

Ankylosing Spondylitis

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Red Flags

- Spinal trauma
- Unexplained illness or fever when taking biologic or immunosuppressant medications

Background – About Ankylosing Spondylitis

- Ankylosing spondylitis (AS):
 - is an inflammatory disease that affects the spine and sacroiliac joints, and presents as chronic back pain with onset before the age of 40 years.
 - may include extra-articular features e.g., uveitis.
 - may be associated with peripheral arthritis, e.g., hips, shoulders, knees.
- The traditional delay in diagnosis of 8 years is based on the slow development of radiographic changes, but can be considerably shortened by using MRI to detect early inflammation. When sacroiliitis is detectable on MRI but not on plain X-ray, the condition is called "pre-radiographic spondyloarthropathy".
- Laboratory findings are generally non-specific, and may include the presence of Human leukocyte antigen B27 (HLA-B27) (present in around 70 to 80% of AS patients) and occasionally a normochromic normocytic anaemia. ESR and CRP do not correlate well with axial disease activity, and a normal ESR and CRP do not exclude AS.
- HLA-B27:
 - AS occurs in about 0.5 to 1% of the population. HLA-B27 is present in 70 to 85% of AS patients, but also 8 to 20% of the general population.
 - HLA-B27 is not diagnostic for ankylosing spondylitis, as it has a very low positive predictive value.
 - There is a familial increased risk for ankylosing spondylitis.
- During early disease, plain X-rays may be normal or may have only minimal changes.

Assessment

1. Ask about:
 - **Symptoms**
 - **Inflammatory back pain**
 - *Insidious onset*
 - *Improvement with exercise*
 - *No improvement with rest*
 - *Pain at night with improvement upon getting up*

- *Sacroiliitis – pain in lower back or buttocks that can extend down one or both legs. Can be exacerbated by prolonged standing or bearing more weight on one leg than the other.*
- *Heel pain (enthesitis)*
- *Dactylitis (fusiform swelling of entire digit)*
- *Neurological symptoms and signs suggesting a serious cause of back pain in adults, or a **neurological complication** of AS.*

Neurological complications

Inflammation at vertebral entheses can lead to new bone formation. If severe, over time this can convert the vertebral column into a rigid "bamboo spine" which, together with reduced bone mineral density, can cause neurological complications:

- *Minimal trauma vertebral fracture resulting in spinal cord injury – sometimes with no recollection of trauma*
 - *Spontaneous atlantoaxial subluxation*
 - *Cauda equina syndrome*
- Age at onset of symptoms
 - Duration of symptoms
 - Previous response to treatment with nonsteroidal anti-inflammatory drugs (NSAIDs)
 - Past history of psoriasis, [anterior uveitis or iritis](#), or [inflammatory bowel disease](#)
 - Family history of axial spondyloarthritis, reactive arthritis, psoriasis, inflammatory bowel disease or anterior uveitis
 - Current medications, including any **biologics or immunosuppressants**

Biologics or immunosuppressants

Patients on these medications can develop rapid and overwhelming systemic infections without typical symptoms and signs. See also Disease Modifying Anti-rheumatic Drugs.

2. Arrange investigations:

- If signs of inflammatory back pain, arrange:
 - FBE, ESR and CRP.
 - **Imaging** – plain X-ray of sacroiliac joints. MRI is only indicated if the result will change management or is necessary for diagnosis.

Imaging

- *During early disease, plain X-rays may be normal or may have only minimal changes.*
- *MRI can detect changes earlier and may shorten time to diagnosis however GP-ordered MRI for this indication is not funded under Medicare.*
- *Decision about MRI can be left to the rheumatologist.*

- If inflammatory back pain lasting more than 3 months, and onset of symptoms before age 45 years, test for HLA-B27.
- 3. Consider differential diagnoses including another [inflammatory arthritis](#), or [musculoskeletal back pain](#).
- 4. Suspect ankylosing spondylitis if:
 - inflammatory back pain lasting longer than 3 months, and
 - first onset of symptoms before age 45 years, and
 - one or more **sentinel findings**.

Sentinel findings

- *Heel pain (enthesitis)*
 - *Peripheral arthritis*
 - *Dactylitis*
 - *Iritis or anterior uveitis*
 - *Psoriasis*
 - *Inflammatory bowel disease*
 - *Positive family history of axial spondylarthritis, reactive arthritis, psoriasis, inflammatory bowel disease or anterior uveitis.*
 - *Good response to NSAIDs*
 - *Raised acute phase reactants (ESR or CRP)*
 - *HLA-B27 positive*
 - *Sacroiliitis shown on X-ray or MRI*
5. If known ankylosing spondylitis, carefully evaluate for spinal fractures and ligamentous injuries in the event of a fall or any trauma. In ankylosing spondylitis the spinal column becomes very stiff and brittle, and serious spinal injuries can occur with minimal trauma.
- Instigate spinal precautions and arrange transfer to the [emergency department](#) if necessary.
 - MRI is often required to exclude spinal injury.

Management

1. Refer for [immediate rheumatology assessment](#) if:
 - suspected spinal trauma (instigate spinal precautions)
 - suspected sepsis.
 - unexplained illness or fever when taking biologic or immunosuppressant medications.
2. Consider medications:
 - If suspected ankylosing spondylitis, start **nonsteroidal anti-inflammatory drugs (NSAIDs)** before rheumatology assessment, unless contraindicated. NSAIDs produce a good response and will generally manage pain.

Nonsteroidal anti-inflammatory drugs (NSAIDs)

- *If co-prescribed angiotensin-converting-enzyme (ACE) inhibitors and diuretics, use with caution and check renal function within 10 to 14 days.*
- *Discuss harm versus benefits and the recommendation against long-term use in chronic pain.*
- *If higher risk of gastrointestinal bleeding, consider prescribing a gastro-protective drug.*
- *Be aware that multiple side-effects may occur in the elderly and those with asthma, gastrointestinal, cardiac, or renal disease.*

Contraindications:

- *Gastrointestinal (GI) ulcers*
- *Renal impairment*
- *Other nephrotoxic medications*
- *Bleeding risk*
- *Aspirin-sensitive asthma*
- *Warfarin is a relative contraindication*

Dosage:

- *Ibuprofen 200 mg to 400 mg every 6 to 8 hours*
- *Naproxen 250 mg to 500 mg every 12 hours*
- *Celecoxib 200 mg daily*

Maximum dosage:

- *Ibuprofen maximum 1600 mg per day*
- *Naproxen maximum 1000 mg per day*
- *Celecoxib maximum 400 mg per day*

- *If known ankylosing spondylitis, review medications especially if taking [biologics or immunosuppressants](#).*

3. Refer for [urgent or routine rheumatology referral](#) if:

- *suspected ankylosing spondylitis.*
- *known ankylosing spondylitis, and not currently under the care of a rheumatologist.*
- *known or suspected ankylosing spondylitis and patient is pregnant or planning pregnancy.*

4. As exercise is critical to management:

- *Recommend the patient undertakes a tailored **exercise** program.*

Exercise

- *Explain the importance of exercise to improve pain, wellbeing, and to maintain mobility, flexibility and physical function.*
- *Advise that specific strengthening exercises, aerobic exercises and hydrotherapy in warm water can all be beneficial.*
- *Advise the patient to:*
 - *start low and go slow.*
 - *be aware of the potential for exercise to cause a flare-up of the condition.*
 - *anticipate some pain (reassure the patient and provide analgesics, if necessary).*
- *Provide [ankylosing spondylitis-specific information](#) on exercise.*

- Consider referring for [physiotherapy](#) or [exercise physiology](#).

5. Arrange follow-up to review response to treatment.

Referral

- Refer for [immediate rheumatology assessment](#) if:
 - suspected spinal trauma.
 - suspected sepsis.
 - unexplained illness or fever when taking biologic or immunosuppressant medications.
- Refer for [urgent or routine rheumatology referral](#) if:
 - suspected ankylosing spondylitis.
 - known ankylosing spondylitis and not currently under the care of a rheumatologist.
 - known or suspected ankylosing spondylitis and patient is pregnant or planning pregnancy.
- Consider referring for [physiotherapy](#) or [exercise physiology](#).

Information

For health professionals

Further information

Australian Family Physician – [Ankylosing Spondylitis: An Update](#)

For patients

- Ankylosing Spondylitis Victoria – [Home Page](#)
- Arthritis Australia – [Ankylosing Spondylitis](#)
- Pain Health – [Ankylosing Spondylitis](#)

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