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Guest Editorial

When to suspect spondyloarthritis: A core skill in musculoskeletal clinical practice

The UK NICE Guidance on Low Back Pain and sciatica (2016) has had a substantial international profile. The recommendations offered to support clinically effective and cost-beneficial management of non-specific low back pain are discussed across the world. In contrast, there is much less awareness of the NICE Guidance on Spondyloarthritis in over 16s (2017) which was published the following year. This guidance provides essential core questioning for musculoskeletal clinicians to consider in their assessment of people with back pain.

The NICE guidance on spondyloarthritis is cross-referenced in the NICE low back pain and sciatica guidance within the very first recommendation: 1.1.1 Assessment of low back pain and sciatica- Alternative diagnosis. The Spondyloarthritis hyperlink sits along with important NICE guidance on Metastatic spinal cord compression, Spinal injury and Suspected cancer. These hyperlinks aim to ensure people are appropriately assessed for other possible causes of back pain before pursuing a low back pain and sciatica management route. Deliberately, these guidelines are placed before any mention of management recommendations on stratification tools or the medication and intervention strategies that are recommended or discouraged. Although not a red flag, recognising suspected inflammatory disease and axial and peripheral spondyloarthritis is important clinically because early referral and a significantly different approach to investigation and management are needed.

The four linked NICE guidelines concerning *Alternate diagnosis* are important key support for clinicians in their history taking, clinical reasoning and diagnostic process required with back pain presentations to exclude other serious causes (NICE, 2016). The challenge and concerns around diagnosis and investigation of presentations considered as non-specific low back pain are well recognised (Maher et al., 2017). However, it is crucial for clinicians to exclude other possible causes for back pain problems on assessment (Bardin et al., 2017), and also on reassessments (Haldeman et al., 2018; National Institute for Health and Care Excellence, 2017; NHS England, 2017).

Reasons for developing the NICE guidance on spondyloarthritis have international relevance. A global concern has been the significant delays in diagnosis commonly experienced by people with spondyloarthritis (SpA) (Redeker et al., 2019). This delay has been particularly experienced in axial spondyloarthritis (axSpa) and often averages 5–8 years (Sieper and Poddubnyy, 2017). Symptoms of axial SpA are commonly mistaken as chronic back pain, and often the accompanying peripheral tendon and joint inflammatory problems have not been recognised as related (National Institute for Health and Care Excellence, 2017; Steen et al., 2019). Prompt referral and diagnosis of SpA is important. Earlier intervention supports better outcomes, responses to treatment and reductions in the often severe impacts on people with these inflammatory diseases. There are also healthcare resource concerns when SpA is investigated, diagnosed and managed inappropriately as non-inflammatory conditions (National Institute for Health and Care Excellence, 2017).

Spondyloarthritis encompasses a group of inflammatory diseases with some common clinical, genetic and pathophysiological features. This includes axial spondyloarthritis (axSpA) and the structurally more progressive form, ankylosing spondyloarthritis (AS), involving sacroiliac joints and the spine, and peripheral spondyloarthritis involving inflammation at tendon and ligament attachments, and often asymmetrical joint inflammation. People may have only axial or peripheral involvement, or can have both. Spondyloarthritis can be challenging to recognise. Symptoms can flare and settle, move around areas and appear as unrelated problems (National Institute for Health and Care Excellence, 2017). This makes asking about any previous joint, tendon or back problems essential in recognising possible SpA.

Another key feature that is essential musculoskeletal knowledge is the association with extra-articular inflammatory conditions; skin and nail psoriasis, inflammatory bowel disease (IBD) (Crohn's disease and ulcerative colitis) and uveitis. The most common peripheral spondyloarthritis is psoriatic arthritis (PsA), and to a lesser degree IBD-related and uveitis-related SpA (Sieper and Poddubnyy, 2017).

Questioning about these conditions is important in a clinical assessment for any person with back, joint or tendon problems. Some people may have one or several of these conditions or no identified condition (undifferentiated SpA). Importantly, these conditions may not be active at the time, or only manifest later. A family history of psoriasis (a close relative - parent, sibling or child) and a family history of spondyloarthritis are also relevant. There is currently no blood test to confirm or exclude spondyloarthritis. There is an association with human leukocyte antigen (HLA B27) but people with SpA can also be HLA B27 negative. HLA B27 positivity occurs in up to 10% of the healthy population and its role in SpA is not fully understood. Some gastrointestinal and urogenital infections can also trigger reactive arthritis (ReA). These factors make questioning on personal or family history of these associated conditions or recent infection essential in musculoskeletal assessments.

Research indicates that the likelihood of having axial or peripheral SpA increases when there is a cluster of features. Consequently, the NICE referral criteria are based on assessing for a combination of features to support onward referral. The cluster approach aims for an optimal compromise between inevitable false positives, false negatives and respecting rheumatology capacity. A major aim of the NICE guidance is to support earlier recognition and referral of suspected axial and peripheral SpA in primary care and non-specialist settings. Although a UK-

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produced guidance, the recommendations are based on global research and have international relevance to musculoskeletal practice.

The guidance specifically identifies musculoskeletal health professionals as key in reducing diagnostic delays. It adds to other referral support that has limited profile in core musculoskeletal literature. Although fundamental within rheumatology, there is much less familiarity and profile in musculoskeletal practice regarding the terminology, clinical features and risk factors for SpA. A recurring factor highlighted with delays in diagnosis is lack of knowledge, confidence and clinical assessment for signs, symptoms and risk factors of suspected SpA in primary care and non-specialist settings (Danve and Deodhar, 2019; McCrum et al., 2019; Steen et al., 2019; Yong et al., 2019).

Rheumatology literature frequently discusses specific features of chronic back pain that suggest a presentation termed 'inflammatory back pain' (Poddubnyy et al., 2015). This term has not strongly filtered into musculoskeletal practice, back pain classifications or musculoskeletal research. Features of inflammatory back pain in combination with the other signs and risk factors increase suspicion of axSpA and are important factors in referral criteria. Buttock pain has been shown to increase the likelihood of axSpA, however symptoms can occur in any region of the spine. Although examination of peripheral joints has reasonable reliability for signs of inflammation, physical examination of the spine and SIJs has limited value with suspected axSpA. A thorough clinical history is key.

So what does the NICE guidance on spondyloarthritis mean for musculoskeletal practice and science? Clinicians need to ensure that their history taking excludes the possibility of SpA with persisting back, tendon and joint problems. Underlying SpA has often been missed across multiple assessments in people's journey to diagnosis (McCrum et al., 2019). The guideline outlines separate approaches to questioning and referral for axial and peripheral spondyloarthritis because there was a difference in the supporting research evidence. History taking needs to include these two questioning strategies in musculoskeletal assessment and will depend on whether the person presents with back pain or peripheral problems.

1. When to refer for suspected axial spondyloarthritis

If a person's back pain has lasted >3 months, questioning needs to establish whether the age of first onset of back symptoms was before 45 years of age. If so, National Institute for Health and Care Excellence (2017) makes the following recommendations:

- Refer a person to Rheumatology if their back pain started before the age of 45, has lasted longer than three months and if they have 4 or more of the following additional criteria:
  - back pain that started before the age of 35 (this further increases suspicion)
  - waking during second half of the night because of symptoms
  - buttock pain
  - improvement with movement
  - improvement with taking NSAIDs (often within 48 hrs)
  - current/past enthesitis
  - current/past psoriasis
  - current/past arthritis
  - first-degree relative with spondyloarthritis or psoriasis
- If only 3 additional criteria are met, and if known to be HLA-B27 positive, then refer to rheumatology
- Refer a person to rheumatology if they have a history of uveitis, back pain > 3mths with onset before the age of 45, and if HLA B27 testing is positive or there is a history of psoriasis
- If screening criteria are not met but clinical suspicion remains, advise the person to seek re-assessment if new signs, symptoms or risk factors develop, particularly if the person has a history of psoriasis, inflammatory bowel disease or uveitis.

Morning stiffness is relevant but lacks sensitivity and specificity as a referral criterion for suspected axial SpA. Prolonged morning stiffness (>30 minutes) remains important in suspecting inflammatory diseases.

2. When to refer for suspected peripheral spondyloarthritis

Refer a person to rheumatology if any of the following are present:

- dactylitis (inflammation of a whole digit -'sausage finger or toe') or
- persistent or multiple site enthesitis (inflammation at tendon attachment to bone) without apparent mechanical cause, plus if any of the following:
  - back pain without apparent mechanical cause
  - current or past uveitis
  - current or past psoriasis
  - inflammatory bowel disease (Crohn's disease or ulcerative colitis)
  - a first-degree relative with spondyloarthritis or psoriasis
  - gastrointestinal or genitourinary infection

Other factors which are important for musculoskeletal clinicians to note and consider include:

- Magnetic resonance imaging for suspected axial SpA differs from standard lumbar spine imaging. The MRI protocol needs to include T1 and STIR imaging of the sacroiliac joints (coronal-oblique view) and whole spine (cervical, thoracic and lumbar-sagittal view) to investigate for inflammation and other findings associated with axial SpA.
- Consider specialist musculoskeletal radiology review if there is disparity between the clinical suspicion and imaging findings, particularly in people with an immature skeleton.
- If a diagnosis of axial spondyloarthritis cannot be confirmed and clinical suspicion remains high, consider a follow-up MRI.
- Normal inflammatory markers do not exclude the possibility of spondyloarthritis. People with spondyloarthritis can have normal inflammatory markers and be HLA-B27 negative.
- Axial spondyloarthritis occurs equally in women and men.

A NICE endorsed clinical guide is available at: https://www.esht.nhs.uk/wp-content/uploads/2018/07/Msk-Think-SpA-NICE-guidance-on-recognition-and-referral-of-Spondyloarthritis.pdf.

Rheumatology research is continually developing better understanding about earlier recognition of spondyloarthritis. It is important that this knowledge translates into an accompanying skill in suspecting this group of inflammatory diseases in musculoskeletal clinical practice and professional education. The NICE guidance on spondyloarthritis in over 16s (2017) supports an important advance in musculoskeletal practice. Musculoskeletal clinicians are key to earlier diagnosis. It is important for questioning on suspected spondyloarthritis to become a core skill in musculoskeletal clinical practice.

References

Bardin, L.D., King, P., Maher, C.G., 2017. Diagnostic triage for low back pain: a practical approach for primary care. Med. J. Aust. 206 (6), 268–273.
Danve, A., Deodhar, A., 2019. Axial spondyloarthritis in the USA: diagnostic challenges and missed opportunities. Clin. Rheumatol. 38 (3), 625–634.
Haldeman, S., Johnson, C.D., Chou, R., et al., 2018. The Global Spine Care Initiative: care pathway for people with spine-related concerns. Eur. Spine J. 27 (6), 901–914.
McCrum, C., Kenyon, K., Cleaton, J., Dudley, T., 2019. An unrecognised masquerader: a retrospective review of people presenting to musculoskeletal physiotherapy with undiagnosed spondyloarthritis. Physiotherapy 105, e102–e103.
Maher, C., Underwood, M., Buchbinder, R., 2017. Non-specific low back pain. Lancet 389, 736–747.
NHS England, 2017. National back and radicular pain pathway. https://www.noebackpainprogramme.nhs.uk/wp-content/uploads/2015/05/National-Low-Back-and-Radicular-Pain-Pathway-2017_final.pdf. (Accessed 28 October 2019).
National Institute for Health and Care Excellence, 2016. Low back pain and sciatica in over 16s: assessment and management. https://www.nice.org.uk/guidance/ng59.

National Institute for Health and Care Excellence, 2017. Spondyloarthritis in over 16's: recognition, diagnosis and management. https://www.nice.org.uk/guidance/ng65.
Poddubnyy, D., van Tubergen, A., Landewé, R., Sieper, J., van der Heijde, D., for the Assessment of SpondyloArthritis Society (ASAS) international group, 2015. Development of an ASAS-endorsed recommendation for the early referral of patients with a suspicion of axial spondyloarthritis. Ann. Rheum. Dis. 74, 1483–1487.
Redeker, I., Callhoff, J., Hoffmann, F., et al., 2019. Determinants of diagnostic delay in axial spondyloarthritis: an analysis based on linked claims and patient-reported survey data. Rheumatology 58 (9), 1634–1638.
Sieper, J., Poddubnyy, D., 2017. Axial spondyloarthritis. Lancet 390, 73–84.
Steen, E., Cairns, M., McCrum, C., 2019. Physiotherapists' awareness, knowledge and confidence in the recognition and referral of possible axial spondyloarthritis: Are we contributing to diagnostic delays?, 2019. https://www.abstractstosubmit.com/wcpt2019/archive/#/viewer/abstract/2061. (Accessed 4 November 2019).
Yong, C.Y., Hamilton, J., Benepal, J., et al., 2019. Awareness of axial spondyloarthritis among chiropractors and osteopaths: findings from a UK Web-based survey. Rheum. Adv. Pract. 3 (2), rkz034.

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