Rheumatology in MSK









https://rheumatology.physio/courserheum

Who am I?











Jack March I Rheumatology.Physio

@physiojack

Other Resources



<u>Rheumatology.Physio</u>





Why discuss Rheum in MSK?



Some questions for you..?





Recognition





What is rheumatology?

a multidisciplinary branch of medicine that deals with the ignosis and management of patients with arthritis and other conditions This incorporates over 200 disorders ffecting uscles and soft tissues, including inflammatory ar hit is and autoimmune disorders, vasculitis, soft tissue conditions, metabolic bone disease. A significant number of conditions also affect other organ systems.

atology" originates from the Greek word "rheuma", meaning



as a river or stream," and the suffix "-ology", meaning "the study of." Rheumatology is a rapidly evolving y, with advancements owing largely to new scientific discoveries about the immunology of these

Conditions (Arthropathies)

Rheumatoid arthritis

Spondyloarthritis

- Ankylosing spondylitis
- Psoriatic arthropathy
- Enteropathic spondylitis

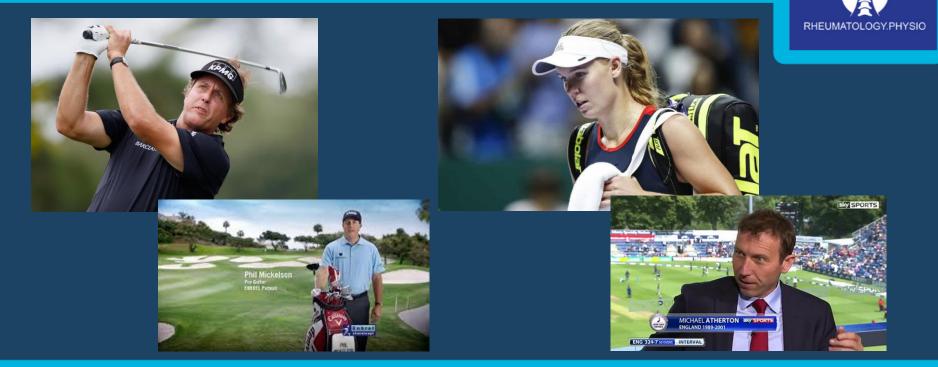
Reactive arthritis

Juvenile Idiopathic Arthritis Crystal arthropathy Septic Arthritis





Conditions (Arthropathies)



Conditions (CTDs)

Lupus

Sjogrens

Scleroderma

Myositis (variants)

Mixed/undifferentiated

Hypermobility (variants) Vasculitis Giant Cell/Temporal Arteritis



Conditions (CTDs)



Features of Inflammation



Heat Stiffness (Early morning Redness >30mins) Swelling Night pain Better with activity PAIN Worse with rest Better with anti-Inflammatories

Systemic Condition?

Multiple systems

- Skin
- Eyes
- Gut
- Nails
- Enthesitis
- Dactylitis

Evidence of relevant:

- Past medical history
- Family History
- Concurrent conditions
- Onset







Psoriatic Arthritis



Spondyloarthritis

Rheumatoid Arthritis



Rheumatoid Arthritis



RHEUMATOLOGY, PHYSIO

A progressive, (symmetrical) form of autoimmune arthritis, usually involving the small joints of the hands and/or feet. Multi-systemic, can affect the heart, lungs and eyes.

(NRAS website)

Rheumatoid Arthritis

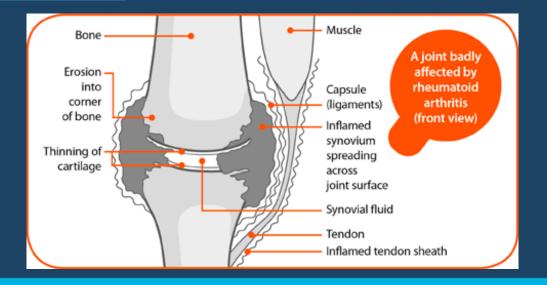




Image courtesy of ARUK

Diagnosing "Clinically Suspected Arthralgia"

- 1. Joint Symptoms of recent onset (<1 year)
- 2. MCPJs affected
- 3. Morning stiffness (>60 mins)
- 4. Symptoms worst in early morning
- 5. 1st degree relative with RA
- 6. Difficulty making a fist
- 7. Positive MCPJ or MTPJ squeeze test

A score of 3+/7 is consistent with "Clinically Suspected Arthralgia"

Advice for Physiotherapists **Suspecting Rheumatoid Arthritis**

34948 J March

Stage 1

Diagnosing "Clinically Suspected Arthralgia"1

- 1 Joint Symptoms of recent onset (<1 year)
- 2. MCPJs affected
- Morning stiffness (>60 mins) 3.
- Symptoms worst in early morning 4.
- 1st degree relative with RA 5
- 6. Difficulty making a fist
- 7. Positive MCPJ or MTPJ squeeze test

A score of 3+/7 is consistent with "Clinically Suspected Arthralgia"1

Stage 2

Assessing level of risk (patient scores 3+ on above or clinician retains high suspicion)

Leiden Clinical Prediction Rule.²

1.	What is the age in years? Multiply by 0.02			
2.	What is the sex?			
	а.	In case Female	1 point	
З.	What is the distribution of involved joints?			
	а.	In case small joints hands/feet:	0.5 point	<u>62</u>
	b.	In case symmetric	0.5 point	28
	с.	In case upper extremities	1 point	-
	d.	In case upper and lower extremities	1.5 points	1.41
4.	What is the score for morning stiffness on a 100-mm VAS?			
	а.	In case 26-90 mm	1 point	121
	b.	In case >90mm	2 points	
5.	What is the number of tender joints?			
	а.	In case 4-10	0.5 points	
	b.	In case 11 or higher	1 point	2
5.	What is the number of swollen joints?			
	а.	In case 4-10	0.5 points	
	b.	In case 11 or higher	1 point	28
7.	What is the C-reactive protein level?			
	а.	In case 5-50 mg/litre	0.5 points	
	b.	In case 51 mg/lire or higher	1.5 points	
8.	Is the patient Rheumatoid Factor positive?			
	а.	If yes	1 point	2
9.	Are the anti-CCP antibodies positive?			
	а.	lf yes	2 points	
			Total score	



Stage 3

Clinical application.

If clinically suspected Arthralgia is present and/or score of 8+ on Leiden CPR further investigations are warranted.

If clinician retains suspicion but above scores are not met due to lack of investigations completed or other reasoning commence further investigations.

Proceeding in presence of suspected RA risk

- 1. Referral to Rheumatology must be completed as a matter of priority before requesting any other investigations.
 - a. Discuss with local Rheumatology department regarding procedure/access.
- 2. If able request following investigations
 - a. C-Reactive Protein blood test
 - b. ESR blood test
 - c. Rheumatoid Factor blood test
 - d. Anti-CCP blood test

Stage 4

Advise patient on modifiable risk factors. These can reduce likelihood of progression to RA a. Smoking

- b. BMI
- c. Diet

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Note

Differential Diagnoses - other conditions can masquerade similar to Rheumatoid Arthritis. These may have differing onset, associated symptoms/conditions and presentations.

Gout, Other inflammatory arthropathy (Psoriatic Arthritis, Lupus, Axial Spondyloarthropathy, Reactive Arthropathy), Osteoarthritis, Persistent pain conditions.

This document is a guide only, it should not replace clinical reasoning or judgement. If unsure seek further advice as appropriate.

1. van Steenbergen et al. EULAR definition of arthralgie suspicious for progression to theumatoid arthritis. Ann Rheum Dis 2017;76:401-496.

2. van der Helm-van Mil et al. A Prediction Rule for Disease Outcome in Patients With Recent Onset Undifferentiated Arthritis. ARTHRITIS & RHEUMATISM 2017 56(2):433-440

3. Michally et al. Diagnostic accuracy of a clinical prediction rule (CPR) for identifying patients with recent-onset undifferentiated arthetits who are at a high risk of developing theumatoid arthritis: A systematic review and meta-analysis. Seminars in Arthritis and Rheumatism 2014 43:498-507

A score of 9+ is optimal prediction, 8+ is high risk.3





34968

J March







Priority 1 - RHEUMATOLOGY

Bloods – ESR, CRP, Anti-CCP, RF

U/SAdvice

Stage 4

Advise patient on modifiable risk factors. These can reduce likelihood of progression to RA

- a. Smoking
- b. BMI
- c. Diet

Differential Diagnosis



RHEUMATOLOGY, PHYSIO

Differential Diagnosis



Gout

- Other Inflammatory Arthropathy (PsA, AxSpA, Lupus, Reactive Arthritis)
- Osteoarthritis
- Persistent pain conditions
- Ca



Spondyloarthritis



RHEUMATOLOGY.PHYSIO

A painful, progressive form of inflammatory arthritis. It mainly affects the spine but can also affect other joints, tendons, ligaments, eyes and bowels. (NASS website)

Inflammatory Back Pain



Stiffness Nocturnal pattern Better with activity/worse with rest Onset. Insidious <45</p> Improvement with anti-inflammatories

Extra articulars

- Psoriasis
- Inflammatory Bowel Disease
- Uveitis
- Crohns/colitis
- Dactylitis
- Enthesitis

• Fibromyalgia











SCREEND'EM BEFORE YOU TREAT'EM

A clinical tool to help identify spondyloarthropathy (SpA) in patients with tendinopathy.



6-42% of patients with psoriasis develop psoriatic arthritis.

COLITIS OR CHROHN'S.......



Arthritis is one of the most common extra-intestinal manifestations of inflammatory bowel disease. The prevalence of SpA in patients with Chrohn's is estimated to be 26% at 6 year follow up.

RELATIVES



There is a strong relationship between SpA and HLA-B27 positive patients.

Family members of patients with SpA who are JLLCCV HLA-B27 positive have a 16-fold increase chance of developing ankylosing spondylitis if they are also HLA-B27 positive.



Acute anterior uveitis (AAU) can cause a painful, red eye with photophobia and blurred vision. 40% of patients presenting with idiopathic AAU have undiagnosed SpA. 50% of patients with AAU are HLA-B27 positive and >50% of these have SpA.

EARLY MORNING STIFFNESS

Inactivity related stiffness that lasts for more than 30 minutes is suggestive of inflammatory disease.

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NAILS

Nail lesions occur in 87% of SpA patients and include:



- small depressions in the nail (pitting) - thickening of the nails -painless detachment from the nail bed (onchylosis).

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DACTYLITIS

Sausage like swelling of the digits is a hallmark sign of psoriatic arthritis, occuring in 50% of cases.

ENTHESITIS

98% of SpA patients have at least one abnormal enthesis. The most common sites are the Achilles tendon, plantar fascia and patellar tendon.

MOVEMENT & MEDICATION EFFECT

SpA patients report improvement with activity but not with rest, and a favourable response to NSAIDs.

Created by Paul Kirwan







Thanks to: Paul Kirwan @pdkirwan



Name.....Date of Birth.....Date...

Tendon Health Questionnaire

Tendon health can be influenced by a host of different factors. Please spend a few minutes completing this questionnaire so we can use the information to help form the best treatment plan for you.

Please tick any boxes that apply to you then your therapist will discuss this with you in more detail;

Past medical history

Have you or any member of your immediate family had any history of the following?

Ankylosing Spondylitis Psoriasis or Psoriatic arthritis Reumatoid Arthritis Thyroid problems

Medication

Have you taken any of the following medications in the last year? Please provide the names if known;

Antibiotics D Statins Steroids Medication names...

General Health

Height Weight BMI (if known).....

Have you had any of the following symptoms in the last year?

Early morning stiffness Red, hot swollen joints Eye problems (redness, pain, blurred vision)

Any history of stress, anxiety, or depression? Yes 🔲 No 🔲

Mental well being at present - please tick which best applies to you;

I am not anxious, stressed or depressed I am moderately anxious, stressed or depressed I am extremely anxious, stressed or depressed I

On average, how many hours sleep do you get per night?..... Do you wake feeling refreshed? Yes 🔲 No 🔲

Do you have raised cholesterol? Yes **1** No **1** or high blood pressure? Yes **1** No **1** Are you approaching the menopause? Yes **1** No **1** Are you a smoker **1** Ex-smoker **o** r non-smoker **1** (please tick as appropriate)

Do you worry about causing lasting damage to your tendon? Please tick one answer that best applies to you at present;

Never 🔲 Seldom 🔲 Quite often 🔲 Very often 🔲 Always 🔲

Thank you for completing this form!



Thanks to:

Tom Goom @tomgoom

www.running-physio.com/tendonq/







Priority 1 - RHEUMATOLOGY

Bloods – ESR, CRP, HLA-B27
MRI (SpA protocol)
Anti-Inflammatories?



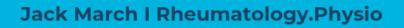


Whole spine and SIJs
Sagittal T1 and STIR
Talk to your Radiology department!

Example MRI referral – Suspected Spondyloarthritis, coronal images of SIJs, sagittal images of whole spine, please include T1 and STIR sequences.

Differential Diagnosis





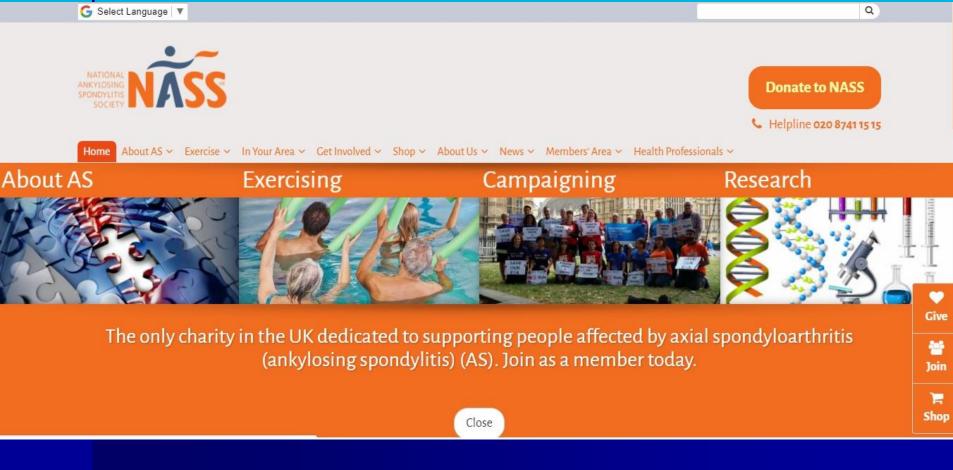


DISH

- Back pain (non specific...)
- Vertebral Fracture
- Reactive arthritis (gastroenteritis etc)
- IBD related (crohns, ulcerative colitis)
- Discitis
- Boney metastasis



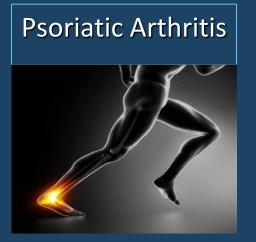
 Pagets (SIJ fusion)
 Osteitis Condensans



NASS.co.uk







Inflammatory joint disease associated with Psoriasis (Ps) Prevalence in Ps population is c. 30%

https://www.psoriatic-arthritis.co.uk/

A proportion will have arthropathy symptoms prior to skin involvement... (15-20%)

Extra articulars



- Current, history or family history Psoriasis
 Nail pitting
 Dactylitis
 Inflammatory back pain
 - Enthesitis

Nails...





Nails...







SCREEND'EM BEFORE YOU TREAT'EM

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Created by Paul Kirwan







Thanks to: Paul Kirwan @pdkirwan



Priority 1 – RHEUMATOLOGY



- Bloods ESR, CRP, RF*, (HLA-B27**)
- MRI/ultrasound
- Anti-Inflammatories?
- Dermatology?

* -ve 87% ** 50-60%

Case study time



Gout/Pseudogout

- Sudden onset often at night
- Swelling, heat, redness, pain peaking after a few hours
- Attack lasts a few days then settles
- 1/14 men (anytime after puberty), 1/35 women (uncommon before menopause)
- Risk factors, BMI (especially abdominal), alcohol (especially beer ②), FH, DM, vascular conditions (MI, Stroke, high BP, PVD, high cholesterol)



Fibromyalgia









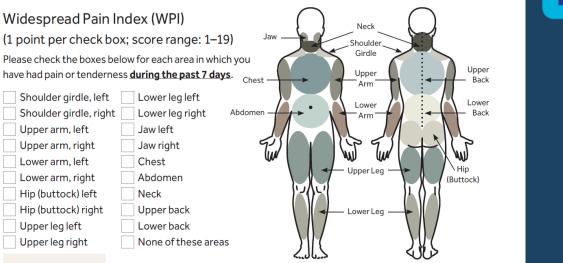
Table 3Fibromyalgia criteria—2016 revision

Criteria

A patient satisfies modified 2016 fibromyalgia criteria if the following 3 conditions are met:

- (1) Widespread pain index (WPI) \geq 7 and symptom severity scale (SSS) score \geq 5 OR WPI of 4–6 and SSS score \geq 9.
- (2) Generalized pain, defined as pain in at least 4 of 5 regions, must be present. Jaw, chest, and abdominal pain are not included in generalized pain definition.
- (3) Symptoms have been generally present for at least 3 months.
- (4) A diagnosis of fibromyalgia is valid irrespective of other diagnoses. A diagnosis of fibromyalgia does not exclude the presence of other clinically important illnesses.

Fibromyalgia



FRONT

WPI score:

BACK

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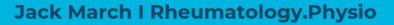
RHEUMATOLOGY, PHYSIO

Fibromyalgia

Symptom Severity (score range: 1–12)

For each symptom listed below, use the following scale to indicate the severity of the symptom **during the past 7 days**.

	No	Slight or mild	Moderate	Severe						
	problem	problem	problem	problem						
Points	0	1	2	3						
A. Fatigue										
B. Trougle thinking or remembering										
C. Waking up tired (unrefreshed										
During the past 6 months have you had any of the following symptoms?										
Points	0	1								
A. Pain or cramps in lower abdomen	No	Yes								
B. Depression	No	Yes								
C. Headache	No	Yes								
SS score:										





Osteoporosis

- Incidence increases with age
- Uncommon prior to age 50
- 2:1 Female:Male

- Over 1/3 women and 1/5 men will sustain a fragility fracture in their lifetime
- At age 75-84 the absolute 10 year risk for sustaining a fragility fracture is approx. 24% for women and 14% for men.

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Osteopenia

RHEUMATOLOGY.PHYSIO

Osteoporosis



- Early menopause
- Low BMI
- Crohns/colitis/IBD
- Inflammatory Arthropathies
- Smoking/high alcohol intake
- Eating disorders or food intolerances
- Cancer

- Parental fractured neck of femur
- Osteoporosis

RED-S (Relative Energy Deficiency in Sport



Osteoporosis



<u>FRAX</u>DXA scan

Mostly GP managed, Rheum for biologics

Physio for loading program

Case study time



Assessment



- Subjective
- Objective
- Ongoing Monitoring

- Aims and Objectives of treatment

Assessment

- Subjective
 - Disease control
 - Function
 - Sleep
 - Mental health
 - Understanding
 - Goals



Assessment

- Objective

- Range of motion
- General conditioning
- Functional tasks
- Specific joint assessment*





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- Ongoing monitoring
 - Bath indices yearly
 - QRisk yearly
 - FRAX 5 years*

Treatment



- Specific management
- Guidelines
- Signposting





Psoriatic Arthritis



Spondyloarthropathy

Rheumatoid Arthritis



Rheumatoid Arthritis



RHEUMATOLOGY, PHYSIO

A progressive, (symmetrical) form of autoimmune arthritis, usually involving the small joints of the hands and/or feet. Multi-systemic, can affect the heart, lungs and eyes.

(NRAS website)

and one of more DWARDS. (D)

- (12) Patients with RA require early assessment of sleep patterns.
 (A). Early management of sleep disturbance should include tricyclic agents, behavioural therapy and exercise. (B). Consider the impact of fatigue on quality of life in early RA. (B)
- (13) Evidence for effectiveness of complementary therapy is conflicting. (B)
- (14) Timing and format (group/individual/written) of education to meet individual needs should be considered. (A). Patients should be offered a cognitive behavioural approach to patient education, delivered at the appropriate time, to promote long-term adherence to management strategies (C). Patients should be helped to contact support organizations such as the National Rheumatoid Arthritis Society (NRAS), Arthritis Care (AC) and the Arthritis Research Campaign (ARC). (B)
- (15) Patients should be encouraged to pace activities and recognize the limits of physical activity, facilitating a realistic readjustment of expectations. Patients should be helped to participate in exercise programmes. (C)
- (16) Aerobic exercise should be encouraged to help combat the effects of RA on muscle strength, endurance and aerobic capacity, without, in the short-term, exacerbating disease activity or joint destruction. (B)
- (17) Hydrotherapy should be accessible to maximize positive effects on pain, function and self-efficacy. (C)



(19) Heat and cold applications may provide short-term symptomatic relief of pain and stiffness, but there is no grade of recommendation of long-lasting benefit. Paraffin wax baths and exercise are beneficial for hands in arthritic conditions. (C)

Targets for treating





Targets for treating



Hand based treatment is suggested for all diagnosed.

Development and delivery of an exercise intervention for rheumatoid arthritis: Strengthening and stretching for rheumatoid arthritis of the hand (SARAH) trial

Heine, P.J. et al.

Physiotherapy, Volume 98, Issue 2, 121 - 130

Table 3 SARAH exercise programme.

	Exercise	Frequency	Sets	Repetitions	Initial Hold	Initial Load	Progression
Mobility	MCP flexion	Daily	1	x 5 5 seconds (where required)			
	Tendon gliding						
	Finger radial walking					Step 1: Increase up to 10 repetitions	
	Wrist circumduction				x 5 (where required)	-	Step 1. Increase up to 10 repetitions
Σ	Finger abduction					Step 2: Increase up to 10 second holds	
	Hand-behind-head						
	Hand-behind-back						
Strength	Eccentric wrist extension	- Daily	Daily 1	x 10 (minimum 8 repetitions; maximum 12 repetitions)	-	between 3 to 4 on modified 10 pt Borg Scale	Step 1: 2 x 10 repetitions
	Gross grip						Step 2: 4 - 5 on Borg Scale
	Finger adduction						Step 3: 5 - 6 on Borg Scale
	Pinch grip						Step 4: 3 x 10 repetitions





MCP flexion



Finger abduction





circumduction



Tendon gliding





Combined shoulder & elbow ROM



Radial walking



Eccentric

wrist extension



Finger pinch





Finger adduction

Joint dysfunction related to Rheumatoid Arthritis

JACK MARCH BSc (Hons) MCSP

Clinical Lead, Chews Health Rheumatology Clinic

Rheumatoid Arthritis (RA) can have a seriously deleterious effect on joint function and, while medical advances have made good strides in improving function and quality of life over the long term, for people diagnosed, management of these dysfunctions remains a necessity. Physiotherapists can play a pivotal role in providing education and interventions to manage joint dysfunction as part of the multidisciplinary team.

LEARNING OUTCOMES TO SUPPORT PHYSIO FIRST QAP

- 1 Overview and characteristics of Rheumatoid Arthritis.
- 2 The impact of Rheumatoid Arthritis on joint function.
- 3 Physiotherapy management.
- 4 Practical considerations.

lates deca

a common association. Previously, it was thought that ulnar drifted metacarpal phalangeal joints (MCPJs) and large joint replacements at a young age were an inevitability. Advances in management from our medical colleagues, with earlier interventions and more efficacious medications, means that this is no longer the case for many, if not most, of those newly diagnosed with RA.

The same in the second second second from

management strategies that will benefit their joint function, RA management and general health in the long term.

Overview and characteristics of Rheumatoid Arthritis

RA is a chronic inflammatory disease characterised by joint swelling, joint tenderness and destruction of synovial joints (figures 1 and 2), leading to severe disability and premature



GY.PHYSIO

Spondyloarthropathy



RHEUMATOLOGY.PHYSIO

A painful, progressive form of inflammatory arthritis. It mainly affects the spine but can also affect other joints, tendons, ligaments, eyes and bowels. (NASS website)

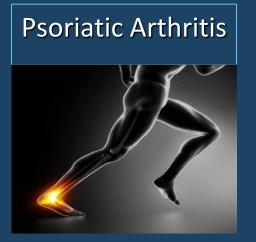
- 1.5 Non-pharmacological management of spondyloarthritis
- 1.5.1 Refer people with axial spondyloarthritis to a specialist physiotherapist to start an individualised, structured exercise programme, which should include:
 - stretching, strengthening and postural exercises
 - deep breathing
 - spinal extension
 - range of motion exercises for the lumbar, thoracic and cervical sections of the spine
 - aerobic exercise.
- 1.5.2 Consider hydrotherapy as an adjunctive therapy to manage pain and maintain or improve function for people with axial spondyloarthritis.
- 1.5.3 Consider a referral to a specialist therapist (such as a physiotherapist, occupational therapist, hand therapist, orthotist or podiatrist) for people with spondyloarthritis who have difficulties with any of their everyday activities. The specialist therapist should:
 - assess people's needs
 - provide advice about physical aids
 - arrange periodic reviews to assess people's changing needs.



Targets for treating







Inflammatory joint disease associated with Psoriasis (Ps) Prevalence in Ps population is c. 30%

https://www.psoriatic-arthritis.co.uk/

A proportion will have arthropathy symptoms prior to skin involvement... (15-20%)

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Targets for treating





Treatment



Acknowledgement of co-morbidities

- Depression (30%)
- Obesity (>RA + >gen pop)
- Smoking

Treatment

Plan Holistic Global Specific Reassuring



Holistic

Sleep
Smoking
Positioning
Education







General fitness
Proximal and Peripheral
Meaningful





Task Specific
Patient load specific
Sufficient

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ReasoningPromote robustness



Target Based Treatment



- Acupuncture/Dry needling etc.
- Manual Therapy etc.
- Electrotherapy etc.

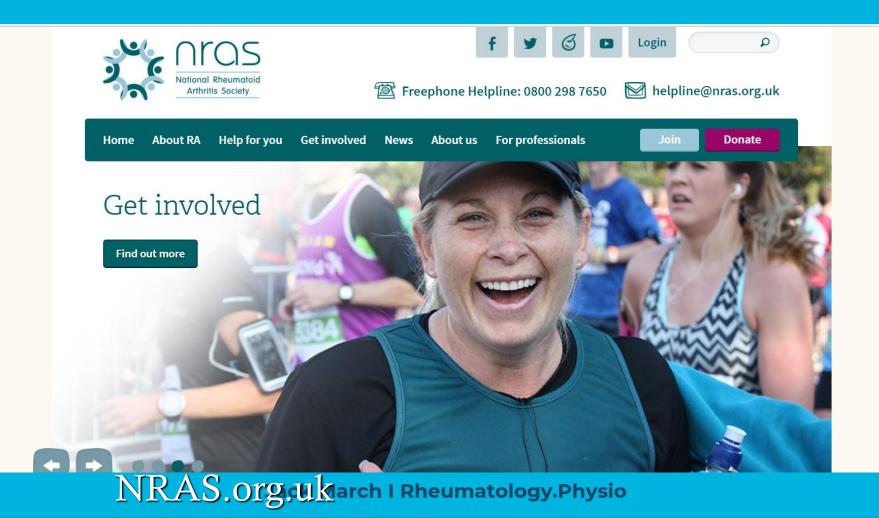
Signposting



🔓 Select Language 🔻			٩	
NATIONAL ANKYLOSING SPONDYLITIS SOCIETY			Donate to NASS	
Home About AS 🛩 Exercise 🛩	In Your Area 🛩 Get Involved 🛩 Shop 🛩 .	About Us 👻 News 🛩 Members' Area 🛩 Health Profess	ionals ~	
oout AS	Exercising	Campaigning	Research	
	B			
				♥ Give
The only charity		apporting people affected by axia is) (AS). Join as a member today.		< Join
		Close) Shop

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Ab



Case study time



Take home messages



Be vigilant for inflammatory symptomology
Get friendly with your Rheumy
Get friendly with your Radiologist

Thank you



