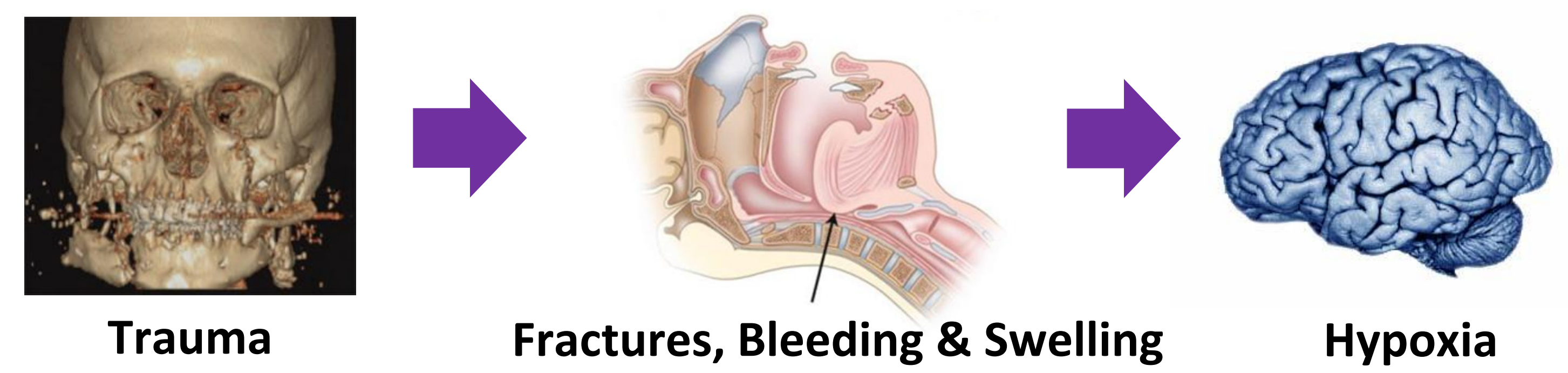


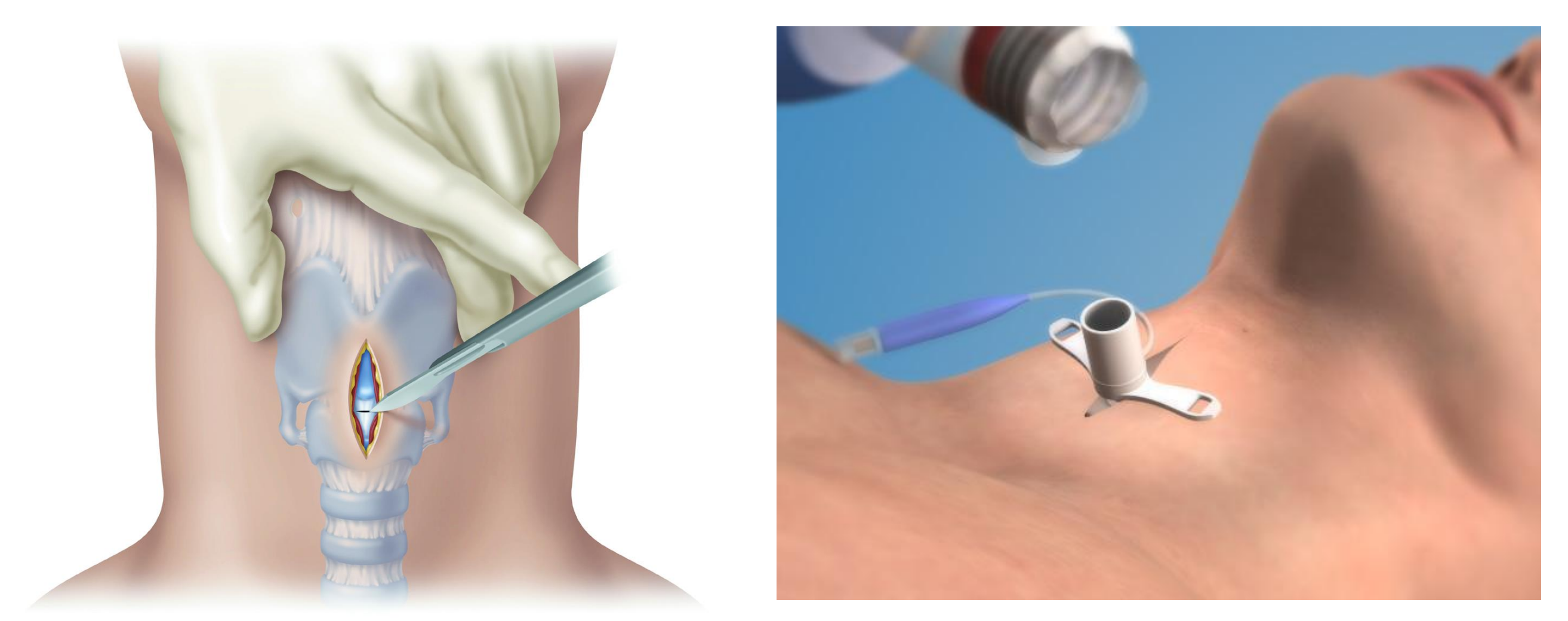
Design Team 2: Antonio Spina, Michael Good, Qiuyin Ren, Travis Wallace, Ryan Walter, Himanshu Dashora, Sondra Rahmeh, Ronak Mehta, Jordan Kreger

Maxillofacial Trauma Leads to Airway Obstruction

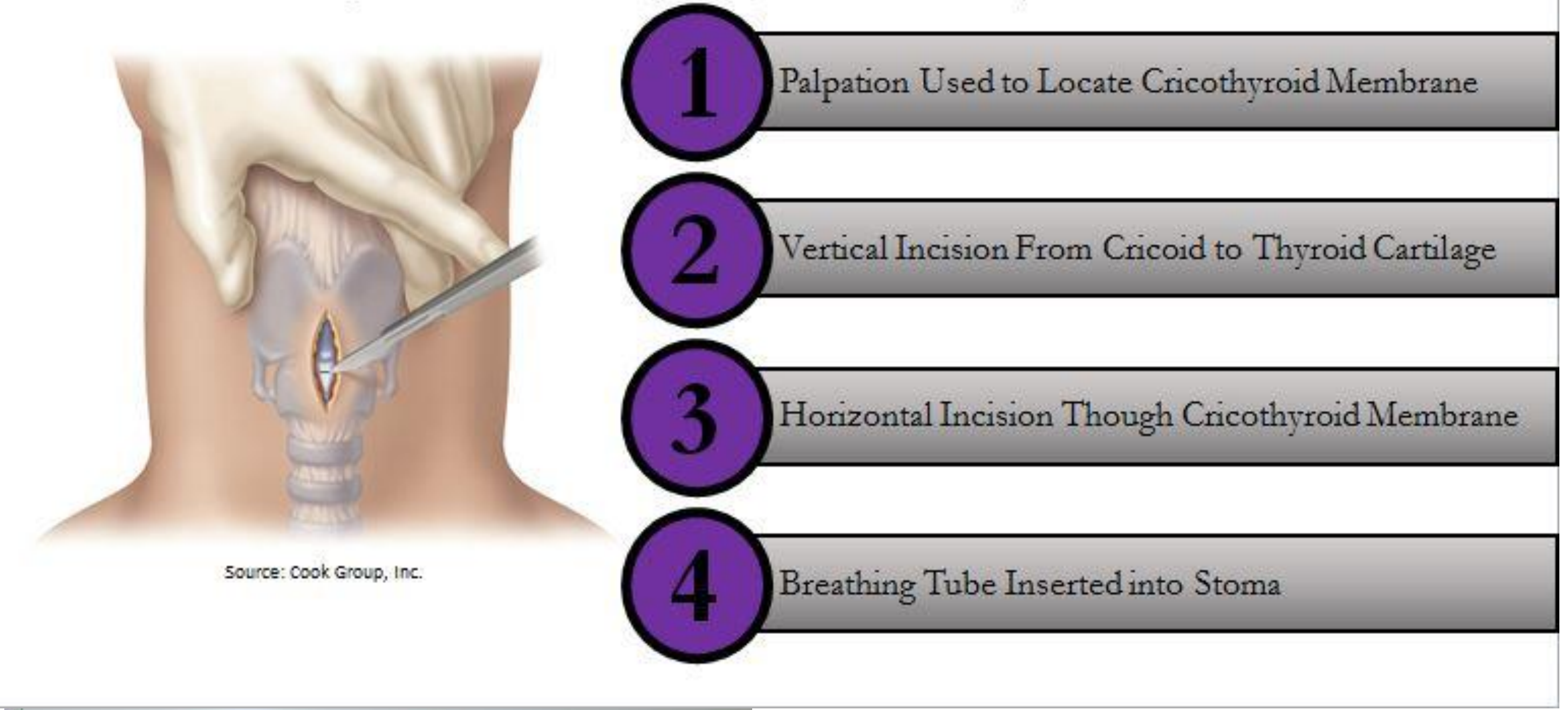


Airway obstruction is the 2nd largest cause of preventable death in U.S. Army

Cricothyrotomy Creates an Emergency Surgical Airway



Cricothyrotomy (“Cric”) Procedure



Army Combat Medics (68W) Perform Cricothyrotomies

Cricothyrotomies Fail Often in the Pre-Hospital Setting

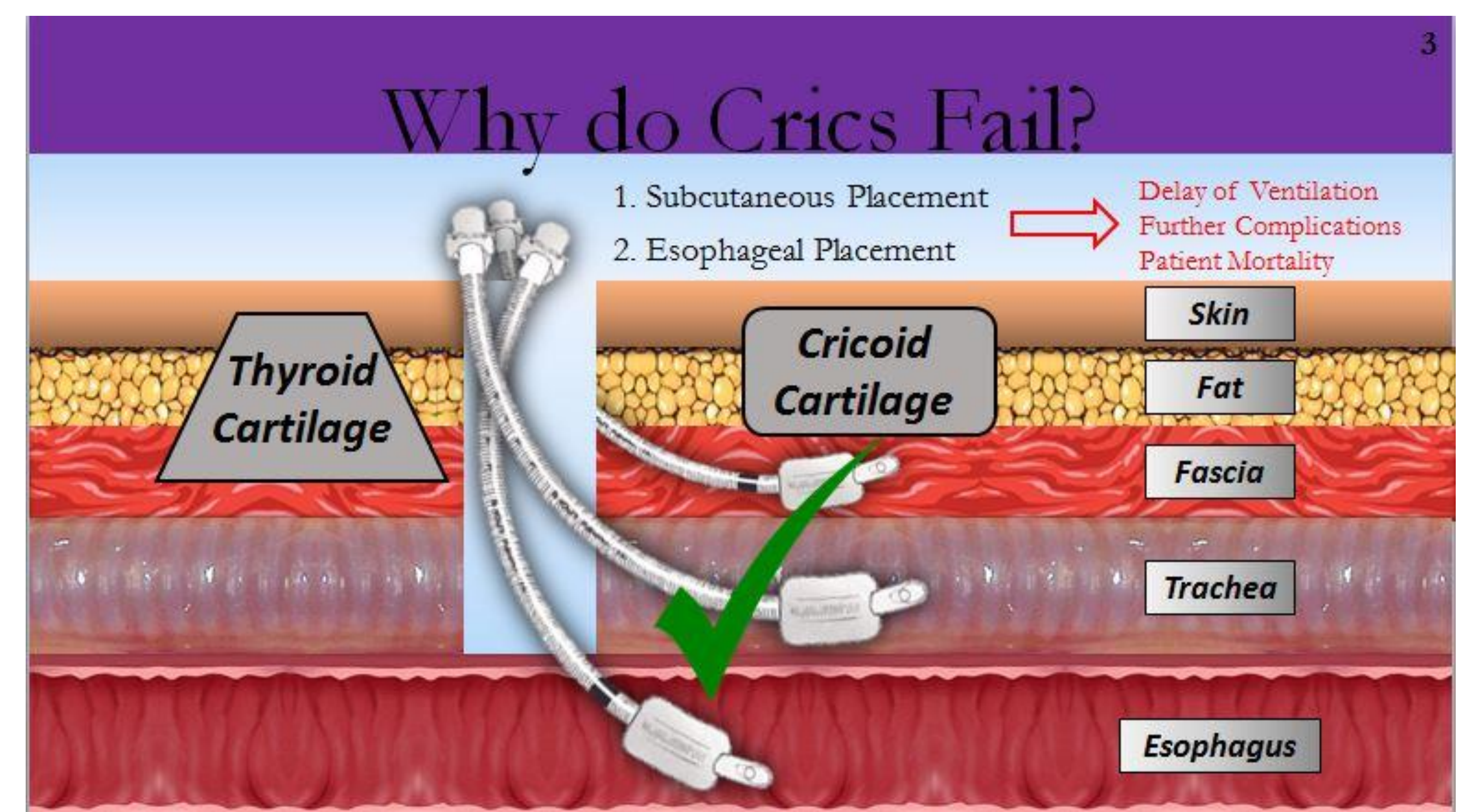
Failure Rate	1/3
Training	2 hours in class, 15 practice reps
Medic-to-Soldier Ratio	1:30
Environment	Dangerous Conditions, Moving Vehicle

Needs Statement

U.S. Army combat medics with limited anatomical and surgical training need a means to perform **cricothyrotomy** for maxillofacial trauma patients to establish a definitive airway rapidly and **intuitively**.

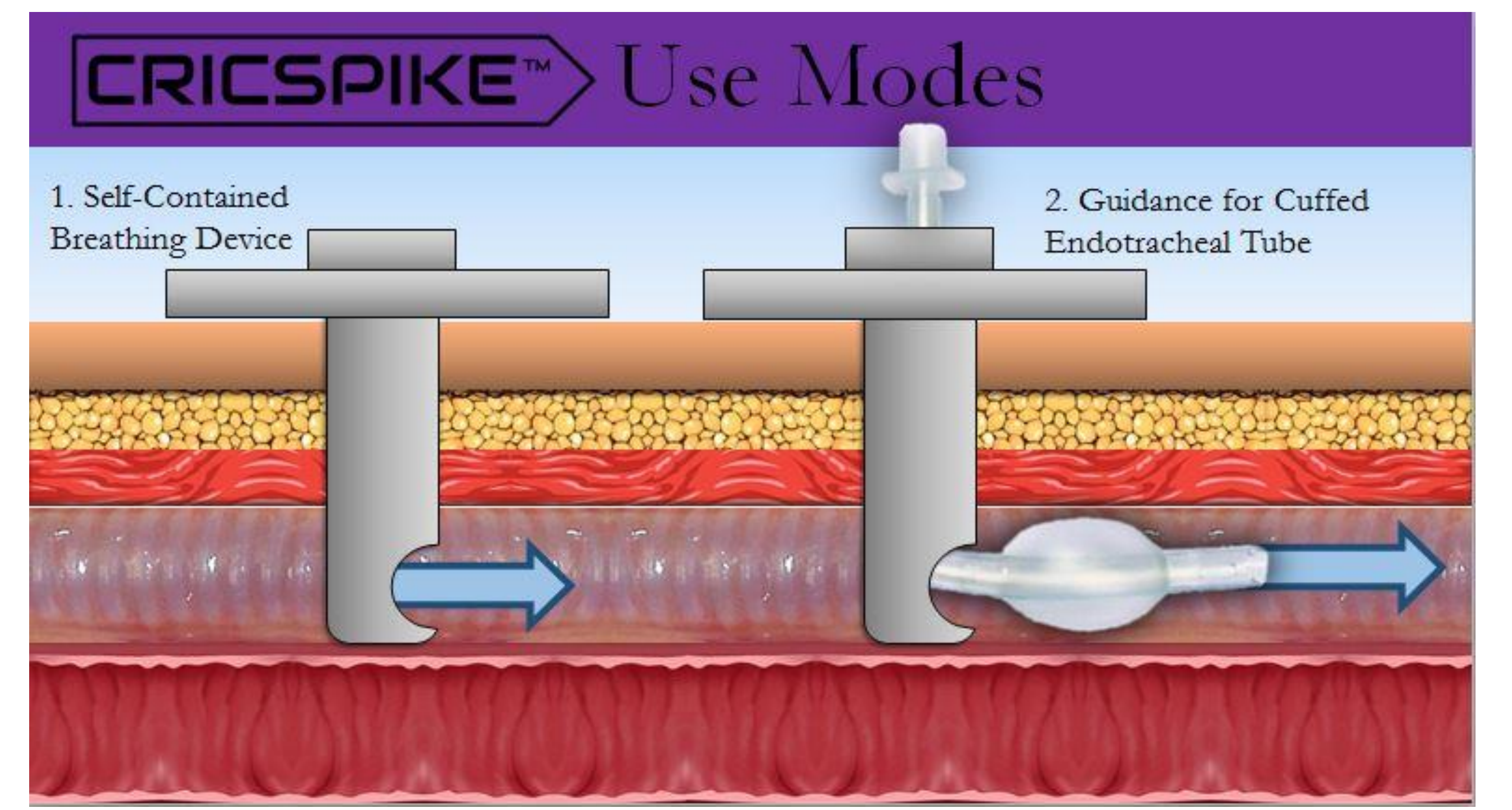
“Satellites, global positioning systems, unmanned aerial vehicles, and lasers are just a few of the new technologies placed on the modern battlefield; the modern combat medic is, on the other hand, using technology that has **barely advanced since 1831**. “
—COL Lorne H Blackbourne, MC, USA (2011)

What are the Failure Points?

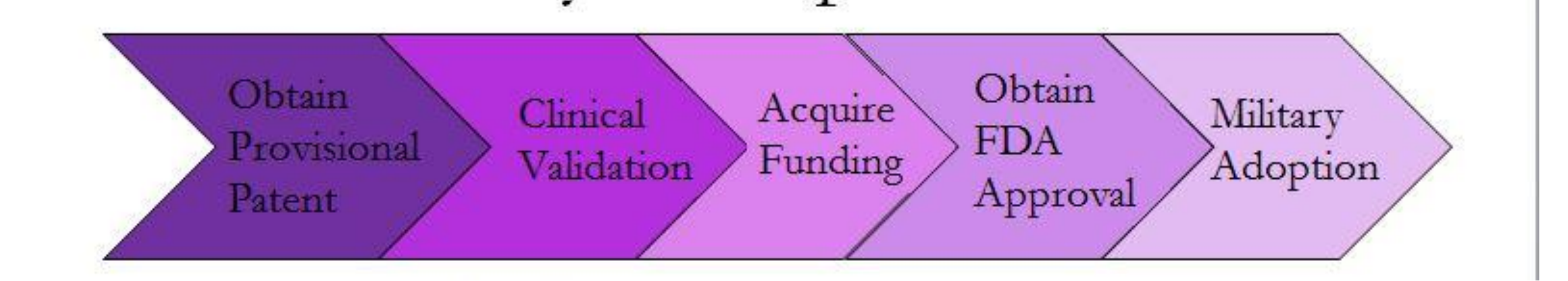


Our Solution: **CRICSPIKE™**

Components:	Features:
1. Intra-Tracheal Tip	Unique Geometry Ensures Correct Placement
2. Removable Handle	Blunt End Prevents Esophageal Puncture
3. Securement Mechanisms	Full-Sized Handle For Optimal Control



Pathway to Implementation



Acknowledgements

- | | |
|---|---|
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|---|---|