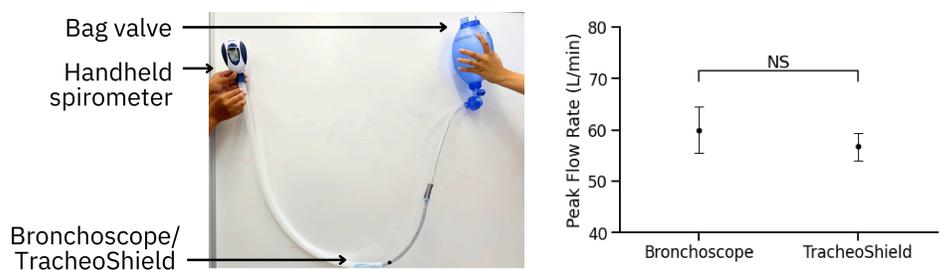
TESTING

Tracheal Coverage Paint Test



Result: Paint from needle does not leak past device.

Airflow Testing



Result: Does not obstruct airflow more than bronchoscope.

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