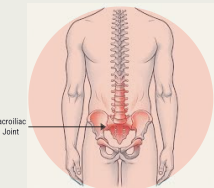


# Axial Spondyloarthritis

axSpA is a chronic, inflammatory disease that predominately affects the spine and sacroiliac joints (SIJ). axSpA is an umbrella term for two subtypes: non-radiographic axSpA (nr-axSpA) and radiographic axSpA also known as Ankylosing Spondylitis (AS).



## Non-Radiographic axSpA



NO evidence of bone changes on x-ray



Inflammation of SIJ on MRI

## Ankylosing Spondylitis



Evidence of bone changes on x-ray



MRI not required for diagnosis

## Inflammatory Back Pain

Inflammatory back pain is the leading symptom of axSpA. It is characterized by:

- Age at onset < 45 years
- Duration > 3 months
- Insidious onset (comes on slowly with no obvious first symptom)
- Morning stiffness > 30 minutes
- Improvement with exercise
- No improvement with rest
- Awakening from pain (especially during second half of night with improvement on arising)
- Alternating buttock pain

## Common Symptoms

Non-radiograph axSpA and ankylosing spondylitis share similar symptoms and impairments:

- inflammatory back pain
- pain in other joints such as shoulders, hips, knees
- heel pain
- fatigue

## Comorbidities



Uveitis



Inflammatory Bowel Disease



Osteoporosis



Cardiovascular Disease



Depression

## Management of Axial Spondyloarthritis

As per the American College of Rheumatology clinical practice guidelines, **both medication and regular exercise** are vital for effectively managing axSpA.

### Medication

Your doctor may prescribe one or more medications to help reduce pain, stiffness, and inflammation. Common medicines used to treat axSpA include:

- Analgesics - to reduce pain
- Non-steroidal anti-inflammatory drugs (NSAIDs) - to reduce inflammation and pain
- Corticosteroids - to reduce inflammation; but can cause short and long-term side effects
- Disease-modifying anti-rheumatic drugs (DMARDs) - to reduce stiffness and swelling in peripheral involvement (hips, knees, shoulders, etc.)
- Biologic therapy - to reduce disease activity and inflammation by suppressing the immune system

### Self-Management Strategies



Partake in regular exercise - Exercise has been shown to improve mobility, decrease disease activity, and reduce inflammation in patients with axSpA.



Eat a well rounded diet - Include at least 4 portions of colorful vegetables and 2 portions of fruit daily, a moderate intake of protein sources like fish, beans, and nuts, sufficient calcium from dairy products, whole grains for fiber and nutrients, and omega-3 fatty acids found in fish and certain oils,



Maintain a healthy weight - Becoming overweight can increase the burden of weight-bearing joints and increase pain.



Avoid smoking - smokers experience earlier disease onset, heightened disease activity, inflammation, and damage, and reduced quality of life.

### Benefits of Exercise:

- increased flexibility
- increased range of movement
- improved posture
- improved sleep
- reduction in stiffness and pain

Exercise should focus on improving range of motion, posture control, strength, flexibility, lung capacity, balance, and cardiovascular fitness/endorance.

CDC recommends >150 minutes/week of moderate intensity aerobic activity AND at least 2 days/week of muscle strengthening.

## Example Exercises for axSpA



Cat Cows



Bird Dogs



Superman



Lower Trunk Rotations



Deadbugs



Chest Stretch

## Range of Motion/Stretching

These exercises help your muscles and joints move better, making you more flexible and reducing stiffness, swelling, and pain. They also lower the chance of joints fusing and help keep you moving. Do them without using weights.

## Aerobic Exercise (Cardio)

Regular aerobic exercise, like brisk walking or swimming, can improve your heart and lung health, mood, and overall well-being. It's especially helpful for people with axSpA, as it can enhance breathing, endurance, and reduce pain and fatigue. Experts suggest doing aerobic exercises 3 to 5 times a week for 75 to 150 minutes in total.

## Strengthening

These exercises help make your muscles stronger by pushing against resistance. They can improve how your muscles work, help prevent posture problems, and lessen back pain. Focus on your core, hip, and back muscles. Complete strength exercises 2-4x/week.

## Balance

Balance exercises improve your ability to stay steady and move smoothly. They lower the chance of falling, which is extra important if you have weak bones and might break easily from a fall. Try doing these exercises 3 to 5 times a week.

## When to consider physical therapy

After performing regular exercise independently, it's advisable to consider physical therapy when you encounter difficulties performing the exercises correctly, experience increased pain or stiffness, or if you require additional guidance to enhance your progress in managing axial spondylarthritis effectively.

### Helpful Resources:

<https://spondylitis.org/about-spondylitis/>  
<https://nass.co.uk/managing-my-as/exercise/>

### References:

1. Baraliakos X, Braun J. Non-radiographic axial spondyloarthritis and ankylosing spondylitis: what are the similarities and differences? RMD Open. 2015;1(Suppl 1):e000053. doi:10.1136/rmdopen-2015-000053
2. Boonen A, Saper J, van der Heijde D, et al. The burden of non-radiographic axial spondyloarthritis. Semin Arthritis Rheum. 2015;44(5):556-562. doi:10.1016/j.semarth.2014.10.009
3. Tsang JD, Chhabra A, Colbert RA. Ankylosing spondylitis and axial spondyloarthritis. N Engl J Med. 2014;371(24):2543-2574. doi:10.1056/NEJMra1404182
4. Ward MM, D'Avall A, Gensler LS. 2019 Update of the American College of Rheumatology/ Spondylitis Association of America/Spondyloarthritis Research and Treatment Network Recommendations for the Treatment of Ankylosing Spondylitis and Nonradiographic Axial Spondyloarthritis. Arthritis and Rheumatology. 2019;71(8):1599-1613.
5. Medication | National Axial Spondyloarthritis Society. Accessed April 8, 2024. <https://nass.co.uk/managing-my-as/medication/>
6. Exercise | National Axial Spondyloarthritis Society. Accessed April 8, 2024. <https://nass.co.uk/managing-my-as/exercise/>
7. Your Diet | National Axial Spondyloarthritis Society. Accessed April 8, 2024. <https://nass.co.uk/managing-my-as/living-with-as/your-diet/#:~:text=Don%20forget%20to,atry%20foods,come%20people%20with%20inflammatory%20arthritis>
8. Chang HY, Machado P, van der Heijde D, D'Agostino M-A, Dougados M. Smokers in early axial spondyloarthritis have earlier disease onset, more disease activity, inflammation and damage, and poorer function and health-related quality of life: results from the DESIR cohort. Ann Rheum Dis. 2012;71(4):809-816. doi:10.1136/annrheumdis-2011-200180
9. <https://www.hep2gs.com/search>. Accessed April 8, 2024. <https://www.hep2gs.com/search>