#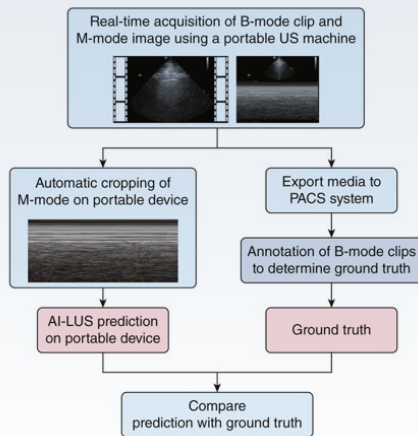 In Patients With Suspected Pneumothorax, What Is the Real-Time Diagnostic Accuracy of AI-LUS to Recognize the Absence of Lung Sliding?

CHEST

STUDY DESIGN

- Prospective artificial intelligence (AI)-assisted diagnostic accuracy study of AI-lung ultrasound (LUS) to recognize the absence of lung sliding
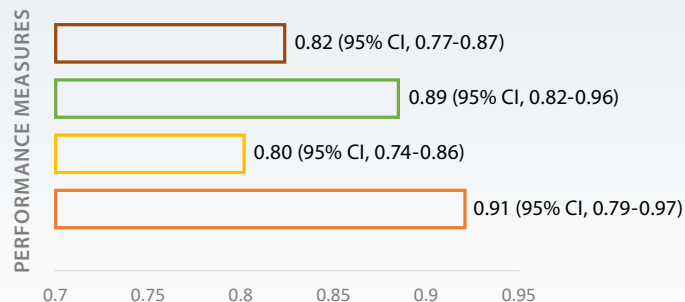
- 241 lung sliding evaluations from 62 patients

RESULTS

Study workflow outlining real-time image acquisition model evaluation

Real-time acquisition of B-mode clip and M-mode image using a portable US machine

Automatic cropping of M-mode on portable device → AI-LUS prediction on portable device

Export media to PACS system → Annotation of B-mode clips to determine ground truth → Ground truth

Compare prediction with ground truth

AI-LUS Diagnostic Performance

□ Accuracy □ AUC □ Specificity □ Sensitivity

- Accuracy: 0.82 (95% CI, 0.77-0.87)
- AUC: 0.89 (95% CI, 0.82-0.96)
- Specificity: 0.80 (95% CI, 0.74-0.86)
- Sensitivity: 0.91 (95% CI, 0.79-0.97)

PERFORMANCE MEASURES — 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95

This study showed that real-time AI-LUS has high sensitivity and moderate specificity to identify the absence of lung sliding. Further research to improve model performance and optimize the integration of AI-LUS into existing diagnostic pathways is warranted.