

ESRA ITALIAN CHAPTER

30° NATIONAL MEETING

Presidents:
Giuseppe Servillo, Fabrizio Fattorini

13-15 NOV 2025

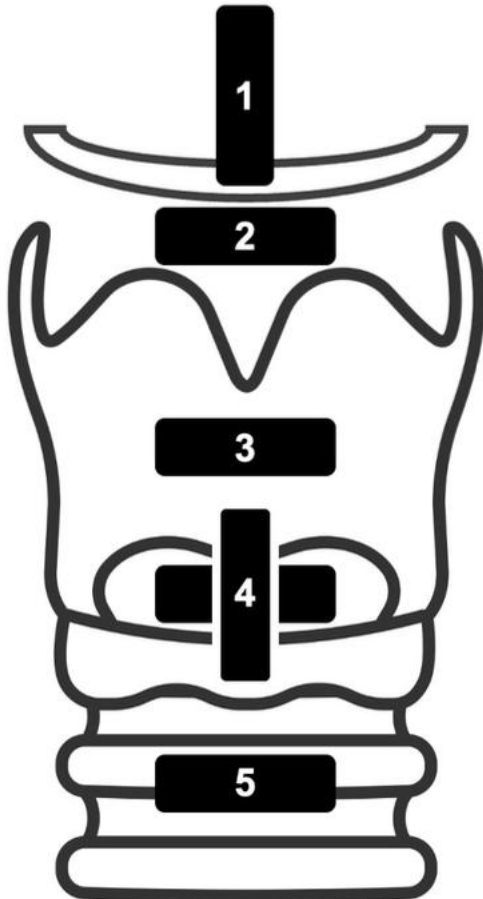
NAPOLI
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REGIONAL
ANAESTHESIA:
LET'S OPEN
THE BORDERS

THE ROLE OF ULTRASOUND GUIDANCE IN AIRWAY MANAGMENT

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- 1. Suprahyoid: Oral space assessment**
- 2. Thyrohyoid: Epiglottis identification**
- 3. Thyroid: Vocal cord function**
- 4. Cricothyroid: CTM identification**
- 5. Suprasternal: ETT Confirmation**



Suprahyoid View



The suprahyoid view is located above the hyoid, from the hyoid to the mentum, and is used to measure hyomental distance (HMD), distance to tongue, and tongue thickness. The measurements on this view may vary with changes in patient positioning. The main structures seen on this view include the hyoid, mentum, tongue, mylohyoid muscle, and geniohyoid muscle.



The thyrohyoid view is located through the thyrohyoid membrane and is used to visualize the epiglottis

The main structures seen on this view include the strap muscles, thyrohyoid membrane, pre-epiglottic space, and the epiglottis.





The thyroid view is located over the thyroid cartilage and is used to visualize the vocal cords. The main structures seen on this view include the vocal cords, arytenoid cartilage, and strap







- **Cricothyroid View :** The cricothyroid view is located between the cricoid cartilage and the thyroid cartilage. The main clinical utility of this view is to locate the CTM and any structures overlying the CTM for cricothyrotomy. The main structures seen from this view include the cricoid cartilage, CTM, and the thyroid cartilage.



The suprasternal view is located just above the suprasternal notch and is the best location to visualize ETT location and placement, and to measure the tracheal diameter

M Soni , Ameya Pappu , Sahar Zarabi , Carlos Khalil , Kong E You-Ten , Naveed Siddiqui , David T Wong , Vincent Chan⁵, Qixuan Li , Ella Huzsti , Marina Englesakis Point-of-care
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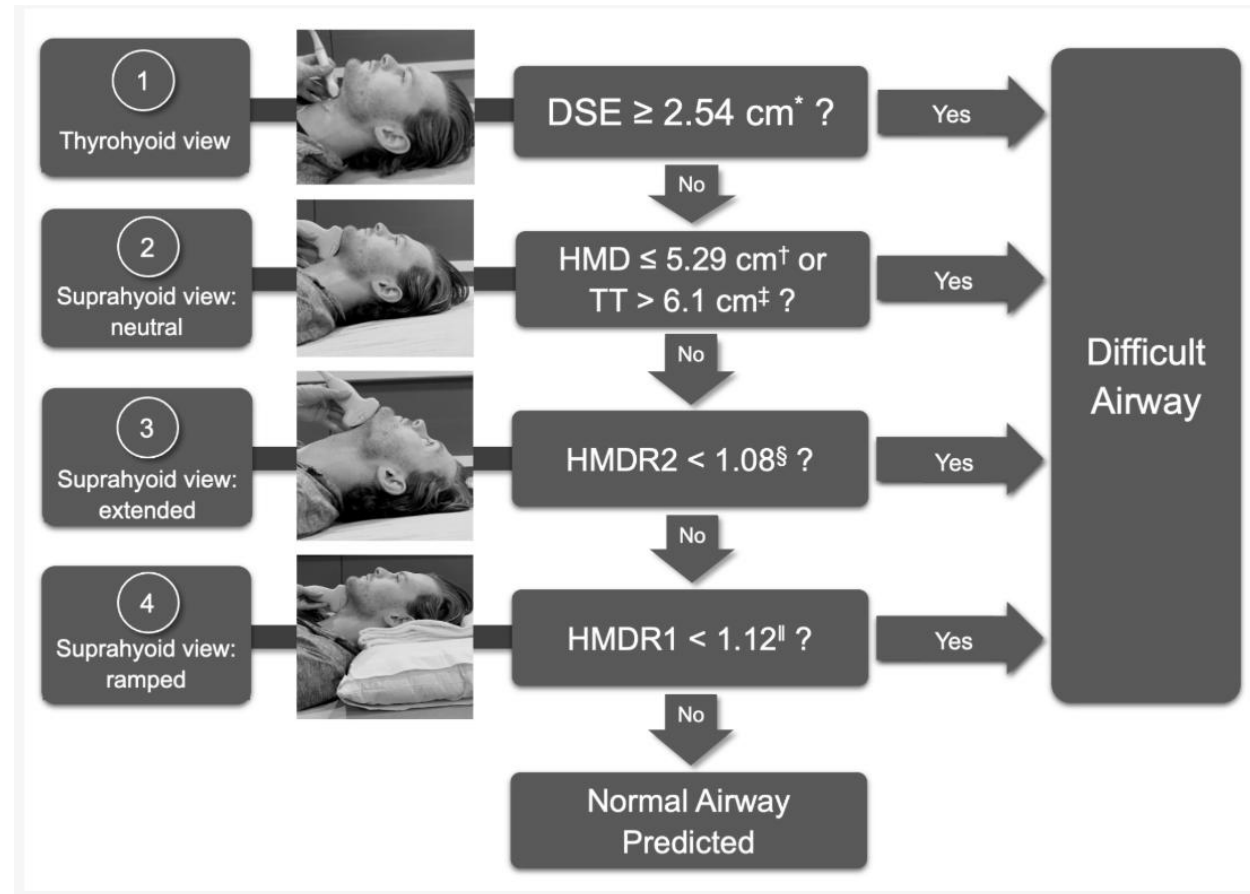
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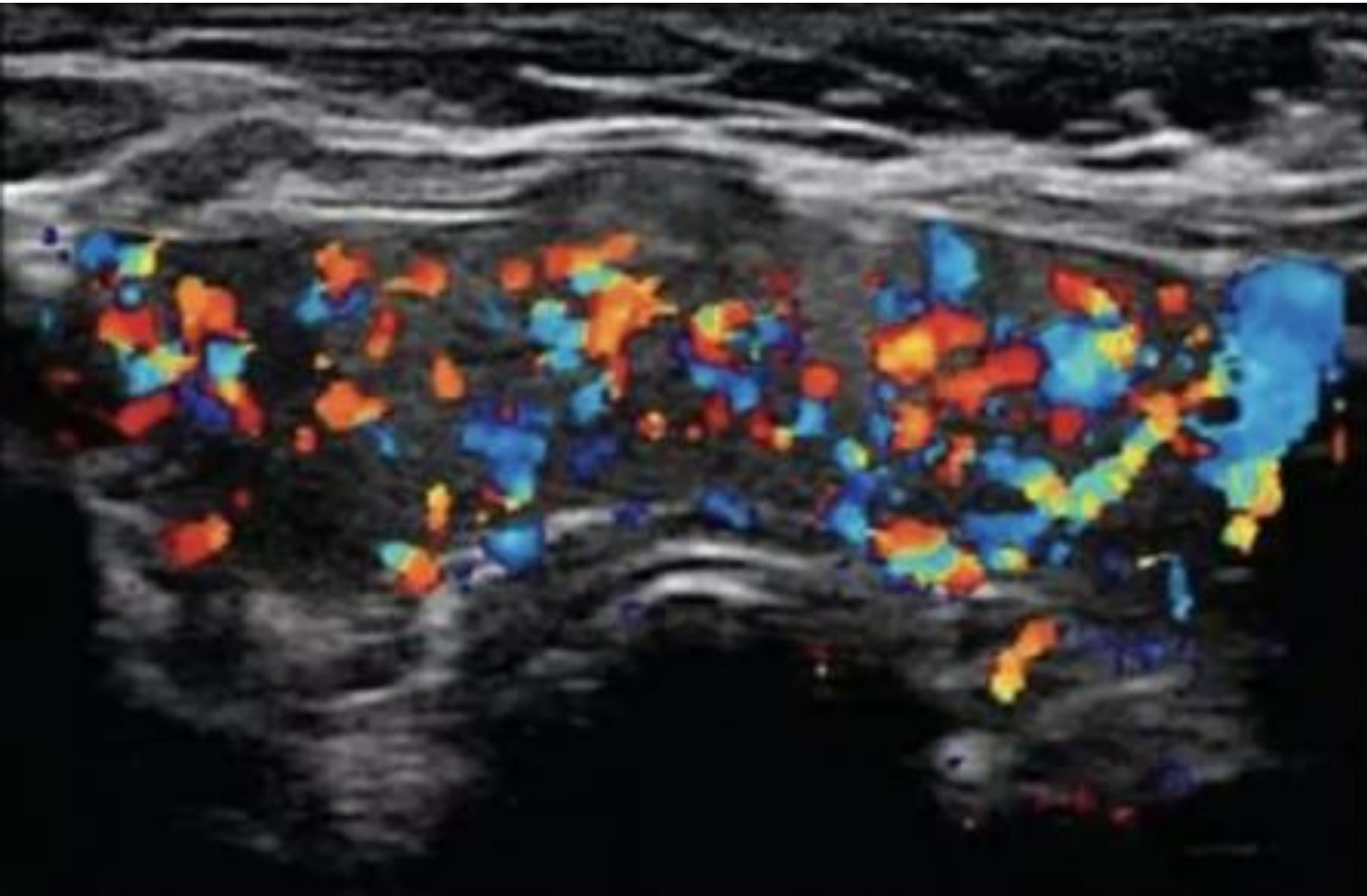
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DARES



Percutaneous dilational tracheostomy



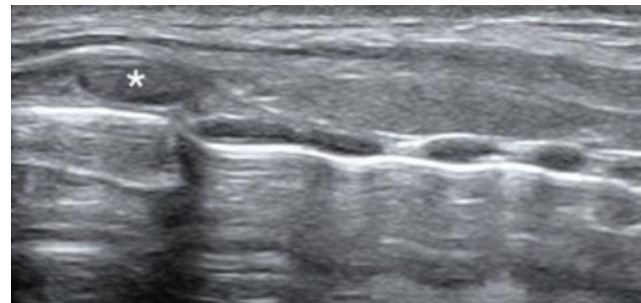
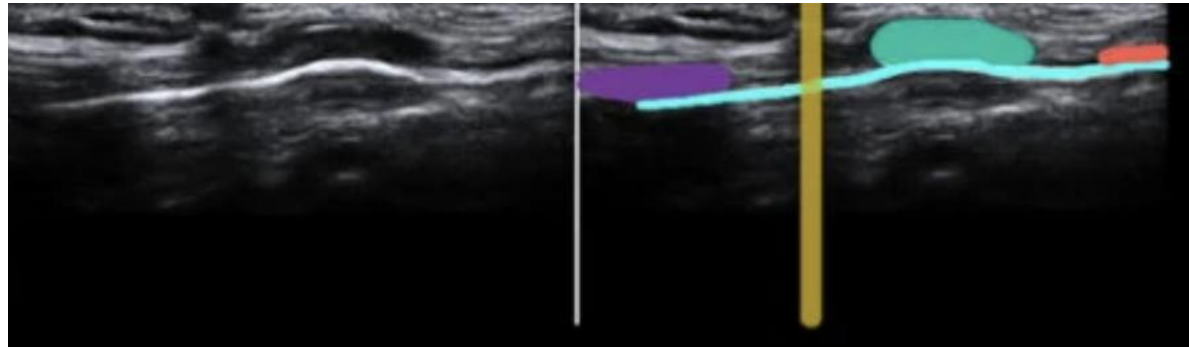
- ▶ Selection of optimal intercartilaginous space – 24% change in site with US
- ▶ Distance from skin to anterior tracheal wall
- ▶ Visualisation of blood vessels
- ▶ Possible to use pre- procedure or during, to guide needle placement in real time

Confirmation of tracheal intubation



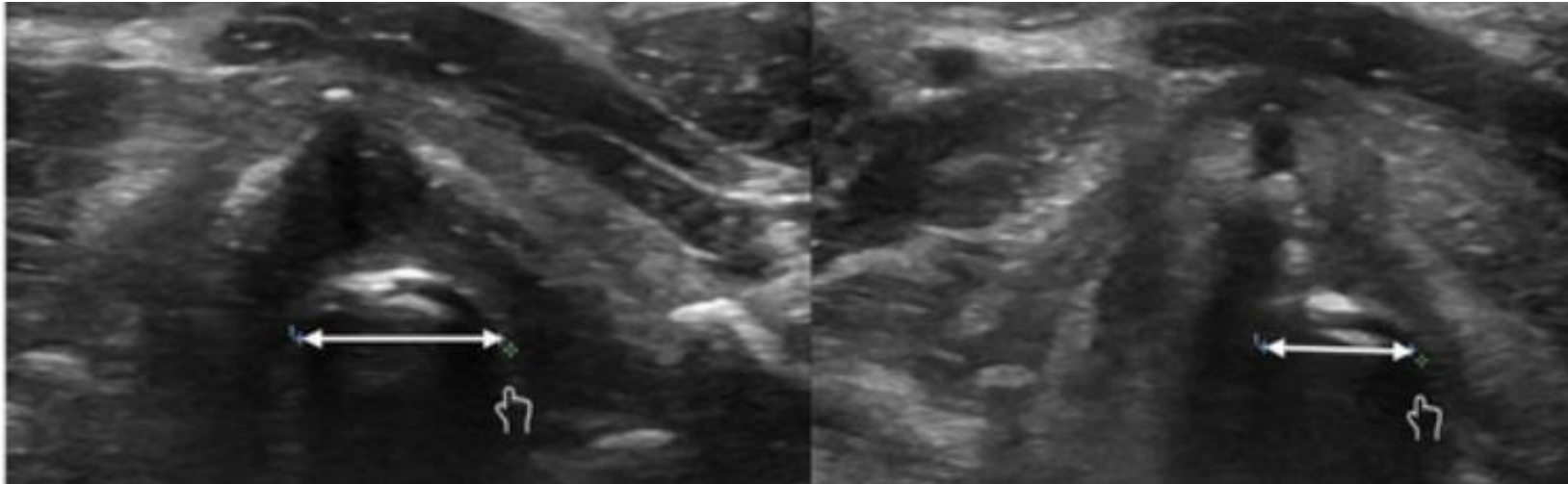
Prediction of Endotracheal
Tube Size
Subglottic diameter

Localisation of cricothyroid membrane and cricothyroidotomy



The inability to identify the cricothyroid membrane by external visualization or palpation is an important contributor to this low success rate and misplacement is the most common complication when attempting cricothyrotomy.

Assessment of Laryngeal Edema



ultrasound has compared favorably to the cuff leak test in its prediction of post-extubation stridor

Future directions

Upper airway US is useful in airway management because of its portability, minimal invasiveness, cost effectiveness, low radiation exposure, and accessibility. Modern advancements in ultrasonography technologies such as three-dimensional US may be useful in the complex evaluation of upper and lower airway anatomy with accurate prediction of difficult airways, diagnosis of obstructive sleep apnea, and guidance of airway nerve blocks...

Thank you..