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For UK healthcare professionals only

The Treatment of Axial Spondyloarthritis

Best practice for the management of patients

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Introduction

The treatment of axial spondyloarthritis is the fourth in a series of publications for physiotherapists interested in the management of axial spondyloarthritis (axial SpA).

Axial SpA describes a spectrum of chronic inflammatory arthritis involving the spine and/or sacroiliac joints, in which the predominant symptom is often chronic inflammatory back pain (IBP).¹⁻³

Objectives of this module

This module provides an overview of the goals of treatment in patients with axial SpA and the range of treatments available, including pharmacological and non-pharmacological options. Practical advice and details are provided on the role of the physiotherapist in monitoring, managing, and supporting patients with axial SpA.

By the end of this module, you should:

- Revise the concept of axial SpA and how it affects your patients.
- Be familiar with the core indices and questionnaires for monitoring axial SpA.
- Be aware of all of the treatment options for patients with axial SpA, including non-pharmacological and pharmacological options.
- Understand the importance of patient education and the ways in which physiotherapists may support this.
- Understand the principles of exercise and stretches appropriate for patients with axial SpA and possibilities in mode of delivery.

Further information on axial SpA is available in Modules 1, 2 and 3 of this series:

Module 1: Differentiating Inflammatory and Mechanical Back Pain

Module 2: What is Axial Spondyloarthritis?

Module 3: Assessing the Signs, Symptoms, and Clinical Manifestations of Axial Spondyloarthritis

What is axial SpA?

As mentioned, axial SpA describes a spectrum of chronic inflammatory arthritis involving the spine and/or sacroiliac joints, in which the predominant symptom is often chronic inflammatory back pain (IBP).¹⁻³

Axial SpA includes ankylosing spondylitis (AS) and non-radiographic axial SpA (nr-axSpA).¹⁻³

- Nr-axSpA is axial SpA without X-ray evidence of AS, although there may be evidence on magnetic resonance imaging (MRI).¹

In many patients, the disease follows a progressive course. However, not all patients with nr-axSpA go on to develop AS:

- Nr-axSpA progresses to AS at a rate of about 12% over 2 years²

Axial SpA patient characteristics

57% of patients with nr-axSpA are female³
- This is unlike AS, where males are more likely to be affected (~65%)³

Patients are <45 years old at symptom onset^{1,4-7}

Axial SpA affects both men and women in their most productive years^{1,4-7}

Patients with nr-axSpA can have similar signs and symptoms to AS³

The predominant symptom is IBP¹

Nr-axSpA patients have a similar burden of disease to patients with AS^{3,4}

Axial SpA may be associated with systemic inflammation and patients may have eye, skin and gut involvement.^{3,4} The disease may be characterised by inflammation of the sacroiliac joints, facet joints and spinal entheses. This results in back pain, fatigue, stiffness and may lead to ankylosis (joint fixation).⁶

Bone damage (such as erosion and sclerosis) is irreversible and may be progressive;^{8,9} in the early stages, it is associated with vertebral osteoporosis and there is an increased risk of spinal fracture later in life.⁸

Principles and goals of treatment

According to the ASAS/EULAR recommendations for the management of axial SpA, the primary goal of treating axial SpA is to maximise long-term health-related quality of life (HRQoL) through:¹⁰

- Control of symptoms and inflammation.
- Prevention of progressive structural damage.
- Preservation/normalisation of function and social participation.

A balanced exercise programme for patients with AS aims to:¹¹

- Address primary (musculoskeletal) consequences of AS.
- Address secondary consequences of AS (cardio-respiratory, balance, osteoporosis).
- Facilitate physical activity according to national guidelines, with modifications for AS symptoms, severity, activity and duration as required.

The optimal management of patients with axial SpA requires a combination of non-pharmacological and pharmacological treatment modalities. Axial SpA is a potentially severe disease with diverse manifestations, usually requiring multidisciplinary management coordinated by the rheumatologist.¹⁰

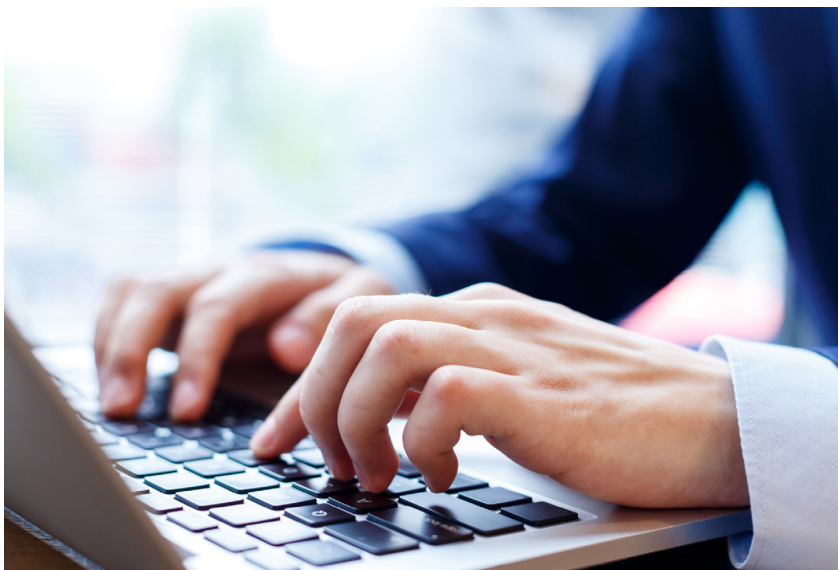
The optimal management of patients with axial SpA requires a combination of non-pharmacological and pharmacological treatment modalities. Axial SpA is a potentially severe disease with diverse manifestations, usually requiring multidisciplinary management coordinated by the rheumatologist.¹⁰

Treatment of axial SpA should aim at the best care and must be based on a shared decision between the patient and the rheumatologist.¹⁰

Quality of life in patients with axial SpA

Patients with SpA, including the axial form, have impaired functional status and HRQoL.¹² It has been shown that patients with nr-axSpA experience a similar burden of disease and impact on HRQoL as those with established AS.^{3,4,13}

Axial SpA affects both men and women in their most productive years.^{4,5,7} The symptoms can affect an individual's ability to work and cause anxiety around job security.¹⁴ NASS recommend that the ability to continue working should be an important goal in the management of AS.¹⁴



Physiotherapists play a vital role in maintaining and improving patients' mobility, monitoring changes in their HRQoL, and taking appropriate and timely action to minimise disease impact.

Patients with nr-axSpA and AS experience a similar burden of disease and impact on QoL^{4,13}

Disease monitoring

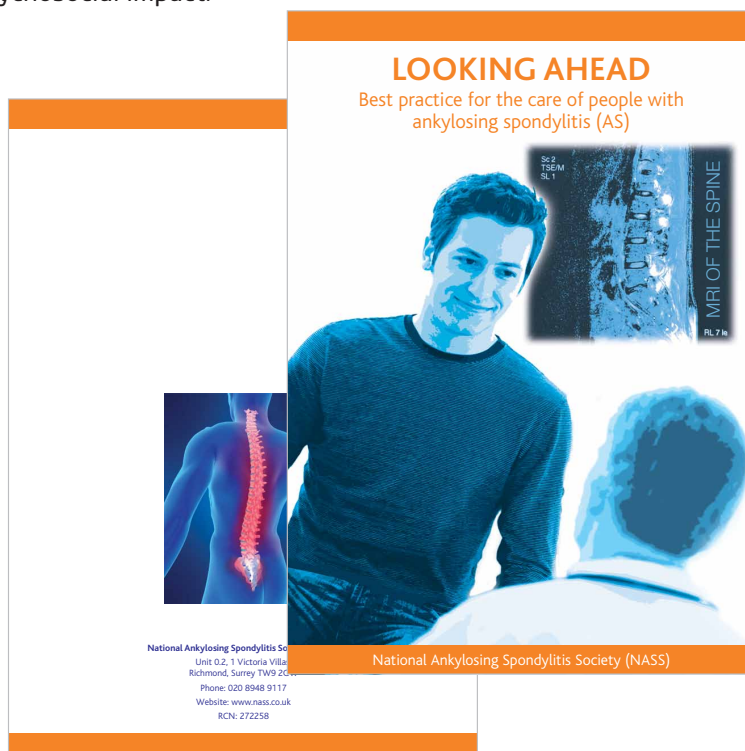
Disease monitoring of patients with axial SpA should include patient-reported outcomes, clinical findings, laboratory tests and imaging, all with the appropriate instruments and relevant to the clinical presentation.¹⁰ As the course of disease is different for each patient, it is recommended that the frequency of monitoring appointments is decided on an individual basis, depending on:¹⁰

- Symptoms.
- Severity.
- Treatment.

The National Institute for Health and Care Excellence (NICE) recommends that if a patient is receiving anti-tumour necrosis factor (TNF) therapy, response should be assessed 12 weeks after the start of treatment.¹⁵ If a patient is receiving an interleukin (IL)-17 inhibitor, response should be assessed at 16 weeks.¹⁶

In addition, all patients should be assessed by a physiotherapist at the time of diagnosis, and at least annually thereafter.^{17,18} Please refer to *Looking Ahead - Best practice for the care of people with AS*,¹⁷ the assessment should include:^{17,18}

- Full medical history.
- Posture check.
- Measure of flexibility, with particular focus on back, trunk, neck and hips.
- Disease activity and clinical status.
- Psychosocial impact.



A range of composite indices and questionnaires are available for monitoring patients with axial SpA. These are shown in table 1 on page 9.

Physiotherapists should assess disease severity in patients with axial SpA using the following¹⁹⁻²²:

- Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)
- Bath Ankylosing Spondylitis Functional Index (BASFI)
- Bath Ankylosing Spondylitis Metrology Index (BASMI)
- And Spinal Pain Visual Analogue Scale (VAS).

BASDAI, BASFI, and the Spinal Pain VAS measure symptoms on a 10-cm VAS. Alternatively you can use the Numerical Rating Scales (NRS) for assessment.²³

Psychological factors may be important in the assessment and management of axial SpA. Disease status scores have been found to correlate with anxiety, depression and health status and rheumatologists should take this into account when interpreting the results of assessment tools such as BASDAI, BASFI and BASMI.^{3,18,24}

The AStretch website www.AStretch.co.uk also provides links to tools and resources for monitoring and managing patients with axial SpA.

Table 1

A range of composite indices and questionnaires are available for the monitoring of patients with axial SpA

Core tools for use by physiotherapists

BASDAI	Bath Ankylosing Spondylitis Disease Activity Index	<p>The BASDAI is a composite index to measure disease activity. The markers of disease activity include:¹⁹</p> <ul style="list-style-type: none"> • Severity of fatigue • Spinal and peripheral joint pain • Localised tenderness • Morning stiffness
BASFI	Bath Ankylosing Spondylitis Functional Index	<p>The BASFI is an index to measure physical function. It aims to assess the degree of limitation in a patient's ability to carry out everyday tasks over the last week²⁰</p>
BASMI	Bath Ankylosing Spondylitis Metrology Index	<p>The BASMI is a validated index used to measure spinal mobility, which is regarded as a quantitative measurement of the physical limitations experienced by a patient with AS. It consists of five clinical measurements:²¹</p> <ul style="list-style-type: none"> • Lateral lumbar flexion • Tragus to wall distance (posture measurement) • Modified Schober's test (lumbar flexion) • Intermalleolar distance (bilateral hip abduction) • Cervical rotation
Spinal Pain VAS	Spinal Pain Visual Analogue Scale	<p>A VAS is a measurement instrument that tries to measure a characteristic or attitude that is believed to range across a continuum of values and cannot easily be directly measured.²² Operationally, a VAS is usually a horizontal line, anchored by word descriptors at each end (e.g. 'no pain' at one end, and 'very severe pain' at the other), and the patient marks on the line the point that they feel represents their current state</p>

Additional tools

Not all of the following tools are specific to axial SpA but may be useful in some circumstances. The list is not exhaustive and other tools are available

ASQoL	Ankylosing Spondylitis Quality of Life ²⁵	EASi QoL	Evaluation of Ankylosing Spondylitis Quality of Life ²⁶
BAS-G	Bath Ankylosing Spondylitis Patient Global Score ²⁷	WPAI	Work Productivity and Activity Impairment ²⁸

Please see page 31 for details on where to download each of these tools

Treatment options for patients with axial SpA

As the course of disease may vary greatly between patients with axial SpA, treatment choices need to be individualised.¹⁰

As with all conditions, the patient should be involved in the decision-making process and have input into how their disease is managed.¹⁰

The treatment of patients with axial SpA should be individualised according to:

- The current signs and symptoms of the disease (axial, peripheral, extra-articular manifestations); and
- The patient characteristics including comorbidities and psychosocial factors

Non-pharmacological treatments

The optimal management of patients with axial SpA includes non-pharmacological interventions, specifically patient education and regular exercise:¹⁰

- Local support groups, online forums and national charities, and how to get in touch with them,³⁰ including NASS.
 - You can find a NASS branch near you by visiting <http://nass.co.uk/nass-near-you/>
- Physiotherapy with supervised exercises, land and/or water based, individually or in a group.¹¹
- Exercise at home (although supervised exercise is more effective).²⁹

“**Patients should be educated about axial SpA and encouraged to exercise on a regular basis and stop smoking; physical therapy should be considered.**”
ASAS/EULAR¹⁰

Patient education

Patient education is a vital part of achieving optimal treatment outcomes.³¹

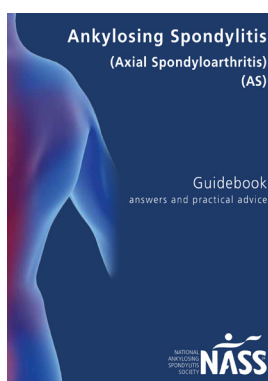
Patient education should:

- Be planned, co-ordinated and distinct from patient treatment.
- Provide accurate information and aid decision making.
- Allow analysis and discussion of problems to promote self-awareness.
- Providing coping strategies and self-management tools.
- Encourage the defining of individual goals and ways of achieving them.

Physiotherapists have a key role in providing information and signposting patients to other sources of information (see below).

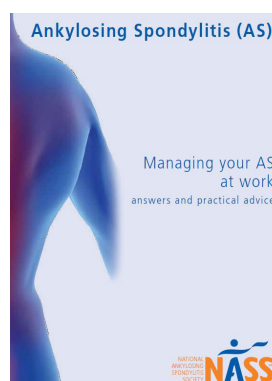
Patients should be encouraged to become members of NASS. They provide a range of resources, including:

- The NASS website (www.nass.co.uk) provides a wealth of information for newly diagnosed patients covering all aspects of the disease course.



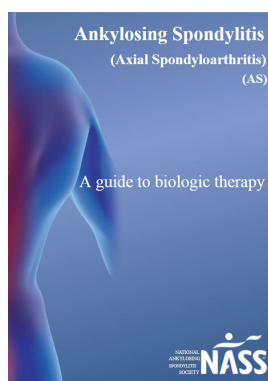
The NASS Guidebook for Patients

The NASS Guidebook for Patients addresses concerns patients may have about AS and offers practical advice on self-management. It is a useful resource to have in your clinic; copies can be ordered on the NASS website.



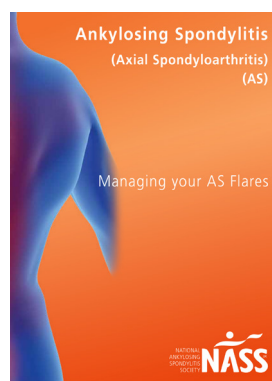
The NASS Guide to Managing your AS at Work

The NASS Guide to Managing Your AS at Work, covers how AS can affect work, talking about AS at work, staying well at work and patients' rights at work. It also includes information which can be given to employers.



The NASS Guide to Biologic Therapy

The NASS Guide to Biologic Therapy includes information about biologic therapy for AS. There is space for patients to write in their questions, hopes and fears about biologic therapy to guide follow up appointments.



The NASS Guide to Managing AS Flares

The NASS Guide to Managing AS Flares gives practical information on managing flare ups. It includes space for health professionals to write in information that would help the individual patient during a flare.

These can be downloaded on the "Living well with AS" page at NASS website: <http://nass.co.uk/about-as/living-well-with-as>



Joining a **patient support group** is a great way for patients to learn about their condition and how to self-manage. In addition to gaining support and regular information updates, many patients enjoy the social aspect of joining a support group. NASS has approximately 90 branches across the UK providing information, support and group exercise sessions for members.

NASS also offers a patient **helpline**, provides a wealth of patient information and access to resources at: www.nass.co.uk

The patient helpline is open 09:00 and 12:00 Monday to Friday - 020 8741 1515.

- **Leaflets** about specific aspects of living with AS, such as fatigue, uveitis and driving.
- A range of **online resources** are available via the NASS website: www.nass.co.uk

NHS Choices provides a patient-friendly overview - including videos - of AS and its management on their website:

www.nhs.uk/Conditions/Ankylosing-spondylitis

Lifestyle changes

Physiotherapists have a key role in educating patients on the importance and benefits of leading a healthy lifestyle, including the value of:

- Maintaining a **healthy weight**.
- A healthy diet and exercise, as patients with axial SpA are at an increased risk of **cardiovascular events**.³²
- A diet rich in calcium and vitamin D, as patients with axial SpA are at increased risk of **osteoporosis and fractures**.^{8,33}
- Smoking cessation, which is strongly advised as **smoking** has been shown to increase disease activity as well as the risk of lung and cardiovascular diseases.^{2,34}

Physiotherapists should signpost patients to a dietician, exercise referral scheme or smoking cessation programme, as appropriate.

NHS Choices provides a ready resource of information and advice to patients on leading a healthy lifestyle.

Topics include:

- Losing weight.
- Fitness.
- Alcohol consumption.
- Smoking cessation.

For more information, visit

[http://www.nhs.uk/livewell/
Pages/Livewellhub.aspx](http://www.nhs.uk/livewell/Pages/Livewellhub.aspx)

Minimising fracture risk

Patients with axial SpA are at an increased risk of osteoporosis.^{8,33} Even minor trauma can lead to fractures in patients with axial SpA, and those who do suffer a fracture are likely to experience worse outcomes than the general trauma population.³⁵ It is worth noting that pre-existing back pain can mask and delay the diagnosis of spinal fractures.

It is important to identify patients at an early stage of disease who may be at increased risk of falling and to educate them on minimising their risk of fractures. By following recommended exercises, patients can improve their bone and muscle strength

If a patient reports that they suffer, or feel vulnerable to falling the Falls Risk Assessment Tool (FRAT) may be useful to determine who would benefit from further assessment or appropriate intervention.³⁶ The Berg Balance Scale (BBS) can also help assess the risk of falls.³⁷

Several tools exist to assess the risk of fracture. The Fracture Risk Assessment Tool (FRAX®) is widely used in UK clinical practice.³⁸

Manual therapy

More evidence is needed for the use of manual therapy in axial SpA.³⁰ Cases should be assessed on an individual basis, to identify risk factors such as fracture³⁹

Patients with axial SpA are at increased risk of osteoporosis^{8,33} and may suffer a fracture from even minor trauma.³⁵ Other risk factors include instability and vertebrobasilar insufficiency.

Discussion with the patient's rheumatologist with regard to their bone health and risk factors should be considered. There are a number of contraindications to spinal manipulation, including inflammatory conditions and fractures, therefore if there is any doubt over whether or not mobilisations are suitable for a patient, they should not be performed. The World Health Organisation (WHO) advise joint manipulation should not be used in patients with seronegative spondyloarthropathies.³⁹

Physiotherapy

For patients with axial SpA, exercise and physiotherapy can:^{17,18}

- Reduce pain.
- Improve or maintain:
 - Posture.
 - Functional range of movement.
 - Strength and mobility.
 - Cardiovascular exercise tolerance.



Image courtesy of NASS

When developing a programme for patients with axial SpA, particular attention should be given to:^{17,18,40}

- | | |
|---|---------------------------|
| • Chest, shoulder and hip stretches. | • Chest expansion. |
| • Neck, trunk, back and hip mobility exercises. | • Cardiovascular fitness. |
| • Posture strengthening exercises. | • Bone health. |

“ **Education on the rationale for and importance of stretching is important. Patients often believe they are fused and should not stretch, although the feeling associated with fusion may be due to muscle tightness.** ”

Module 4 author recommendations

Aquatic physiotherapy

The buoyancy, resistance and support offered by water, combined with the warm temperature, allow patients to exercise in a controlled yet effective way.^{18,41}

Aquatic physiotherapy (also known as hydrotherapy) can offer patients a number of benefits including:^{18,41}

- Improved ease of movement.
- Increased muscle strength.
- Balance re-education.
- Enhanced psychological well-being, due to the social interaction.

If aquatic physiotherapy is not available in your area, you may want to recommend suitable stretching and strengthening exercises for patients to perform at their local swimming pool, even though the water is not as warm as a hydrotherapy pool; it is therefore important to keep moving so as not to get too cold.⁴¹

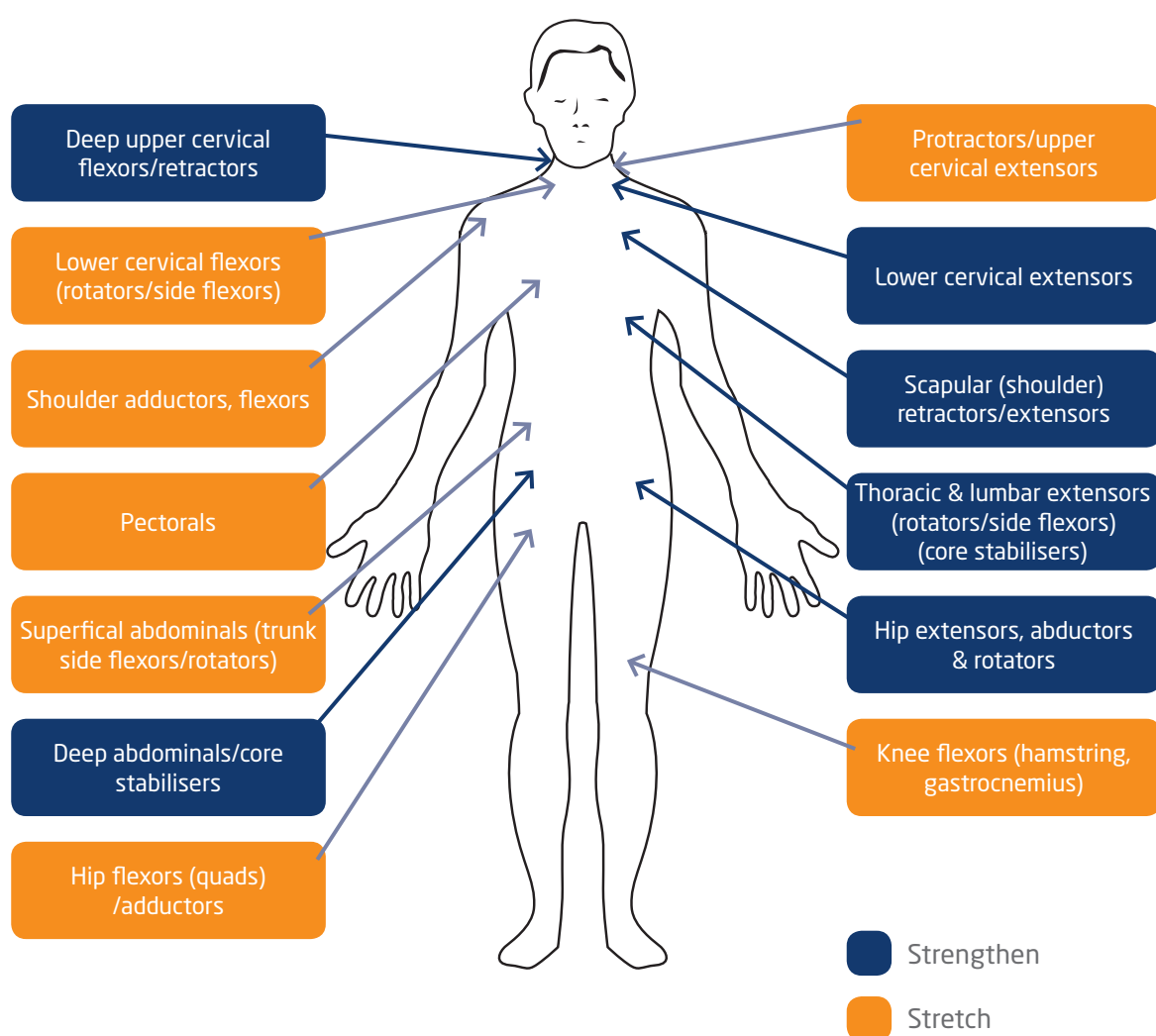
“ **NASS branches around the UK provide regular and aquatic physiotherapy sessions supervised by physiotherapists with an interest in axial SpA. You may wish to discuss these sessions with your patients. In addition to the clear benefit of group exercise, many members enjoy the social aspect and support from a local NASS group representative.** ”

Module 4 author recommendations

Strengthening and stretching

Different muscles will need to be strengthened or stretched to help resist or correct potential postural deformities in patients with axial SpA. In addition to regular chest expansion exercises,⁴⁰ the figure below shows the muscles that typically require strengthening and stretching.

Suggested muscles to strengthen and stretch in patients with axial SpA



Source: diagram developed by AStretch; reproduced with permission

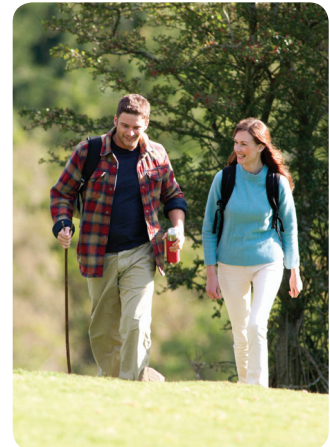
Flexibility vs. strength

It is important that muscle groups contract in a co-ordinated manner in order to maintain a biomechanically efficient posture. For example, muscles which attach to the pelvis need to be flexible enough to allow movement yet strong enough to maintain a neutral position thereby avoiding adverse mechanical tension on the spine and surrounding tissues.⁴⁰⁻⁴²

Exercise

Physiotherapists should encourage patients with axial SpA to take regular and varied general exercise, including walking, swimming and aqua aerobics.^{18,40}

Low impact exercise such as pilates, Tai Chi and yoga may also be beneficial. Patients should be reminded to inform the instructor of their axial SpA before taking any class, and always start with a beginners' class.⁴⁰



Patients should be advised that contact sports and high impact exercises may put them at an increased risk of spinal injury

Further information on additional activities is available via Back to Action

Back to action

For those patients recently diagnosed with AS who wish to exercise at a gym, NASS has created an exercise programme - **Back to Action** - in collaboration with physiotherapists and healthcare professionals at Headley Court.⁴⁰ Although created for patients with AS, the authors of this booklet series (Module 4) confirm that the programme is also suitable for the full spectrum of axial SpA, including patients with nr-axSpA.



The Back to Action programme covers mobility, cardiovascular, strength, flexibility and breathing exercises, with additional information on other classes and sport, as well as information about AS for gym personnel.⁴⁰

Patients can watch the exercise videos online or download the free App for android phones from Google Play or for iPhones, iPod touches and iPads from the iTunes.

For those with more advanced disease, a free guidebook featuring exercises to do at home is available. A DVD – **Fight Back** – is also available to purchase; follow this link for details <https://nass.co.uk/exercise/exercising-at-home>

Fight Back offers physiotherapy advice, and a variety of individual exercises and programmes, including those suitable for people with hip replacements.

Further information regarding exercises and educational resources is available from NASS at: <https://nass.co.uk/healthcare-professionals>

Although group exercise is regarded as more effective than home exercise, the latter still provides benefit²⁹

Pacing

For many people, especially those with axial SpA, an exercise programme may be overwhelming. 'Pacing' is a strategy in which the level of activity is matched to the amount of energy a patient has, or to a level the patient finds tolerable. The level of activity can be built up over time as energy increases. It should be stressed to patients that a **small amount of exercise is better than no exercise**.

In order to maintain their level of activity, patients should plan their week's activities and rests, pace their activities to avoid fatigue and prioritise their tasks each morning.

Module 4 author recommendations

Additional considerations

In addition to exercise, education and monitoring, there are many additional ways in which physiotherapists and other healthcare professionals may support patients with axial SpA. The figure below lists additional considerations that may be appropriate.



Physiotherapists should analyse particular areas of concern for their patient during the patient assessment. They can research local organisations and teams that can provide professional or social support, so that they can direct patients to these resources appropriately.

Useful resources

Advice and assessments are available from *Driving Mobility*:

<https://www.drivingmobility.org.uk>

The Motability Scheme can help patients to lease or buy a car, scooter or wheelchair to meet their needs: <http://www.motability.co.uk/>

Some patients may be eligible for a Blue Badge that provides them with a variety of parking concessions: www.gov.uk/browse/driving/blue-badge-parking

NASS offers a range of free factsheets which includes information on driving, fatigue and uveitis: <http://nass.co.uk/about-as/living-well-with-as>

Personal care plans

To aid in shared decision-making around treatment and management options, the use of a Personal Care Plan (PCP) should be considered for patients with long-term conditions⁴⁵ such as axial SpA.

The plan is owned by the patient, may include educational materials, assessment results and targets, and should be used at all healthcare appointments. Physiotherapists should work closely with rheumatologists, other members of the MDT and the patient to help patients take control of their condition and meet their personal and clinical goals.

Goal setting

Setting goals can be a powerful way of motivating and helping the patient to achieve targets. It should be part of the PCP and include:⁴⁶

- Goals that are individual and realistic.
 - Discuss goals with your patient - what are they happy, or not happy, to do!
- Agree actions.
- Timescales/set reviews.

“*Goal setting is a motivational and important part of patient management. Remember individuals living with long term conditions spend approximately 3 hours every year with healthcare professionals... for the other 8,757 hours they look after themselves.*”⁴⁵

Pharmacological treatments

In addition to non-pharmacological management, pharmacological treatments may be used for pain management and to reduce disease activity.¹⁰ Although physiotherapists may not necessarily prescribe these treatments, they should be aware of all the options and be able to discuss any problems a patient might raise with the rheumatologist.

Non-steroidal anti-inflammatory drugs (NSAIDs)

NSAIDs are considered to be a first-line pharmacological therapy for patients with axial SpA.¹⁰

- Patients suffering from pain and stiffness should use an NSAID as first-line drug treatment up to the maximum dose, taking risks and benefits into account.¹⁰
- NSAIDs are used primarily for symptom control, although there is evidence to suggest that, in patients with AS, long-term NSAID use can be associated with reduced progression of structural damage.⁴⁷
 - Cardiovascular, gastrointestinal and renal risks must be taken into account when prescribing NSAIDs.⁴⁸

Disease-modifying anti-rheumatic drugs (DMARDs)

DMARDs are not recommended for the treatment of axial SpA.¹⁰

However, the DMARD, sulfasalazine, may be beneficial in patients with peripheral arthritis.¹⁰

Biologics

Biologics should be considered in patients with persistently high disease activity despite conventional treatments; current practice is to start with anti-TNF therapy.¹⁰ IL-17 inhibitor therapy may be considered in patients with AS.¹⁰ Biologics may be prescribed following appropriate assessment by a rheumatologist.

The British Society for Rheumatology Biologics Register for AS (BSRBR-AS) is monitoring the long-term safety of biologics and is currently recruiting patients with AS (taking or not taking biologics).

<http://www.bsrbr.org>

Surgery

Joint replacement surgery may be required in some cases of AS.^{10,15,17} Total hip replacement may be considered in patients with refractory pain or disability and radiographic evidence of structural damage.¹¹ In patients with severe disabling deformity, spinal corrective osteotomy may be undertaken in specialist units.¹⁰

Early diagnosis and appropriate treatment may slow down radiographic progression^{17,47}

Working as a multidisciplinary team

Axial SpA is associated with diverse extra-articular manifestations, e.g. psoriasis, uveitis and inflammatory bowel disease (IBD).¹⁰ This means that patients may require the care of more than one specialist, as well as the guiding rheumatologist. More information on the extra-articular manifestations of axial SpA is available in Module 3 of this series.

Members of the MDT may vary and will depend on a patient's needs and the condition being treated. However, the patient should always be considered as a central member of that team.

For patients with axial SpA, the MDT may include (but is not limited to) a rheumatologist, physiotherapist, musculoskeletal radiologist, specialist nurse, gastroenterologist, podiatrist, ophthalmologist, psychologist, occupational therapist, pharmacist, dermatologist, specialist orthopaedic surgeon and the patient.¹⁷

The Multidisciplinary Team



**The patient should always be considered as a
central member of the MDT¹⁷**

Summary

The management of axial SpA has experienced major developments in recent years, especially with regard to new treatments and appropriate diagnosis.¹⁰ It is important to recognise and manage axial SpA early in its presentation to improve health outcomes.³⁰

Physiotherapists play a key role in early identification of patients with IBP and other extra-articular manifestations to support early diagnosis. In addition, as described in this module, they play a central role in the assessment, management, and treatment of patients with axial SpA.

You may wish to consult the NASS website, or contact AStretch at www.astretch.co.uk for information about training courses.

After completing the four modules in this series you should:

- Be able to differentiate between inflammatory and mechanical back pain.
- Recognise the symptoms and extra-articular manifestations of axial SpA.
- Be aware of the available treatment options for patients with axial SpA.
- Understand the role of physiotherapists in managing patients with axial SpA.

Glossary

Axial spondyloarthritis (axial SpA)⁶

A form of spondyloarthritis, either nr-axSpA or AS, in which the predominant symptom is back pain, and where radiographic sacroiliitis may or may not be present.

Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)¹⁹

A validated test to allow a healthcare professional to assess disease activity, determine the need to start a new drug or determine effectiveness of an existing drug therapy for AS.

Bath Ankylosing Spondylitis Functional Index (BASFI)²⁰

A validated test to allow a healthcare professional to determine physical function and the degree of limitation in a patient's ability to carry out everyday tasks.

Bath Ankylosing Spondylitis Metrology Index (BASMI)²¹

A validated test to allow a healthcare professional to assess spinal mobility.

Disease-modifying anti-rheumatic drugs (DMARDs)^{47,49}

A class of antirheumatic drugs, including chloroquine, methotrexate, cyclosporine, and gold compounds, that influence the disease process itself and do not only treat its symptoms. Not recommended for axial SpA.¹⁰

Fracture Risk Assessment Tool (FRAX®)³⁸

The FRAX® tool has been developed by World Health Organisation (WHO) to evaluate fracture risk of patients.

Inflammatory Bowel Disease (IBD)⁴⁹

Any idiopathic inflammatory disease of the bowel, such as Crohn's disease and ulcerative colitis.

Non-steroidal anti-inflammatory drugs (NSAIDs)⁴⁹

A large group of drugs with varying degrees of anti-inflammatory, antipyretic and analgesic action.

Osteoporosis⁴⁹

A disease of bone associated with reduced bone mineral density, deterioration of bone microarchitecture and an increased risk of fracture.

Psoriasis⁴⁹

A chronic, inflammatory disease characterised by scaly skin lesions, which can be in the form of patches, papules or plaques.

Tumour necrosis factor (TNF)

A cytokine with both proinflammatory and immunoregulatory functions.⁵⁰ TNF is a validated therapeutic target in a number of chronic immune-mediated inflammatory diseases, including AS.⁵⁰ Anti-TNF therapy inhibits TNF and modifies the inflammatory process of the disease.¹⁵

Uveitis⁴⁹

Uveitis is an inflammation of the uveal tract, which lines the inside of the eye behind the cornea.

Visual analogue scale (VAS)²²

A psychometric response scale that can be used in questionnaires to assess subjective characteristics that cannot be measured directly. Respondents indicate their level of agreement to a statement by indicating a position along a continuous line between two endpoints.

Assess your knowledge of the treatment of axial SpA

Please complete the multiple choice questions below.

1. Which of the following statements is not listed as a goal of treatment in the ASAS/EULAR recommendations for the management of axial SpA?¹⁰ (tick all that apply)
 - a. Control of symptoms and inflammation ☐
 - b. Prevention of progressive structural damage ☐
 - c. Prevention of the development of extra-articular manifestations ☐
 - d. Preservation/normalisation of function and social participation ☐
2. When should patients with axial SpA be assessed for response to anti-TNF treatment? (choose one answer)¹⁵
 - a. 8 weeks after starting treatment ☐
 - b. 10 weeks after starting treatment ☐
 - c. 12 weeks after starting treatment ☐
 - d. 16 weeks after starting treatment ☐
3. Which of the following composite indices are core tools for the monitoring of patients with axial SpA by physiotherapists?^{19-21,28} (tick all that apply)
 - a. WPAI ☐
 - b. BASMI ☐
 - c. BASDAI ☐
 - d. BASFI ☐

4. Which exercises do NASS (the patient organisation) recommend for patients, where appropriate, with axial SpA? (tick all that apply)^{17,18,39}
 - a. Rugby ☐
 - b. Walking ☐
 - c. Pilates ☐
 - d. Swimming ☐

5. Which of the following is considered to be the most effective?²⁹ (choose one answer)
 - a. Individual exercises at home ☐
 - b. Regular participation in sports such as tennis and rugby ☐
 - c. Individual exercises at home and a course at a health resort ☐
 - d. Supervised exercises, individually or in a group ☐

6. Which of the following statements are true?^{10,15,17} (tick all that apply)
 - a. NSAIDs are used primarily for symptom control ☐
 - b. NSAIDs are only suitable for patients with AS, not nr-axSpA ☐
 - c. Anti-TNF agents are only suitable for patients with AS, not nr-axSpA ☐
 - d. Joint replacement surgery may be required only in some cases of severe AS ☐

7. Which of the following statements are true?¹⁸ (tick all that apply)
 - a. Physiotherapists play a role in educating and supporting patients with axial SpA ☐
 - b. Physiotherapists play a role in managing and monitoring patients with axial SpA ☐
 - c. Physiotherapists can prescribe exercise to patients with axial SpA ☐
 - d. Physiotherapists can offer non-pharmacological treatments to patients with axial SpA ☐

Answers are provided on the back page

Personal reflection and new key learning points

Personal actions

1. What will I do differently in daily clinical practice?

2. What key questions will I ask my patients with chronic lower back pain?

3. What further training or information do my team and I need?

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Links to tools

ASQoL

<http://ard.bmj.com/content/annrheumdis/suppl/2002/12/20/62.1.20.DC1/62120Appendices.pdf>

BASDAI, BAS-G, BASFI, BASMI

<https://nass.co.uk/download/5723760081867>

EASi-QoL

<http://www.astretch.co.uk/collections>

FRAX®

<http://www.shef.ac.uk/FRAX/>

WPAI

http://www.reillyassociates.net/WPAI_Scoring.html

Useful contacts and further information

British Health Professionals in Rheumatology (BHPR)

www.rheumatology.org.uk

NASS guide to inflammatory back pain

<http://nass.co.uk/getting-my-diagnosis/>

The Chartered Society of Physiotherapy (CSP)

www.csp.org.uk

AStretch

www.astretch.co.uk

ASAS

www.asas-group.org

Modules in this series

Module 1: Differentiating Inflammatory and Mechanical Back Pain

A comparison of the features of inflammatory and mechanical back pain and a detailed outline of the assessment and diagnosis process for inflammatory back pain.

Module 2: What is Axial Spondyloarthritis?

An overview of the epidemiology, symptoms and classification of axial SpA, and the clinical features that identify potential patients.

Module 3: Assessing the Signs, Symptoms and Clinical Manifestations of Axial SpA

Information on the key clinical features and extra-articular manifestations of non-radiographic axial SpA and AS and how to identify these.

Module 4: Treatment of Axial Spondyloarthritis

Non-pharmacological and pharmacological management of patients with axial SpA.

Answers to questions

1:c **2:**c **3:**b,c **4:**b,c,d **5:**d **6:**a,d **7:**a,b,c,d.