Many of us find the classification of arthritis confusing and difficult. This is not our fault(!), but reflects the continuous updating of diagnostic criteria used by rheumatologists as they learn more about the interplay between different diseases.

Spondyloarthritis is the new(ish!) term for seronegative arthritides. NICE has recently issued helpful guidance on its diagnosis and management (NICE 2017, NG65). First, let’s consider a few definitions.

**Spondyloarthritis: what is it?**

- Spondyloarthritis is a group of diseases characterised by axial (spinal) features and peripheral features.
- It affects about 1% of the population and is equally common in men and women.
- It is often misdiagnosed as mechanical low back pain or a series of unconnected muscle and ligament problems. This matters, because more effective treatment is possible if the correct diagnosis is made.

These conditions are grouped together like this because they often run in families, and many of the pathological entities are identical across the range (e.g. eye involvement and enthesopathies). In addition, HLA-B27 is associated with these conditions but is not essential.

**Enthesitis: what is it?**

Enthesitis is now recognised as a key feature of spondyloarthritis, differentiating it from rheumatoid arthritis. It is inflammation of tendons where they insert onto bones. It presents as protracted pain and stiffness in large tendon insertions; swelling may or may not be present.

If these conditions present in isolation, we may not tie them together to consider the bigger picture of spondyloarthritis. It requires us to keep on our radar that these common MSK problems may have a greater significance, and to ask patients presenting with one enthesitis about other symptoms, past and current, that are suggestive of spondyloarthritides.

Note that inflammatory markers are often normal because these structures are relatively avascular.

Common sites include:
- Achilles tendon.
- Patella tendon and other sites around the knee.
- Plantar fascia.
- Elbow epicondyles.
- Spinous processes of the vertebrae.
- Iliac crest.

The key message for primary care is that if someone presents with unexplained episodes of pain and stiffness at tendon insertions, it should trigger us to consider and ask specific questions about spondyloarthritis (ARUK 2009; Topical Review Issue 4(6)).

**Features of individual conditions**

This is taken from a Lancet review (Lancet 2011;377:2127).
### Ankylosing spondylitis
- 5% of patients presenting with back pain will have ankylosing spondylitis.
- Characteristic inflammatory back pain (see above) can be combined with diffuse pelvic pain and sciatica.
- Reduced spinal flexion is common (forward flexion is tested with Schober's test; a 15cm vertical line drawn midline from 5cm below iliac crests to 10cm above will lengthen to at least 20cm long on forward flexion in normal patients).
- Reduced chest expansion may occur (<2.5cm on inspiration is abnormal).

### Psoriatic arthritis
- 5% of patients with psoriasis will develop arthritis. There are five subsets:
  - Mono- or oligoarthritis.
  - Polyarticular (virtually indistinguishable from rheumatoid).
  - Ankylosing spondylitis.
  - Polyarticular with distal interphalangeal joints also affected.
  - Arthritis mutans: severe destructive arthritis.

### Reactive arthritis
- An arthritis that follows an infection, but where an organism cannot be found in the joint, is termed reactive. It usually presents with a single inflamed knee or ankle joint. **Dactylitis** (sausage finger or toe) is very likely to be a sign of reactive or psoriatic arthritis.
- Typical organisms are:
  - *Campylobacter*.
  - *Clostridium*.
  - *Salmonella*.
  - *Shigella*.
  - *Yersinia*.
  - *Chlamydia*.
- It classically presents with arthritis, urethritis and conjunctivitis.

### Enteropathic arthritis
- About one-fifth of patients with inflammatory bowel disease will develop an inflammatory arthritis, usually reflecting the activity of the bowel disease. HLA-B27-positive patients with inflammatory bowel disease are more likely to develop sacroiliitis.

### Undifferentiated spondyloarthritis
- A number of patients will not fit any of the above diagnoses, but have enough features to be considered to have spondyloarthritis.

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**NICE on diagnosis and management**
The NICE guidance considers the diagnosis and management of spondyloarthritis in adults aged over 16.

**NICE on spondyloarthritis: diagnosis and management NG65, 2017**

**When to suspect it?**
Remember the diverse presentations and take account of previous history, because it can be difficult to spot!
Do not be reassured by:
- Negative HLA-B27 tests.
- Normal inflammatory markers.
- Absence of evidence of sacroiliitis on plain X-ray.

**Referring patients for suspected axial spondyloarthritis**
Refer to rheumatology patients with low back pain lasting more than 3m, starting before the age of 45 AND with 4 or more of these criteria:

- Onset before age 35.
- Waking in the second half of the night with symptoms.
- Buttock pain.
- Improvement with movement.
- Improvement within 48h of taking NSAIDs.
- First-degree relative with spondyloarthritis.
- Current or past enthesitis.
- Current or past psoriasis.

If 3 criteria are present, do an HLA-B27 test and refer to rheumatology if positive.

If fewer than 3 of these criteria are met, advise patients to re-present if they have new symptoms, particularly if they have a past or current history of inflammatory bowel disease, psoriasis or uveitis.

### Screening patients with psoriasis for peripheral spondyloarthritis

Psoriatic arthritis develops in up to 30% of individuals with psoriasis.

Offer every patient with any type of skin psoriasis an annual screen for psoriatic arthritis using the PEST tool. This is particularly important in the first 10y after diagnosis.

#### The PEST screening questionnaire

Each ‘Yes’ answer scores 1 point. A score of ≥3 is indicative of psoriatic arthropathy (sensitivity 92%, specificity 78%).

- Have you ever had a swollen joint (or joints)?
- Has a doctor ever told you that you have arthritis?
- Do your finger nails or toe nails have holes or pits?
- Have you had pain in your heel?
- Have you had a finger or toe that was completely swollen and painful for no obvious reason?

If a patient scores 3 or more, refer to rheumatology.

### Referring patients for suspected peripheral spondyloarthritis

In all patients, refer to a rheumatologist:

- Anyone with suspected new onset inflammatory arthritis.
- Anyone with dactylitis.
- Anyone with enthesitis and no apparent mechanical cause if:
  - It is persistent.
  - It is present in multiple sites.
  - A first-degree relative has spondyloarthritis.
- Any of the following are present: back pain without mechanical cause, or current or past uveitis, psoriasis, inflammatory bowel or GU/GI infection.

### Referral for suspected acute anterior uveitis

Refer people for a same-day ophthalmological assessment if they have:

- Eye pain.
- Redness.
- Light sensitivity.
- Blurred vision.

Also ask them about joint pain, back pain and skin psoriasis, and, if they meet any of the axial or peripheral referral criteria above, refer to rheumatology.

If they do not meet the criteria above, test HLA-B27 and refer if positive.

### Imaging

**Imaging is not necessary in the primary care setting.**

For axial spondyloarthritis, secondary care will offer:

- Plain X-ray of the sacroiliac joints.
- Unenhanced MRI of back using inflammatory back pain protocol (if X-ray is normal or skeleton immature).

For peripheral spondyloarthritis, secondary care will offer:

- Plain films of hands and feet (if there are symptoms in these areas).
- Ultrasound of hands and feet, and any sites of suspected enthesitis.
- If the diagnosis is confirmed, they will also take a plain film of their sacroiliac joints to look for axial involvement.

### Drug treatments
**Axial spondyloarthritis**
- If possible, offer NSAIDs at lowest effective dose. If there is inadequate response at 2–4w, consider switching to a different NSAID.
- Biological drugs are second-line options in severe ankylosing spondylitis where NSAIDs are not effective or not tolerated (this will be a secondary care decision, but remember to code biological treatment in the records and on the hospital-prescribed drugs section of the notes because of the risk of serious infection, skin cancers and the need to avoid live vaccines).

**Peripheral spondyloarthritides**
- Intra-articular corticosteroid injections can be offered for non-progressive mono-arthritis.
- DMARDs are offered to patients with multiple joint involvement. Selection depends on degree of skin vs. joint involvement.
- NSAIDs may be used as symptom relief alongside DMARDs. If these provide inadequate relief, IM or oral steroids may be considered.
- Biologics may be considered in psoriatic arthritis where there is ongoing active disease in 3 or more joints, and 2 DMARDs have been ineffective.

**Non-drug treatments**
Refer all patients with axial spondyloarthritis for physiotherapy, which should include:
- Stretching, strengthening and postural exercises, deep breathing, spinal extension and aerobic exercise.
Consider hydrotherapy.
For all patients with spondyloarthritides, offer physiotherapy, OT, podiatry and hand therapy as needed to support independence in daily activities.

**Long-term complications**
When monitoring in primary care:
- Check for adverse drug reactions.
- Check for CV risk assessment.
- Remind about skin cancer and infection risk with biologics.
- Consider DXA scan every 2y for patients with axial spondyloarthritis (hip measurements may be more reliable, as spine measurements can be falsely elevated by new bone formation).
- Discuss falls and fracture risk.

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**What is the role of HLA-B27 blood tests?**
Only a small proportion of HLA-B27-positive patients will have spondyloarthritis (around 5–7%). However, it occurs much more frequently in individuals with spondyloarthritis (NEJM 2017;376:957).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Affected individuals who carry HLA-B27 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankylosing spondylitis</td>
<td>90</td>
</tr>
<tr>
<td>Psoriatic arthritis</td>
<td>40–50</td>
</tr>
<tr>
<td>Reactive arthritis</td>
<td>70</td>
</tr>
<tr>
<td>Enteropathic arthritis</td>
<td>30</td>
</tr>
</tbody>
</table>

Therefore, we should not use HLA-B27 as a rule-out test, only as a rule-in test to find a proportion of patients who do not yet have the full spectrum of clinical features, but may benefit from early assessment and treatment.

**Is this back pain inflammatory or mechanical?**
Back pain is a common presentation in general practice. It is important that we can distinguish between normal musculoskeletal back pain and inflammatory back pain, so I have included a useful aide-memoire (from Reports on Rheum Dis 2010;6(5):1).

**Inflammatory back pain criteria**
Recent studies have found that people find it difficult to distinguish pain from stiffness, and stiffness that lasts less than an hour on rising is not significant.
- Age of onset <40y.
- Insidious onset.
- Improves with exercise.
- No improvement with rest.
- Pain at night (that improves on getting up).

4 out of 5 criteria is 80% sensitive, but all 5 is highly specific for inflammatory back pain.
We make every effort to ensure the information in these articles is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check drug doses, side-effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these articles.

**Spondyloarthritis**

- Common and underdiagnosed.
- Patients can present with a wide range of symptoms – back and pelvic pain, dactylitis, enthesitis, arthritis and uveitis.
- Check for features of inflammatory back pain in patients aged <45y.
- Don’t be falsely reassured by normal inflammatory markers, negative HLA-B27 or normal plain film of sacroiliac joints.
- Screen patients with psoriasis for arthritis annually using the PEST questions.
- Refer all suspected cases to rheumatology.

Review the last 10 cases of coded ‘back pain’ consultations in patients aged <45y. Were inflammatory features specifically considered and documented? Discuss these new guidelines at your primary care team meeting, and look again in 3m. How has clinical care changed? Audit patient records with a coded diagnosis of psoriasis in the past 10y. How many have had a PEST questionnaire completed? Discuss how this could be incorporated into their medication review, and reassess in 12m. How has clinical care improved?

Useful information for patients and doctors can be found here:
www.arthritisresearchuk.org/arthritis-information.aspx
The PEST score that you can print out:
http://tinyurl.com/GPUMSK-PEST
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London Thurs 27 Jun 2019
Manchester Fri 28 Jun 2019
Leeds Thu 10 Oct 2019
Nottingham Fri 11 Oct 2019

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London Thu 14 Nov 2019
Manchester Thu 27 Jun 2019

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- The MSK and Chronic Pain Update Course (location)............................................................... (date)................................
- The Lead. Manage. Thrive! Course (location)............................................................... (date)................................
- The Cancer Update Course (location)............................................................... (date)................................
- The Women’s Health Update Course (location)............................................................... (date)................................
- The Telephone Consultation Course (location)............................................................... (date)................................
- The Effective Consultation Course (location)............................................................... (date)................................
- The Medically Unexplained Symptoms Course (location)............................................................... (date)................................

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