Does Artificial Intelligence-Assisted Lung Ultrasound (AI-LUS) Improve the Ability of Novice Users to Detect Findings Associated With Pneumothorax After Chest Tube Removal Compared With Expert Interpretation and Chest Radiograph (CXR)?

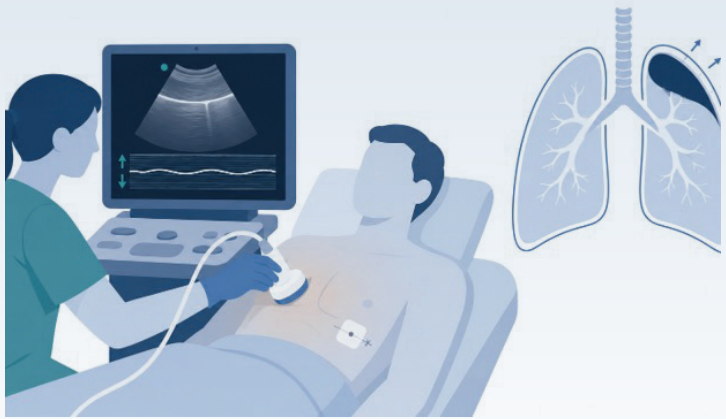
STUDY DESIGN

Prospective diagnostic accuracy study of novice-performed AI-LUS used to detect the absence of lung sliding.

Adult patients undergoing chest tube removal at a tertiary academic hospital.

Reference standard: expert consensus lung ultrasound interpretation with CXR serving as a secondary reference standard.

RESULTS



STUDY SAMPLE

76	848	2
patients	lung ultrasound clips	time points

Compared with expert lung ultrasound interpretation

77.5%	83.1%	96%
Sensitivity	**Specificity**	**Negative predictive value**
absent lung sliding	absent lung sliding	rule-out performance

Compared with CXR for pneumothorax detection

Sensitivity immediately after chest tube removal	100%
Sensitivity after CXR	92.3%

In this study, novice-performed AI-LUS showed moderate diagnostic accuracy for detecting absent lung sliding and strong rule-out performance after chest tube removal.

CHEST® Pulmonary

Cote M, et al. *CHEST Pulmonary* | 2026
@journal_CHEST | https://doi.org/10.1016/j.chpulm.2026.100246