

# Chest X-ray Interpretation By Radiographers: Diagnostic Accuracy And Influence On Diagnostic Reasoning

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# Why Radiographer CXR Reporting

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- Chest X-rays one of the most frequent performed radiology investigations
- Used in high and low resource settings
- Key component of many diagnostic pathways

# Why Radiographer CXR Reporting

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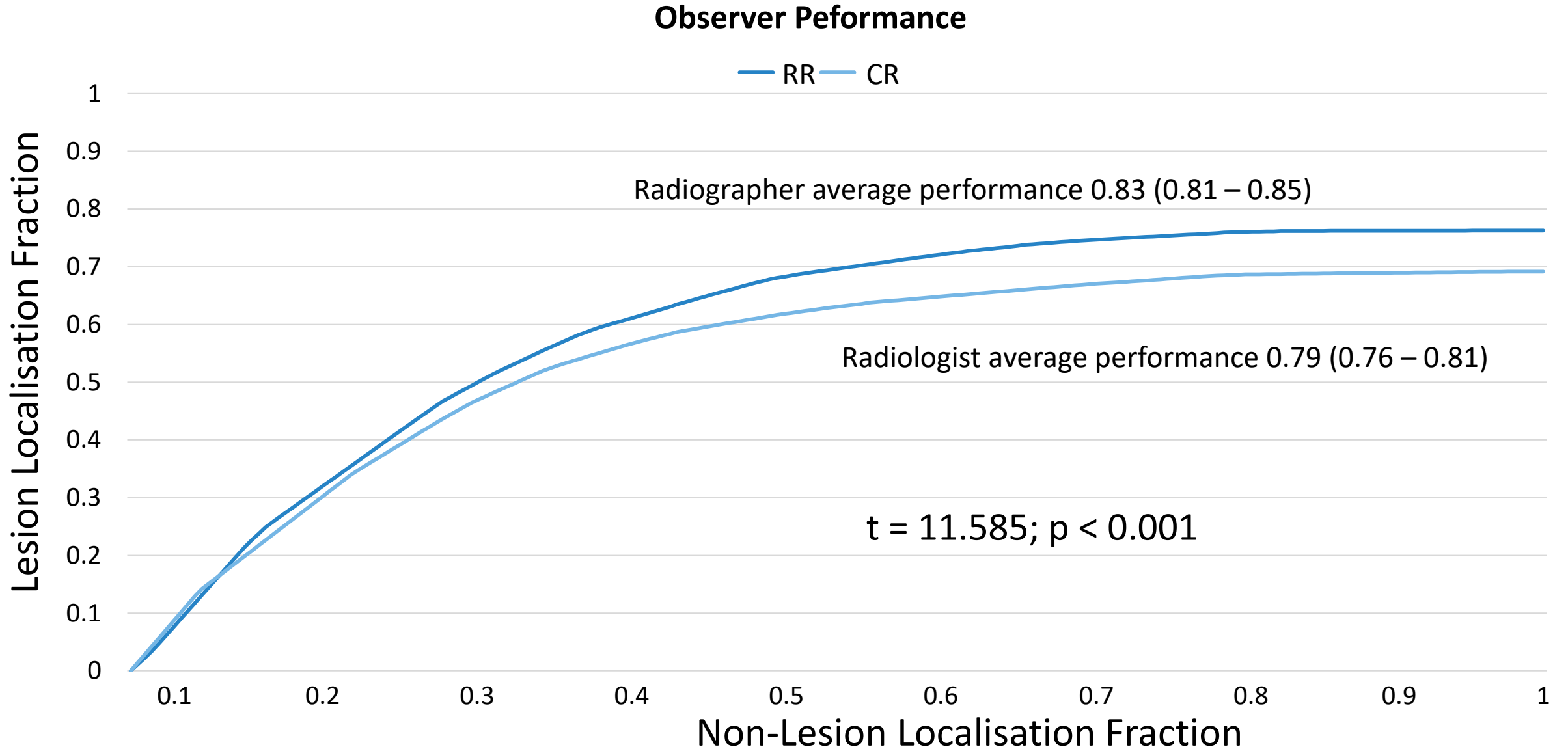
- Radiographers increasingly providing clinical reports
- Reporting radiographers must be comparable to consultant radiologists
- Aim: to compare reporting radiographer and consultant radiologist chest X-ray reports

# Diagnostic Accuracy – Adult Chest X-rays

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- 10 consultant radiologists & 11 reporting radiographers
- 106 adult chest x-rays with robust reference standard diagnosis
- Normal reporting conditions
- Free response methodology, analysed using jack-knife approach (JAFROC)

# Diagnostic Accuracy – Figure of Merit



# Diagnostic Impact: Chest X-ray Reports

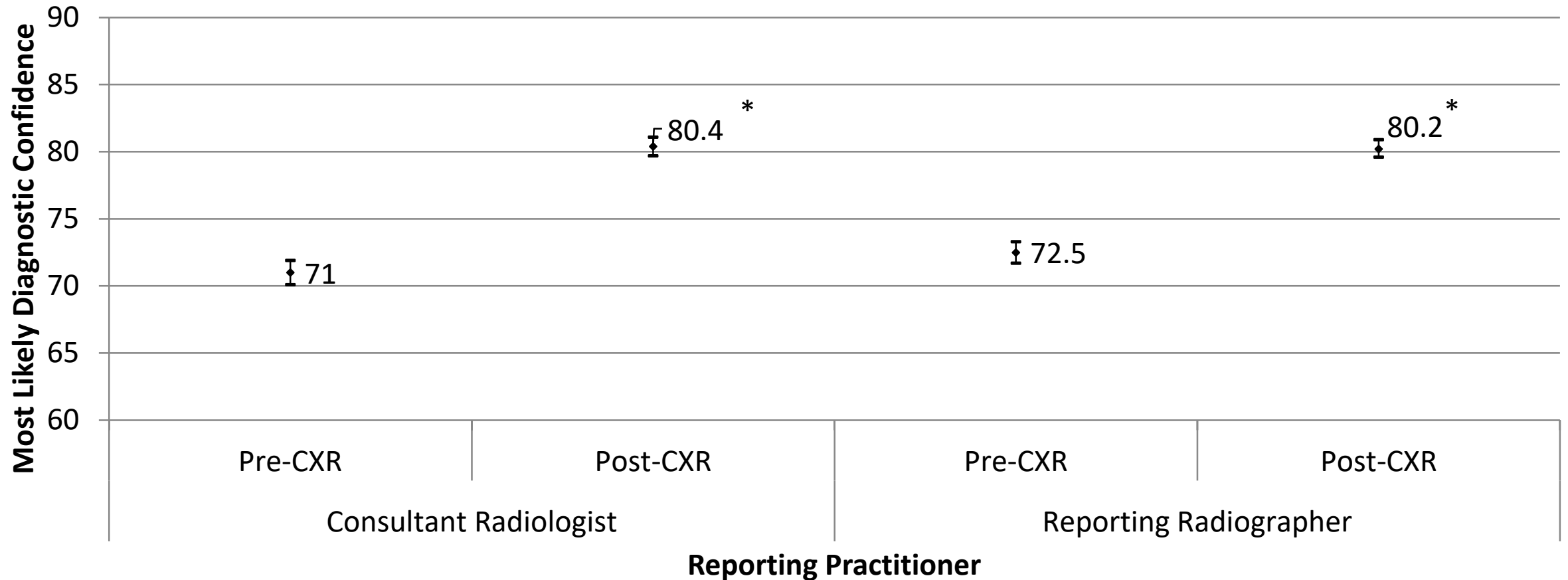
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- Clinico-radiological diagnosis obtained for all cases (n=106)
- 2,178 radiologist and 2,213 radiographer reports
- 18 clinicians provided pre and post-CXR most likely and most serious diagnoses

# Diagnostic Impact – Correct Diagnoses

Clinician Experience	Correct Most Likely and/or Most Serious Consultant Radiologist		Correct Most Likely and/or Most Serious Reporting Radiographer	
	Incorrect	Correct	Incorrect	Correct
Consultant	337	564 (63%)	310	453 (59%)*
Registrar	217	382 (64%)	268	358 (57%)**
Junior Medical Staff	256	422 (62%)	298	526 (64%***)
Total	810	1368 (63%)	876	1337 (60%****)

# Diagnostic Confidence – Uncorrected





# Conclusions

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- Diagnostic accuracy of reporting radiographers equivalent to consultant radiologists
- No apparent difference in influence of CXR reports on clinicians' diagnostic decision-making
- With appropriate postgraduate education, reporting radiographers are able to interpret chest x-rays at a level comparable to consultant radiologists

# Questions?

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