

## EULAR recommendations for the use of imaging in spondyloarthritis

Imaging techniques are a key component of the classification of spondyloarthritis, allowing patients to be classified into distinct groups and to receive the appropriate treatment.

### INTRODUCTION

Spondyloarthritis is an umbrella term for several conditions that share many of the same features and symptoms, including ankylosing spondylitis, psoriatic arthritis and reactive arthritis. Patients can also be classified as having axial or non-axial (peripheral) disease, according to which joints in their body are affected. Axial disease affects the sacroiliac joint (in the back part of the pelvis) causing back pain and stiffness. It can be difficult to diagnose and classify these different diseases as they can lack distinguishing symptoms, and may develop over a long period of time. Therefore, imaging techniques that allow doctors to see inside the joints can be useful. These techniques include X-ray, magnetic resonance imaging (MRI), computerised tomography (CT scan) and ultrasound.

### WHAT DID THE AUTHORS HOPE TO FIND?

The authors hoped to gain a better understanding of the available literature and evidence supporting the use of various imaging techniques in spondyloarthritis in order to develop and publish recommendations for imaging in spondyloarthritis. The recommendations are intended to provide advice to doctors and patients, and to act as a measure of quality for treatment and management.

### WHO WAS STUDIED?

The recommendations are based on data from patients diagnosed with either established or suspected axial or peripheral spondyloarthritis and patients with chronic, non-inflammatory back pain as well as those with other rheumatic diseases and healthy control subjects. All patients were over the age of 18.

### HOW WAS THE STUDY CONDUCTED?

The basis of the recommendations was a systematic review, which aims to identify all the published evidence on a particular topic and draw it together into one summary. In this case a group of experts in spondyloarthritis, including both rheumatologists and radiologists, performed a systematic review on the role of imaging in diagnosis and monitoring, as well as its usefulness in predicting disease progression in spondyloarthritis. A total of 7550 references were identified, of which 158 were included in the final review. Based on the extracted evidence the experts drafted 10 recommendations for doctors to use.

### WHAT WERE THE MAIN FINDINGS OF THE STUDY?

The authors developed 10 recommendations for the use of imaging in patients with spondyloarthritis.

1. *Axial spondyloarthritis: diagnosis*
  - ▶ Conventional radiography (X-ray) of the sacroiliac joints in the lower back is recommended as the first imaging method. In young patients and those who have not had their symptoms for long, MRI may be used instead, although MRI of the spine is not generally recommended for this.
2. *Peripheral spondyloarthritis: diagnosis*
  - ▶ Ultrasound or MRI may be used to detect symptoms of peripheral spondyloarthritis.
3. *Axial spondyloarthritis: monitoring activity*
  - ▶ MRI of the sacroiliac joints and/or spine may be used to assess and monitor disease activity. The regularity of MRI depends on the clinical circumstances for each patient.
4. *Axial spondyloarthritis: monitoring structural changes*
  - ▶ Conventional radiography of the sacroiliac joints and/or spine may be used to monitor structural damage and new bone formation. It should not be repeated more often than every 2 years, and MRI can be used in between if more information is needed.
5. *Peripheral spondyloarthritis: monitoring activity*
  - ▶ Ultrasound and MRI may be used to monitor disease activity, and certain types of ultrasound can also detect inflammation. How often this should be performed depends on each patient's clinical circumstances.
6. *Peripheral spondyloarthritis: monitoring structural changes*
  - ▶ Conventional radiography is recommended, although MRI and/or ultrasound might provide additional information.

7. *Axial spondyloarthritis: predicting outcome/severity*
  - ▶ In patients with ankylosing spondylitis (not non-radiographic axial spondylitis), initial conventional radiography of the lumbar and cervical spine is recommended; MRI may also be used.
8. *Axial spondyloarthritis: predicting treatment effect*
  - ▶ Extensive MRI inflammatory activity in the spine of patients with ankylosing spondylitis might be used as a predictor of good clinical response to certain treatments.
9. *Spinal fracture*
  - ▶ When spinal fracture in axial spondylitis is suspected, conventional radiography is the recommended initial imaging method. If conventional radiography is negative, a CT scan should be performed. MRI is an additional imaging method which can also provide information on soft tissue lesions.
10. *Osteoporosis*
  - ▶ Osteoporosis should be assessed in some patients with axial spondylitis by bone density scanning.

### ARE THESE FINDINGS NEW?

Yes – these are the first recommendations from the European League Against Rheumatism (EULAR) that look at the entire spectrum of spondyloarthritis disease types and evaluate the role of all commonly used imaging techniques.

### HOW RELIABLE ARE THE FINDINGS?

The authors are confident that the findings are reliable and that the recommendations can be used by doctors with their patients.

For certain research questions that the authors asked – such as those dealing with predicting disease or treatment response – the review revealed only very few studies, and thus the recommendations in this area are based more on expert opinion than is the case with other areas where more study information and data were available.

### WHAT DO THE AUTHORS PLAN ON DOING WITH THIS INFORMATION?

The authors plan to make the recommendations available to both doctors and patients. It is EULAR policy to review and revise recommendations on a regular basis, so the process will be performed again to check for new data in 5 years.

### WHAT DOES THIS MEAN FOR ME?

These recommendations provide important information about the use of imaging techniques, both in diagnosis and management, and in predicting how patients will respond to treatments, as well as monitoring how their disease may be progressing at a structural level, before any symptoms occur.

The information in these recommendations may enable you to influence how your disease is diagnosed by being aware of what imaging techniques are useful. Being aware of how imaging techniques are used may also help you to understand why it is important to attend regular monitoring appointments, even if you feel well. If you have any questions about imaging, you should talk to your doctor.

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