

EULAR recommendations for the use of imaging in the diagnosis and management of spondyloarthritis in clinical practice

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Table 1 EULAR recommendations for the use of imaging in the diagnosis and management of spondyloarthritis in clinical practice

	SOR	LOE
<p>1 <i>Axial SpA: diagnosis</i> A. In general, conventional radiography of the SI joints is recommended as the first imaging method to diagnose sacroiliitis as part of axial SpA. In certain cases, such as young patients and those with short symptom duration, MRI of the SI joints is an alternative first imaging method. B. If the diagnosis of axial SpA cannot be established based on clinical features and conventional radiography, and axial SpA is still suspected, MRI of the SI joints is recommended. On MRI, both active inflammatory lesions (primarily bone marrow oedema) and structural lesions (such as bone erosion, new bone formation, sclerosis and fat infiltration) should be considered. MRI of the spine is not generally recommended to diagnose axial SpA. C. Imaging modalities, other than conventional radiography and MRI are generally not recommended in the diagnosis of axial SpA*.</p>	9.5 (9.2–9.8)	III
<p>2 <i>Peripheral SpA: diagnosis</i> When peripheral SpA is suspected, US or MRI may be used to detect peripheral enthesitis, which may support the diagnosis of SpA. Furthermore, US or MRI might be used to detect peripheral arthritis, tenosynovitis and bursitis.</p>	9.4 (9.0–9.8)	III
<p>3 <i>Axial SpA: monitoring activity</i> MRI of the SI joints and/or the spine may be used to assess and monitor disease activity in axial SpA, providing additional information on top of clinical and biochemical assessments. The decision on when to repeat MRI depends on the clinical circumstances. In general, STIR sequences are sufficient to detect inflammation and the use of contrast medium is not needed.</p>	9.2 (8.8–9.6)	Ib
<p>4 <i>Axial SpA: monitoring structural changes</i> Conventional radiography of the SI joints and/or spine may be used for long-term monitoring of structural damage, particularly new bone formation, in axial SpA. If performed, it should not be repeated more frequently than every second year. MRI may provide additional information.</p>	9.3 (8.8–9.8)	Ib
<p>5 <i>Peripheral SpA: monitoring activity</i> US and MRI may be used to monitor disease activity (particularly synovitis and enthesitis) in peripheral SpA, providing additional information on top of clinical and biochemical assessments. The decision on when to repeat US/MRI depends on the clinical circumstances. US with high-frequency colour or power Doppler is sufficient to detect inflammation and the use of US contrast medium is not needed.</p>	9.3 (8.9–9.7)	Ib
<p>6 <i>Peripheral SpA: monitoring structural changes</i> In peripheral SpA, if the clinical scenario requires monitoring of structural damage, then conventional radiography is recommended. MRI and/or US might provide additional information.</p>	8.9 (8.4–9.4)	III
<p>7 <i>Axial SpA: predicting outcome/severity</i> In patients with ankylosing spondylitis† (not non-radiographic axial SpA), initial conventional radiography of the lumbar and cervical spine is recommended to detect syndesmophytes, which are predictive of development of new syndesmophytes. MRI (vertebral corner inflammatory or fatty lesions) may also be used to predict development of new radiographic syndesmophytes.</p>	9.0 (8.5–9.5)	Ib
<p>8 <i>Axial SpA: predicting treatment effect</i> Extensive MRI inflammatory activity (bone marrow oedema), particularly in the spine in patients with ankylosing spondylitis, might be used as a predictor of good clinical response to anti-TNF-alpha treatment in axial SpA. Thus, MRI might aid in the decision of initiating anti-TNF-alpha therapy, in addition to clinical examination and CRP.</p>	8.9 (8.3–9.5)	Ib
<p>9 <i>Spinal fracture</i> When spinal fracture in axial SpA is suspected, conventional radiography is the recommended initial imaging method. If conventional radiography is negative, CT should be performed. MRI is an additional imaging method to CT, which can also provide information on soft tissue lesions.</p>	9.3 (8.9–9.7)	IV
<p>10 <i>Osteoporosis</i> In patients with axial SpA without syndesmophytes in the lumbar spine on conventional radiography, osteoporosis should be assessed by hip DXA and AP-spine DXA. In patients with syndesmophytes in the lumbar spine on conventional radiography, osteoporosis should be assessed by hip DXA, supplemented by either spine DXA in lateral projection or possibly QCT of the spine.</p>	9.4 (9.0–9.8)	III

*CT may provide additional information on structural damage if conventional radiography is negative and MRI cannot be performed. Scintigraphy and US are not recommended for diagnosis of sacroiliitis as part of axial SpA.

†That is, radiographic axial spondyloarthritis.

Level of evidence (LOE): Ia, evidence for meta-analysis of randomised controlled trials; Ib, evidence from at least one randomised controlled trial; IIa, evidence from at least one controlled study without randomisation; IIb, evidence from at least one other type of quasi-experimental study; III, evidence from non-experimental descriptive studies, such as comparative studies, correlation studies and case–control studies; IV, evidence from expert committee reports or opinions or clinical experience of respected authorities, or both. AP, anterior–posterior; CRP, C-reactive protein; DXA, dual-energy X-ray absorptiometry; EULAR, European League Against Rheumatism; nr-axSpA, non-radiographic axial spondyloarthritis; QCT, quantitative CT; SI, sacroiliac; SIJ, sacroiliac joints; SOR, strength of recommendation; SpA, spondyloarthritis; STIR, short tau inversion recovery; TNF-alpha, tumour necrosis factor alpha; US, ultrasonography.