Supplementary Appendix: English Questionnaire

Q1. Name/Nickname (Optional)
Q2. Your primary workplace *

- Education and Research Hospital (ERH) / City Hospital / University-affiliated institution
- University Hospital
- State Hospital
- Private Hospital
- Dedicated Imaging Center
- Private Practice
- Not currently employed

Q3. Your academic title *

- Assistant Doctor (Resident)
- Specialist Doctor
- Assistant Member / Assistant Associate Professor
- Associate Professor
- Professor

Q4. Years of experience in radiology (including residency) *
Q5. Main subspecialty/subspecialties (select all that apply)

- General Radiology
- Abdominal Radiology
- Emergency Radiology
- Head & Neck Radiology / Neuroradiology
- Interventional Radiology
- Cardiac Radiology
- Musculoskeletal Radiology
- Breast Imaging
- Pediatric Radiology
- Thoracic Radiology

Q6. How would you rate your knowledge of AI applications in radiology? *

- I have no knowledge
- Basic
- Intermediate
- Advanced

Q7. Have you received formal training in AI (in your hospital, congresses, or private courses)? *

- Yes
- No

Q8. Have you ever used AI-based tools in radiology (in research or clinical practice)? *

- Yes
- No

Q9. Which features did the AI tool(s) you used have? (select all that apply)

- Lesion detection (e.g., lung nodule detection)
- Post-processing (image reconstruction, segmentation, measurement; e.g., prostate volume and nodules)
- Assist during interpretation (differential diagnosis, literature review, etc.)
- Preliminary interpretation (applications providing preliminary reports for radiologists)
- Triage/prioritization (AI flags urgent studies)
- Quality control

Q10. Have you used AI tools in routine clinical practice (integrated into hospital systems)?

- Yes
- No

Q11. Did you experience any major challenges during integration of AI-based algorithms into your system/workflow?

- Yes
- No

Q12. How were patient data protected during AI processing?

- AI tool operated only on local hospital network
- AI tool operated online but patient identifiers were removed before processing
- I don’t know

Q13. Were patients informed that AI tools were used during interpretation?

- Yes
- No
- Not sure

Q14. Was the use of AI tools mentioned in your reports?

- Yes
- No
- Not sure

Q15. Did other clinicians know AI was used in reporting, and were they satisfied with the results?

- They knew and were satisfied
- They knew and were not satisfied
- They knew but gave no feedback

- They did not know
- I don’t know

Q16. Did AI tools reduce your workload?

- Yes
- No
- Not sure

Q17. Did AI tools increase your confidence in your reports?

- Yes
- No
- Not sure

Q18. How reliable were the AI tool(s) you used?

- Very reliable
- Reliable
- Neutral
- Unreliable
- Very unreliable
- I don’t know

Q19. Overall, how useful were the AI tools you used?

- Very useful
- Useful
- Neutral
- Not useful
- Harmful

Q20. If you found AI tools not useful, why? (select all that apply)

- No added value
- Did not work as advertised
- Created additional workload
- Lack of training and support
- Difficult to integrate into workflow
- Complicated interface/system
- High false positive/negative rates

Q21. Were there discrepancies between AI tool and radiologist’s interpretation/measurement?

- Yes
- No
- I don’t know

Q22. If yes, whose findings were usually valid after control?

- Artificial Intelligence
- Radiologist
- Both equal
- Sometimes radiologist, sometimes AI
- I don’t know

Q23. Was AI accuracy evaluated by comparing with radiologist findings or manual measurements?

- Yes
- No

Q24. Was AI accuracy evaluated by comparing with the patient’s final clinical diagnosis?

- Yes
- No

Q25. How would you evaluate the overall reliability of AI in radiology?

- Very reliable
- Reliable
- Neutral
- Unreliable
- Very unreliable

Q26. Do you think AI has already brought major changes in radiology?

- Yes
- No
- Not sure

Q27. Do you think AI will bring major changes in radiology in the next 10 years?

- Yes
- No
- Not sure

Q28. What is your opinion about AI’s role in the next 5–10 years in radiology?

- AI will reduce radiologists’ workload as a supportive tool
- AI will take over many tasks but not fully replace radiologists
- Radiologists’ role will significantly change, working in AI-driven systems
- AI will largely replace radiologists
- Not sure

Q29. Would you like to use AI support in your daily workflow in the near future?

- Yes
- No
- Not sure

Q30. In which areas do you think AI is most suitable? (select all that apply)

- Lesion detection
- Post-processing
- Assist during interpretation
- Preliminary interpretation
- Triage/prioritization
- Quality control

Q31. Which radiology subspecialties would benefit most from AI integration? (select all that apply)

- General Radiology
- Abdominal Radiology
- Head & Neck Radiology / Neuroradiology
- Breast Imaging
- Pediatric Radiology
- Musculoskeletal Radiology
- Interventional Radiology
- Thoracic Radiology
- Cardiac Radiology
- Emergency Radiology

Q32. How would AI affect your future workload?

- Decrease
- No effect
- Increase
- I don’t know

Q33. What is your opinion on AI’s potential to improve diagnostic accuracy and benefit patients?

- Very promising
- Promising
- Neutral
- Not very promising
- Not promising at all

Q34. In case of diagnostic errors by AI-supported systems, who should be legally responsible?

- Software company
- Radiologist using AI
- Hospital/healthcare institution

- Not sure

Q35. Are you concerned about AI replacing radiologists in the future?

- Not at all concerned
- Not concerned
- Neutral
- Concerned
- Very concerned

Q36. Do you have any additional comments or suggestions about the questionnaire?

Correlation Analysis

Appendix 1. Cross tabulation of Radiologists' Knowledge of AI Applications and Willingness to Use AI Support in Daily Workflow (all respondents, N=244)

How would you rate your knowledge of AI applications in radiology?	Would you like to use AI support in your daily workflow in the near future?			Total
	No	I am not sure	Yes	
I don't know anything	3	6	24	33
I have a basic level of knowledge	14	14	118	146
I have intermediate knowledge	2	1	55	58
I have an advanced level of knowledge	0	0	7	7
Total	19	21	204	244

ρ = 0.64, with a **p-value < 0.001**,

Appendix 1: Interpretation: There is a moderately strong and statistically significant positive relationship between radiologists' knowledge of AI applications and their willingness to adopt AI support in daily workflow. This suggests that as individuals become more knowledgeable about AI in radiology, they are significantly more likely to express interest in integrating AI tools into their clinical practice. Enhancing educational initiatives around AI could therefore play a key role in promoting its acceptance and utilization.

Appendix 2. Association between Knowledge and Clinical application of AI in radiology (all respondents, N=244)					
Knowledge level of AI applications in radiology		Have you used AI tools in clinical practice? (For example, an AI tool integrated with hospital systems).			Total
		Never Used	Research Only Use	Clinical Use	
How would you rate your knowledge of AI applications in radiology?	I don't know anything	32	0	1	33
	I have a basic level of knowledge	106	14	26	146
	I have intermediate knowledge	12	9	37	58
	I have an advanced level of knowledge	1	2	4	7
Total		151	25	68	244

ρ = 0.42, with a **p-value ≈ 0.001**,

Appendix 2: Interpretation: The results show a moderate positive correlation between knowledge of AI in radiology and its clinical application. As the level of knowledge about AI increases, so does the likelihood of using AI tools in clinical practice. Specifically, individuals with basic to intermediate knowledge are more likely to have used AI in clinical settings, whereas those with little or no knowledge of AI are less likely to apply it clinically. This suggests that increased education and understanding of AI are key factors driving its adoption in radiology.

Appendix 3. Correlation between formal AI training and perceived reliability of AI tools (among AI users, n=93)								
Received Formal AI Training	Did the AI tool(s) you used produce reliable results?							Total
	Not used AI	I do not know	I'm undecided	It was reliable	It was unreliable	It was very reliable	Yes	
No	119	1	9	42	4	1	0	176
Yes	32	0	4	28	0	3	1	68
Total	151	1	13	70	4	4	1	244

ρ = 0.175, with a **p-value ≈ 0.0062**

Appendix 3: Interpretation: The analysis revealed a statistically significant but weak positive correlation between formal training in AI and the perceived reliability of AI tools among radiology professionals. “I do not know” indicated that the respondent could not assess whether the AI result was reliable, as they had not measured it; “I am undecided” reflected uncertainty despite having experience. This suggests that individuals who received formal AI education were slightly more likely to view AI tools as reliable. While the relationship is not strong, the finding highlights the potential impact of structured training on fostering trust and confidence in AI applications within radiological practice.

Appendix 4. Correlation between AI integration challenges and perceived usefulness of AI tools (among AI users, n=93)					
Major challenges integrating AI-based algorithms into your system/workflow? (Yes = challenges reported; No = no challenges)	How would you rate the usefulness of the AI tools you use?				Total
	I'm undecided	It was helpful	It was useless	It was very useful	
No	2	45	1	7	55
Yes	3	6	2	1	12
Total	5	51	3	8	67*

ρ = 0.0121, with a **p-value = 0.922**

Appendix 4. Interpretation: Among 93 AI users, 67 provided responses to both items. The “Not Used AI” category (n=151) was excluded from analysis. The data indicates that there is no significant relationship between experiencing challenges in integrating AI-based algorithms and the perceived usefulness of AI tools. The correlation coefficient is very close to zero, and the p-value confirms that this association is not statistically significant.

Appendix 5. Correlation between diagnostic accuracy and reliability of AI in radiology (all respondents, N=244)							
		Reliability					Total
		I'm undecided	Not reliable at all	Reliable	Unreliable	Very reliable	
Accuracy		1	0	0	0	0	1
	I'm undecided	22	1	4	1	0	28
	Not very promising	4	0	0	17	1	22
	Promising	43	0	119	2	0	165
	Very promising	5	0	18	0	4	28
Total		75	1	141	20	5	244

ρ = 0.241, with a **p-value < 0.001**,

Appendix 5: Interpretation: The correlation is positive and statistically significant, indicating that as participants view AI as more reliable, they also tend to view it as more beneficial in improving diagnostic accuracy. However, the strength of the correlation is moderate, suggesting other factors also influence opinions.

Appendix 6. Discrepancies Between AI Tool and Radiologist Interpretation and Validity of Findings After Control (among AI users, n=93)						
Were there any discrepancies between the AI tool and the radiologist's interpretation/diagnosis/measurement?	In case of incompatibility, which side's finding was generally valid after the control?					
		Artificial Intelligence	I do not know	It can be considered equal in both	Radiologist	Sometimes radiologist, sometimes artificial intelligence
I do not know	8	-	-	-	-	-
No	44	-	-	-	-	-
Yes	-	1	1	1	37	1

Appendix 6: Interpretation: Among 93 AI users, 41 (48.2%) reported at least one discrepancy. In these cases, the radiologist's interpretation was considered valid in 37 of 41 instances (90.2%), while the AI alone, both equally, alternating, or uncertain responses were each reported by one participant (2.4% each). Percentages are based on the denominator of respondents to this question.

Appendix 7. Correlation Between Professional Experience and benefit for patients (all respondents, N=244)						
Years of experience	AI to increase diagnostic accuracy and benefit patients					Total
	No Response	I'm undecided	Not very promising	Promising	Very promising	
1-10yrs	0	13	6	68	7	94
11-20yrs	0	10	12	64	15	101
21+ yrs.	1	5	4	33	6	49
Total	1	28	22	165	28	244

ρ = 0.040, with a **p-value ≈ 0.0532**,

Appendix 7: Interpretation: The correlation between years of experience and perception of AI's potential to improve diagnostic accuracy is very weak and not statistically significant, indicating no

strong evidence to support a meaningful association between a radiologist's level of experience and their optimism about AI's diagnostic benefits.

Appendix 8. Correlation Between Perceived Impact of AI on Radiology and Expectations for Diagnostic Accuracy Enhancement					
AI will lead to major changes in the field of radiology in the next 10 years	AI to increase diagnostic accuracy				Total
	I'm undecided	Not very promising	Promising	Very promising	
I'm not sure	8	2	6	1	17
No	8	16	7	1	32
Yes	13	4	152	26	195
Total	28	22	165	28	244

χ^2 **= 124.29**, with a **p-value < 0.001**, **Cramér's V = 0.50**

Appendix 8: Interpretation: There is a statistically significant association between radiologists' expectations about AI bringing major changes to the field and their perceptions of AI's potential to enhance diagnostic accuracy. Radiologists who believe that AI will lead to significant changes over the next 10 years overwhelmingly rated AI as promising or very promising. In contrast, those who are unsure or do not expect major changes were more likely to be undecided or skeptical about AI's diagnostic benefits.

General note: Effect sizes are reported as Spearman's ρ for ordinal associations and as Cramér's V for chi-square tests. Reporting effect sizes aims to shift focus from statistical significance (p-values) to the strength of associations.