

UK Radiologist MRI Spondyloarthritis Survey

Dear Colleague,

Spondyloarthritis is a condition that effects up to 1% of the population(1)(2). Historically axial inflammatory disease was only diagnosed after many years of disease when radiographic sacroillitis and/or spondylitis were present and compatible with a diagnosis of modified New York criteria Ankylosing Spondylitis(3).

It is evident that disease predates Ankylosing Spondylitis by many years(4) and it is now known that MRI can detect specific inflammatory changes in the sacroiliac joints and the spine(5)(6) years prior to radiographic change(7)(8)(9). The International Society of the Assessment of Spondyloarthritis (ASAS) published classification criteria for axial- spondyloarthritis (Axial-SpA) in 2009(10) which included early non radiographic disease.

MRI of the whole spine and SIJs are extremely useful for the early diagnosis of disease as well as predicting long term prognosis and predicting response to certain treatments(11).

We are surveying all radiologists in the UK to establish what radiological investigations are standard practice in the diagnosis and assessment of spondyloarthritis in the UK and to collate information on the awareness of UK radiologists to early non radiographic spondyloarthritis and the MRI findings associated with the condition.

We would therefore be extremely grateful if you would spend 10 minutes of your time completing this survey and returning it in the stamped address envelope provided. This questionnaire is anonymous and not a specific test of your knowledge so please answer the questions as fully and honestly as possible.

Thank you very much for you time

Yours sincerely

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References:

1. Saraux A, Guillemin F, Guggenbuhl P, Roux CH, Fardellone P, Le Bihan E, et al. Prevalence of spondyloarthropathies in France: 2001. *Annals of the rheumatic diseases*. 2005 Oct.;64(10):1431–1435.
2. Saraux A, Guedes C, Allain J, Devauchelle V, Valls I, Lamour A, et al. Prevalence of rheumatoid arthritis and spondyloarthropathy in Brittany, France. *Societe de Rhumatologie de l'Ouest. The Journal of rheumatology*. 1999 Dec.;26(12):2622–2627.
3. van der Linden S, Valkenburg HA, Cats A. Evaluation of diagnostic criteria for ankylosing spondylitis. A proposal for modification of the New York criteria. *Arthritis and rheumatism*. 1984 Apr.;27(4):361–368.
4. Mau WZHMREA. Clinical features and prognosis of patients with possible ankylosing spondylitis. Results of a 10-year follow-up. *The Journal of rheumatology*. 1988;15:1109–1114.
5. Bennett AN, Rehman A, Hensor EM, Marzo-Ortega H, Emery P, McGonagle D. Evaluation of the diagnostic utility of spinal magnetic resonance imaging in axial spondylarthritis. *Arthritis and rheumatism*. 2009 Apr. 29;60(5):1331–1341.
6. Weber U, Hodler J, Kubik RA, Rufibach K, Lambert RG, Kissling RO, et al. Sensitivity and specificity of spinal inflammatory lesions assessed by whole-body magnetic resonance imaging in patients with ankylosing spondylitis or recent-onset inflammatory back pain. *Arthritis and rheumatism*. 2009 Jul. 15;61(7):900–908.
7. Bennett AN, McGonagle D, O'Connor P, Hensor EM, Sivera F, Coates LC, et al. Severity of baseline magnetic resonance imaging-evident sacroiliitis and HLA-B27 status in early inflammatory back pain predict radiographically evident ankylosing spondylitis at eight years. *Arthritis and rheumatism*. 2008 Nov.;58(11):3413–3418.
8. Puhakka KB, Jurik AG, Schiottz-Christensen B, Hansen GV, Egund N, Christiansen JV, et al. Magnetic resonance imaging of sacroiliitis in early seronegative spondylarthropathy. Abnormalities correlated to clinical and laboratory findings. *Rheumatology (Oxford, England)*. 2004 Feb.;43(2):234–237.
9. Oostveen J, Prevo R, Boer den J, van de Laar M. Early detection of sacroiliitis on magnetic resonance imaging and subsequent development of sacroiliitis on plain radiography. A prospective, longitudinal study. *The Journal of rheumatology*. 1999 Sep.;26(9):1953–1958.
10. Sieper J, Rudwaleit M, Baraliakos X, Brandt J, Braun J, Burgos-Vargas R, et al. The Assessment of SpondyloArthritis international Society (ASAS) handbook: a guide to assess spondyloarthritis. *Annals of the rheumatic diseases*. 2009 Jun.;68 Suppl 2:ii1–44.
11. Bennett AN, Marzo-Ortega H, Rehman A, Emery P, McGonagle D. The evidence for whole-spine MRI in the assessment of axial spondyloarthropathy. *Rheumatology (Oxford, England)*. 2010 Jan. 11;

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1. Which hospital trust do you work for?

2. How many MRI scanners suitable for scanning the spine and SIJ do you have access to?

- a. None
- b. 1
- c. 2
- d. 3
- e. 4 or more

3. Roughly how long would an outpatient wait for an MRI in your trust?

- a. Less than 2 week
- b. 2-4weeks
- c. 1-2months
- d. 2-3months
- e. Greater than 3 months

4. Do you have regular meetings or discussions with you rheumatology colleagues?
 - a. Weekly
 - b. Fortnightly
 - c. Monthly
 - d. Quarterly
 - e. As required
 - f. Never
 - g. Other.....

5. Are you familiar with the rheumatological term axial spondyloarthropathy (axial – SpA)?
 - a. Yes
 - b. No

6. When assessing patients for possible early spondyloarthritis with MRI would you routinely scan:
 - a. Sacroiliac joints only
 - b. Sacroiliac joints and lumbar spine
 - c. Sacroiliac joints and thoracolumbar spine
 - d. Sacroiliac joints and whole spine
 - e. Other.....

7. If you are MRI scanning part of, or the whole spine in the assessment of spondyloarthritis would you perform:
 - a. Sagittal, axial and coronal sequences?
 - b. Sagittal and axial sequences only
 - c. Sagittal slices only
 - d. Other.....

8. When MRI scanning for the assessment of spondyloarthritis do you perform post gadolinium sequences?
 - a. Yes
 - b. No

9. When MRI scanning for the assessment of spondyloarthritis do you perform STIR or other fat suppressed sequences?
 - a. Yes
 - b. No

10. When MRI scanning for the assessment of spondyloarthritis which sequences do you perform?
 - a. T1 and STIR (or equivalent fat suppressed sequence) only
 - b. T1, T2 and STIR
 - c. T1, T1-post gadolinium, T2 and STIR
 - d. Other.....

11. Would you use MRI in the assessment/diagnosis of spondyloarthritis?

- a. Only if requested by the rheumatologist
- b. Only if the x-rays of the SIJ and spine are normal/not diagnostic
- c. Instead of x-rays of the SIJs +/- spine
- d. We only use MRI as x-rays are no longer necessary for diagnosis
- e. Other reasons.....

12. Please write in text below what your standard MRI protocol for the assessment of spondyloarthritis is:

13. What is the approximate scan time for this protocol?

14. If you do not MRI scan **any of the spine** in the assessment of spondyloarthritis why not?

- a. Spinal features are not necessary in the diagnosis of axial-SpA
- b. There are no specific lesions for spondyloarthritis in the spine
- c. The scan time is too long
- d. It cost too much money to scan
- e. Other.....

15. If you do not MRI scan the **whole spine** in the assessment of spondyloarthritis why not?

- a. Imaging the lumbar spine is sufficient to assess spinal features of axial-SpA
- b. Spinal features are not necessary in the diagnosis of axial-SpA
- c. There are no specific lesions for spondyloarthritis in the spine
- d. It takes too long to scan the spine
- e. It cost too much money to scan the whole spine
- f. Other.....

16. Are you aware of any standard definitions of a positive MRI of the sacroiliac joints in spondyloarthritis?

- a. Yes (please detail below)

- b. No

17. What MRI SIJ spondyloarthritis features do you use to make a diagnosis of spondyloarthritis?

- a. Subchondral Bone marrow oedema / osteitis only
- b. Erosions
- c. Fat infiltration
- d. Sclerosis
- e. Joint space widening/effusion
- f. Enthesitis
- g. Capsulitis
- h. All of the above
- i. Combination of the pathologies ticked above
- j. Other.....

18. Are you aware of any standard definitions of a “positive” MRI of the spine in spondyloarthritis?

- a. Yes (please give details below)

- b. No

19. What MRI spinal spondyloarthritis features do you use to make a diagnosis of spondyloarthritis?

- a. Vertebral corner bone marrow oedema
- b. Vertebral corner fat infiltration
- c. Syndesmophyte formation
- d. Endplate oedema
- e. Diffuse vertebral body oedema
- f. Posterior element bone marrow oedema
- g. Spinous process bone marrow oedema
- h. All of the above
- i. Combination of the pathologies ticked above
- j. Other.....

Thank you very much for taking the time to complete this questionnaire. Your help is much appreciated