Does the Use of a Virtual Reality Anatomy Trainer for Teaching EBUS-Associated Anatomy Improve Procedural Performance?

STUDY DESIGN

Randomized, crossover study with learners learning endobronchial ultrasound (EBUS)-related anatomy during two sequential sessions with testing after each session

- Modalities included:
- Virtual reality (VR) trainer
- Traditional modality (2D picture)
- 3D model

RESULTS

- 68 learners
- Three different institutions
- Voluntary participation

Virtual Reality Trainer

- **Preferred by 96%** of learners
- Learners spent **more time** with VR
- No other training method produced greater improvement
- **Spatial reasoning ability improved** EBUS performance

All three modalities improved EBUS performance **after the first learning** session but not the second

Qualitative data

Positive VR user experience with:

- Focused anatomy learning
- Ease of use
- Acceptable realism
- Tolerance

A VR anatomy trainer that provided EBUS anatomy visualization was preferred by learners because it provided visualization that aligned best with the procedural perspective. This approach helped learners of all spatial reasoning abilities improve their procedural performance.

New ML, et al. *CHEST* May 2025 | @journal_CHEST | https://doi:10.1016/j.chest.2024.11.032