

Ankylosing Spondylitis

– an update for orthopaedic trainees



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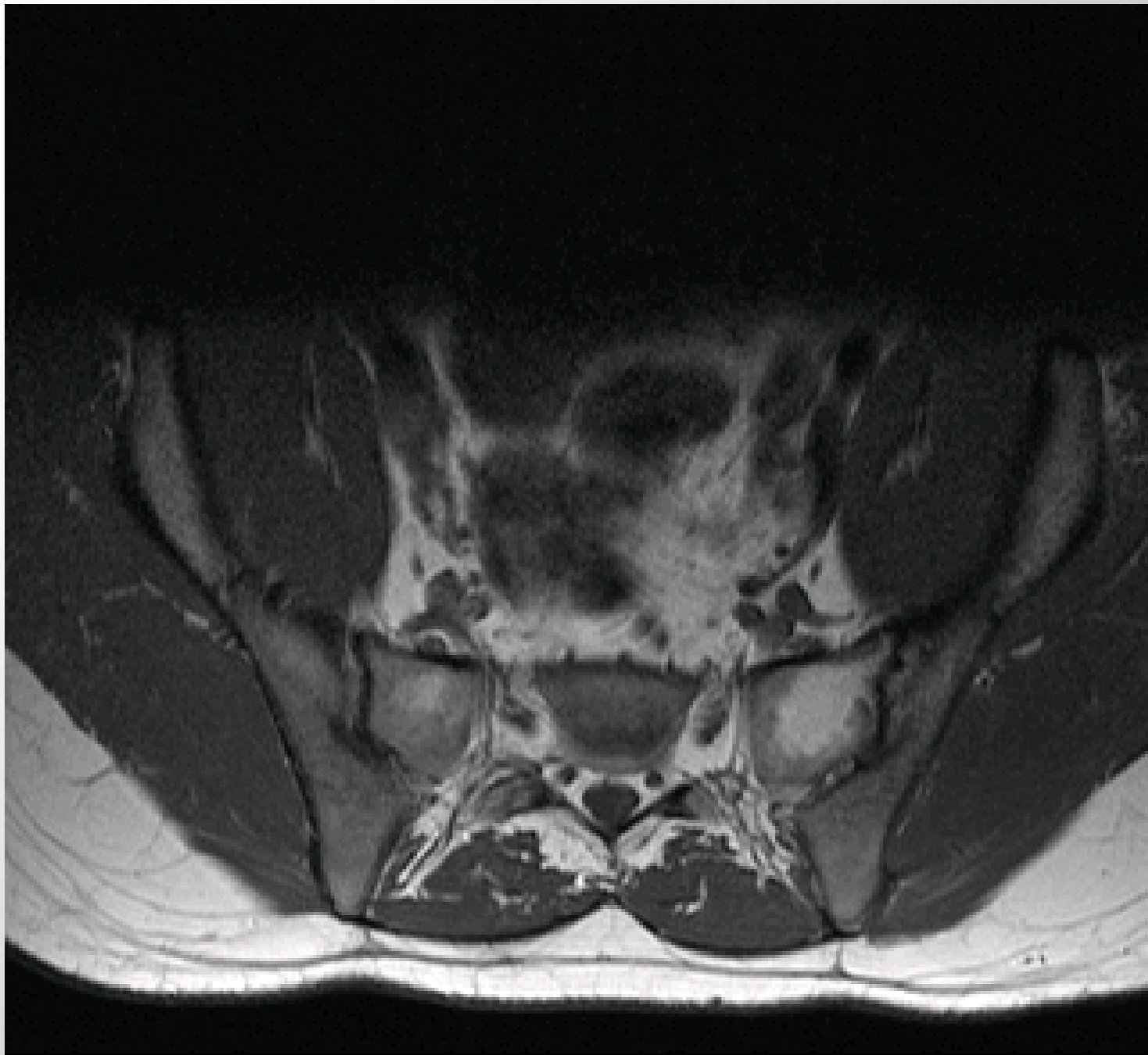
Aims

- To be able to recognise patients with inflammatory back pain (IBP)
- Understand which patient groups are at increased risk of spondyloarthritis
- Be aware of referral routes and sources of advice regarding these patients
- Understand medical treatment options for patients with ankylosing spondylitis (AS)

28 year old ♂

- Oct 2014 – Early arthritis clinic
 - 6 months persistent R great toe IPJ swelling
 - no response to treatment for gout / infection by GP
 - no trauma
 - few axial spine symptoms, but restricted ROM
 - L ankle a little painful and stiff
 - no psoriasis or IBD symptoms
 - iritis 2010

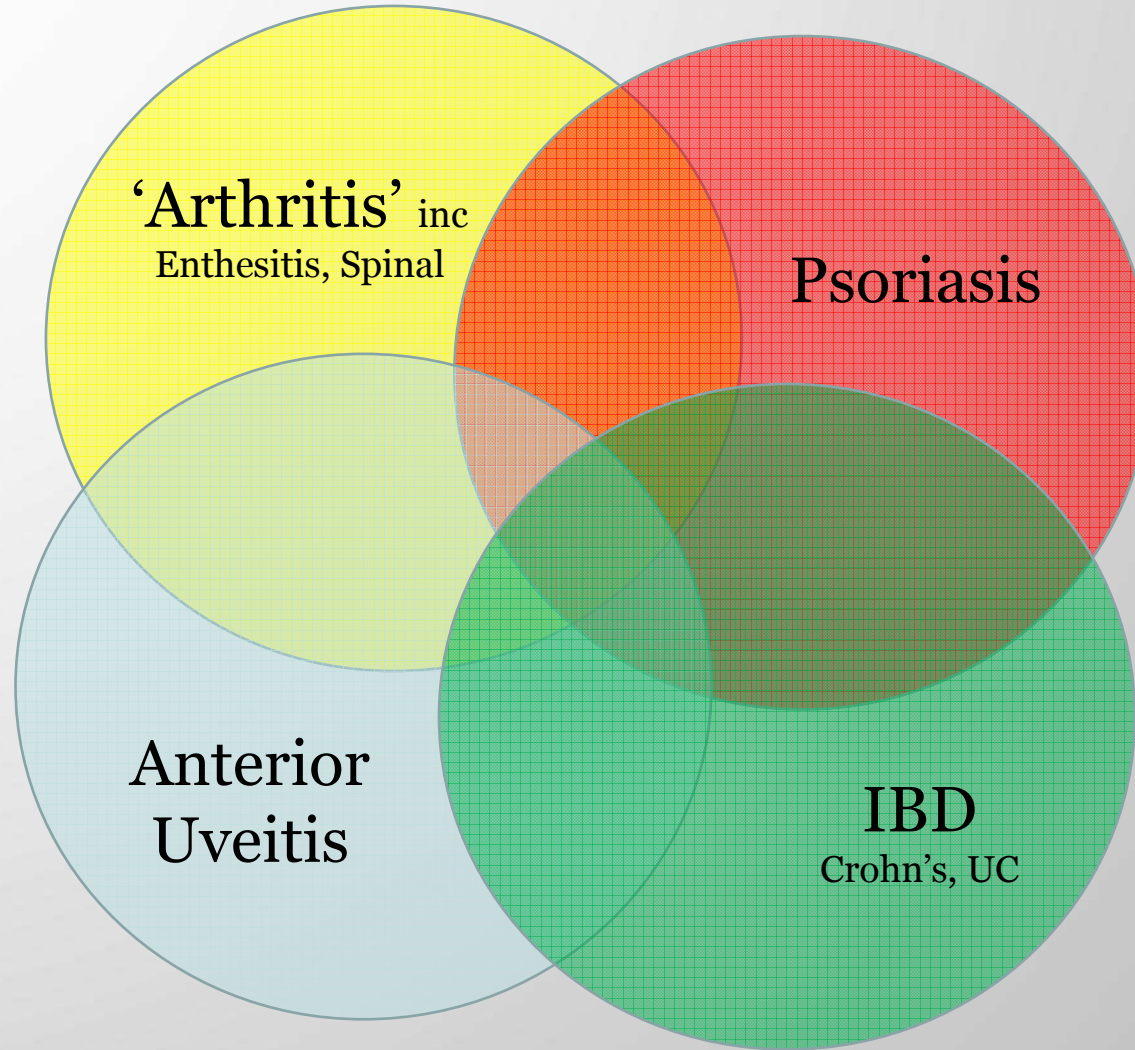
- CRP 10, ESR 21
- HLA B27 +, CCP-, RF-
- X-ray hands, feet, CXR unremarkable
- MSK US
 - synovitis affected IPJ
 - tenosynovitis peroneal tendons
 - plantar fascia thickened
- MRI SIJs
 - L sided erosions and fatty change on T1
 - No bone oedema on STIR sequences





- US guided great toe IPJ injection
- Naproxen + PPI
- Methotrexate and folic acid
- Physiotherapy
- Measures of disease activity – will he qualify for anti-TNF?

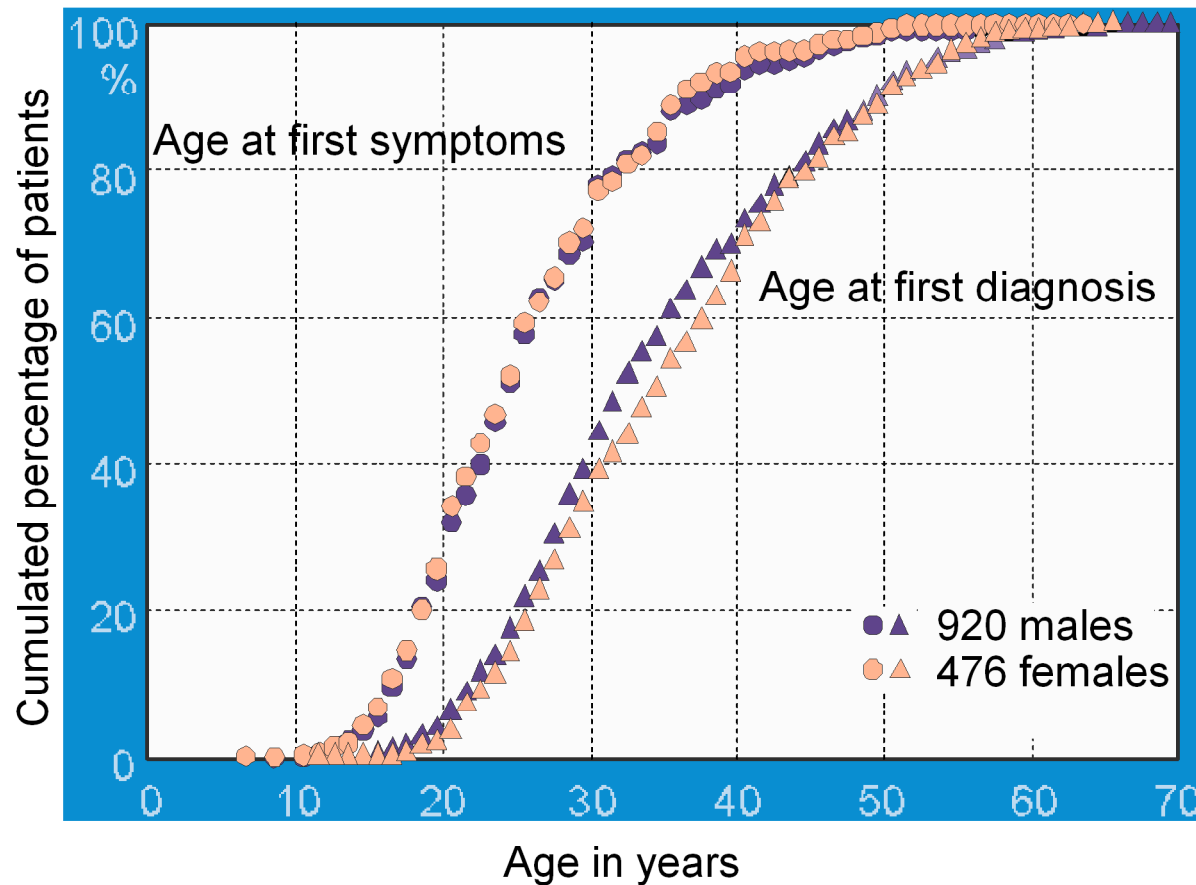
The 'Spondyloarthritis' (SpA) Concept



Ankylosing Spondylitis

- <0.5% Caucasian population have classic AS.
- Mild forms (axial SpA) more common ~1%
- ‘Axial spondyloarthritis’ – pre-radiographic form – ie no Xray changes, but MRI changes seen
- Classic AS male:female 10 : 1
- AxSpA m:f ~equal
- Onset peak 17 - 25
- Average age diagnosis mid/late 20’s
- Delay to diagnosis is common

Age at First Symptoms and at First Diagnosis in Ankylosing Spondylitis Patients



Average delay in diagnosis: 9 years

Modified New York Criteria for Ankylosing Spondylitis (1984)

1. Clinical criteria:

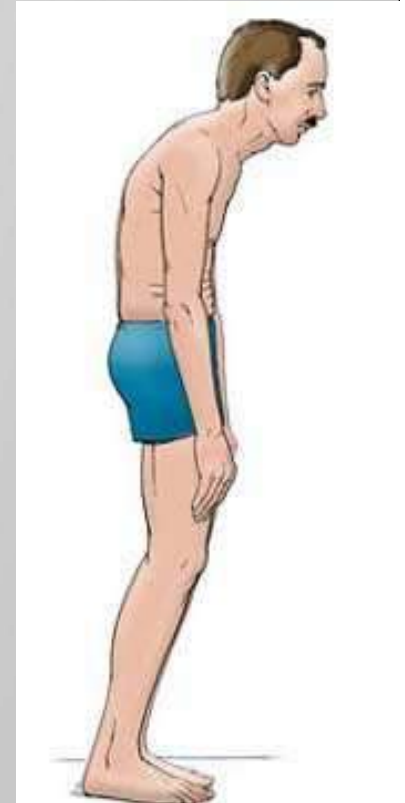
- a. Low back pain and stiffness for more than 3 months which improves with exercise, but is not relieved by rest.
- b. Limitation of motion of the lumbar spine in both the sagittal and frontal planes.
- c. Limitation of chest expansion relative to normal values correlated for age and sex.

2. Radiological criterion:

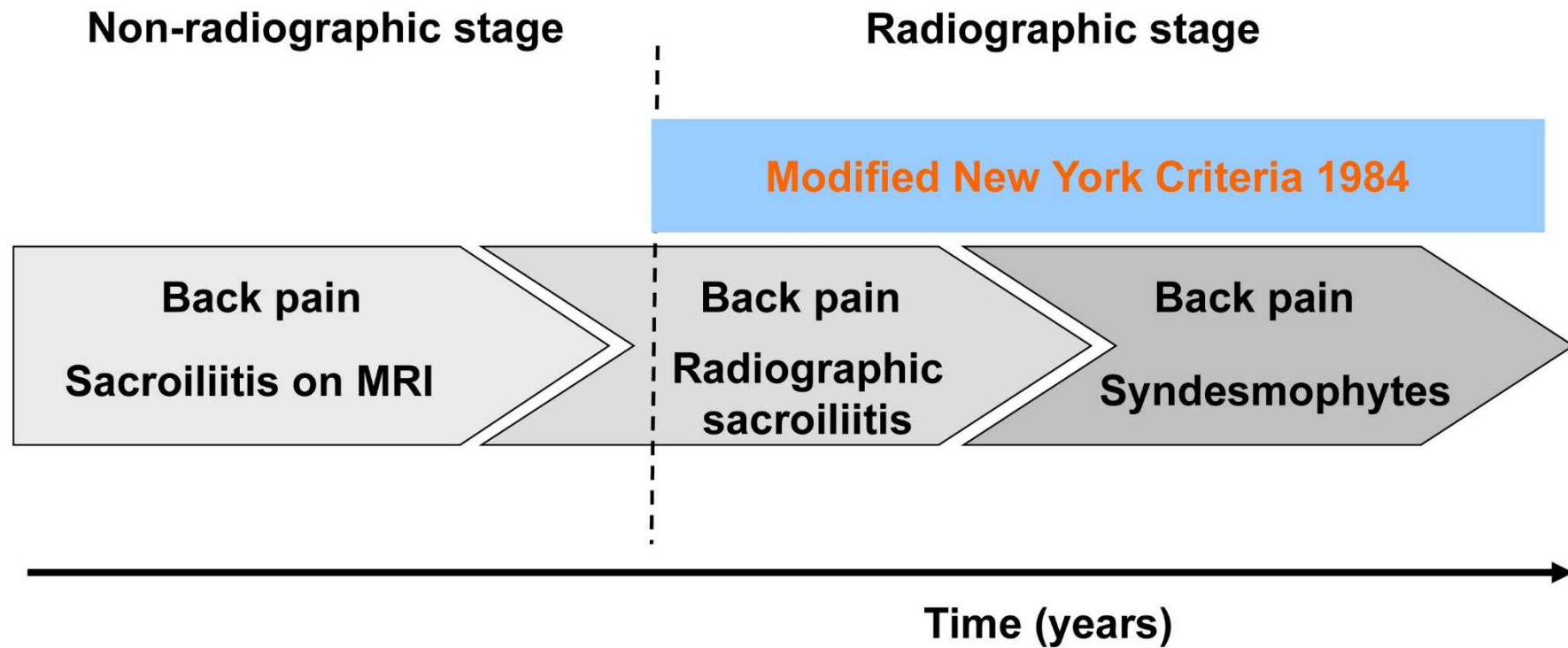
Sacroiliitis grade ≥ 2 bilaterally or grade 3-4 unilaterally

Definite ankylosing spondylitis if the radiological criterion is associated with at least 1 clinical criterion.





Axial Spondyloarthritis



AS Clinical Features

- low back pain
- waking at night with back pain
- morning stiffness
- alternating 'buttock pain'
- tender SI joints
- enthesitis
- dactylitis
- peripheral arthritis
- typical posture in late disease
- fatigue
- systemic symptoms

Inflammatory Back Pain (IBP) According to Various Criteria

Calin et al.¹

- age at onset < 40 yrs
- duration of back pain > 3 months
- insidious onset
- morning stiffness
- improvement with exercise

IBP if 4 / 5 are present.

Rudwaleit et al.²

- morn. stiffness > 30 min
- improvement with exercise, not with rest
- awakening at 2. half of the night because of pain
- alternating buttock pain

IBP if 2 / 4 are present.

IBP experts (ASAS)³

- age at onset < 40 yrs
- insidious onset
- improvement with exercise
- no improvement with rest
- pain at night
(with improvement upon getting up)

IBP if 4 / 5 are present.

1 Calin A et al. JAMA 1977;237:261; 2 Rudwaleit M et al. Arthritis Rheum 2006;54:569-78; 3 Sieper J et al. Ann Rheum Dis. 2009; 68: 784-788



Key Investigations

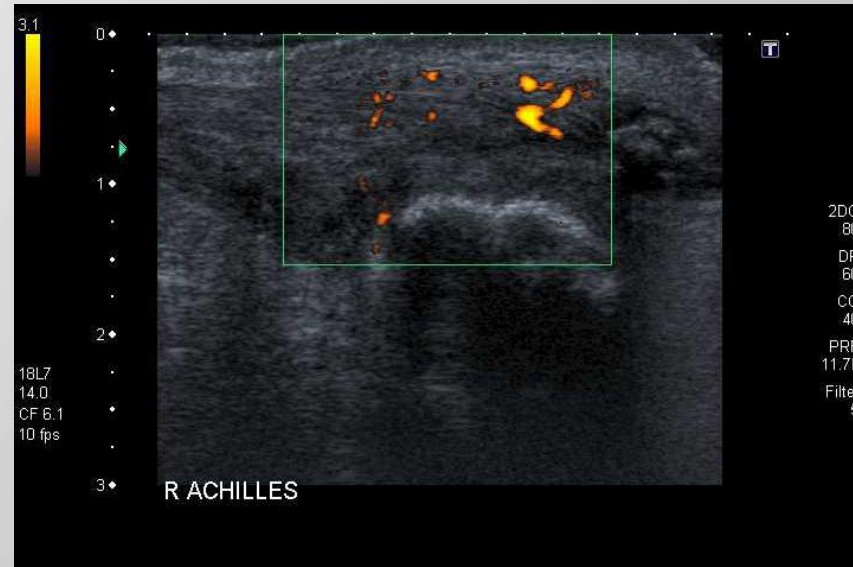
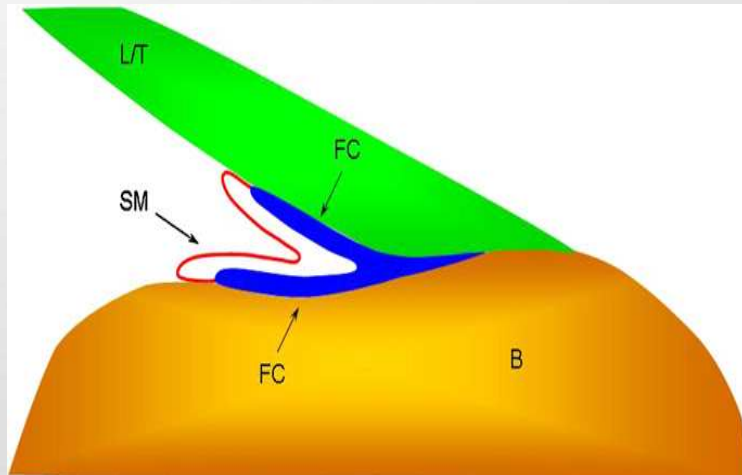
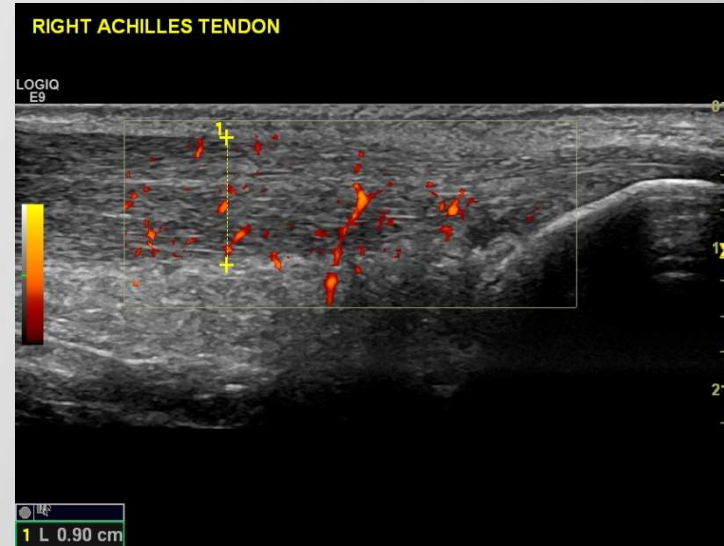
- CRP, ESR
- HLA B27
- MRI SIJs – STIR sequence
- X-rays
- MSK US – entheses / joints / tendons
- Consider other systems
 - osteoporosis / OSA / respiratory function / eyes / bowel / skin / cardiac
- If considering anti-TNF
 - infection, esp TB
 - CXR, Quantiferon Gold

Enthesitis

Enthesitis (Insertion of Achilles Tendon at Calcaneus) Right Heel



ASAS

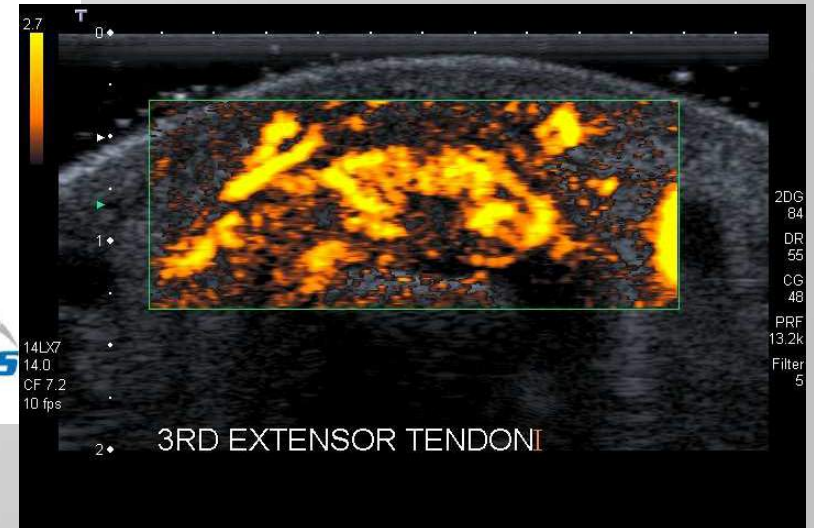
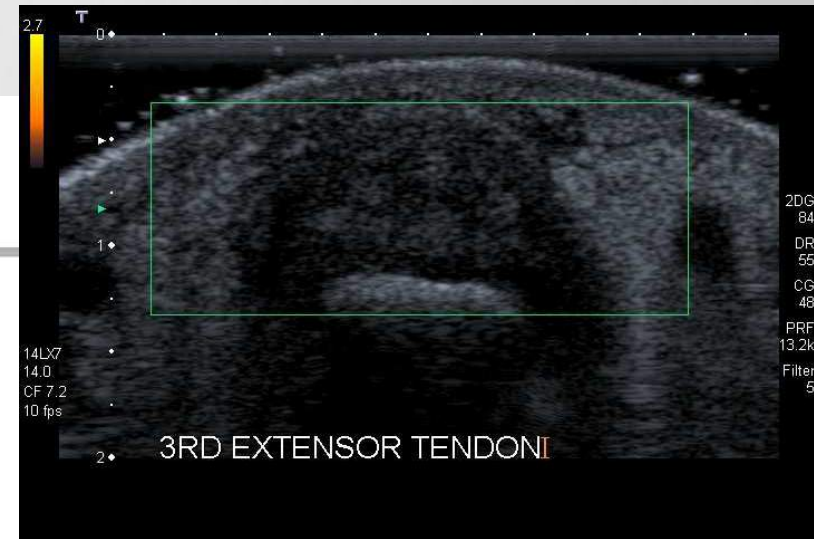


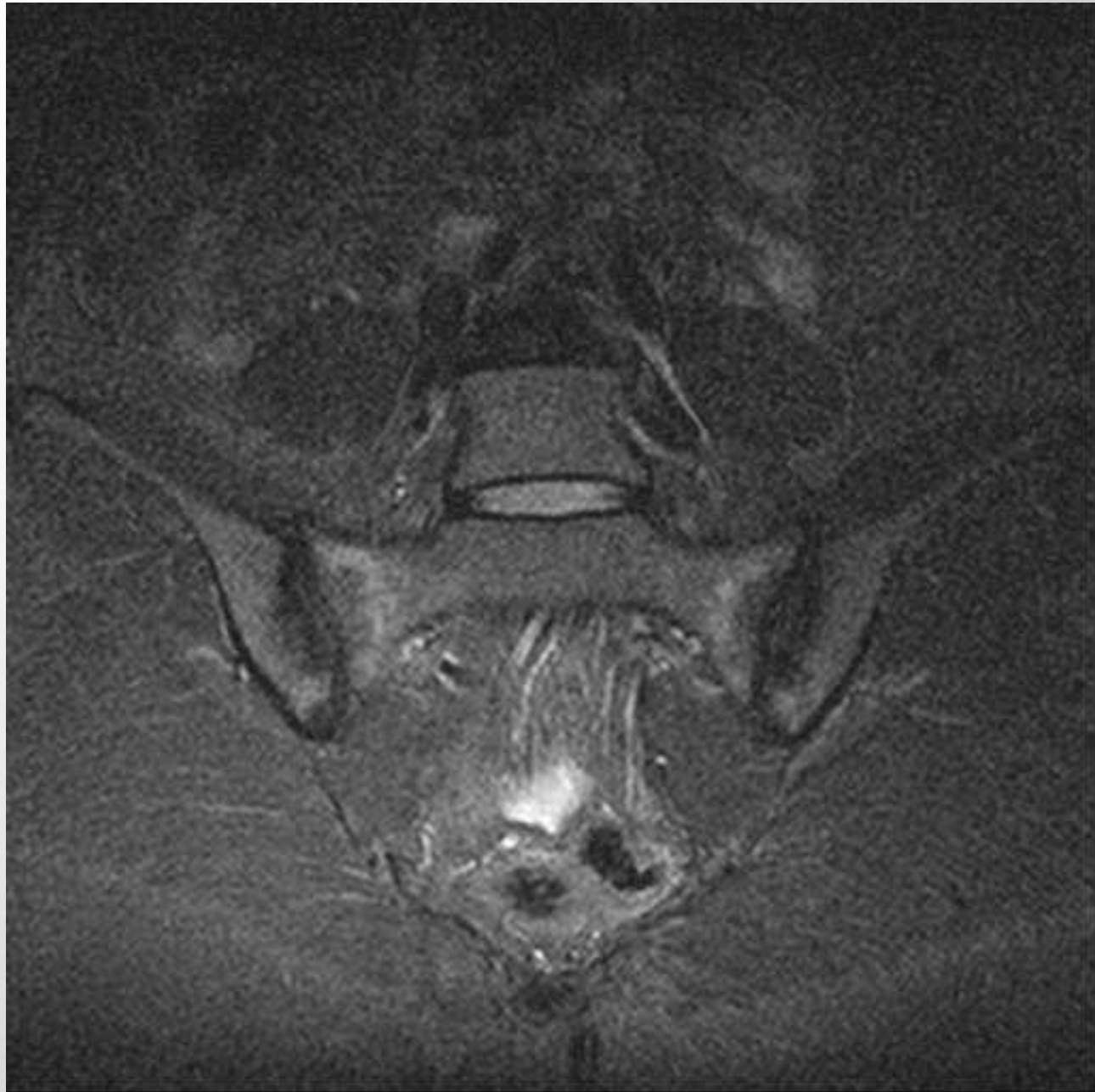
Dactylitis

Dactylitis



* Psoriasis plaque lesions

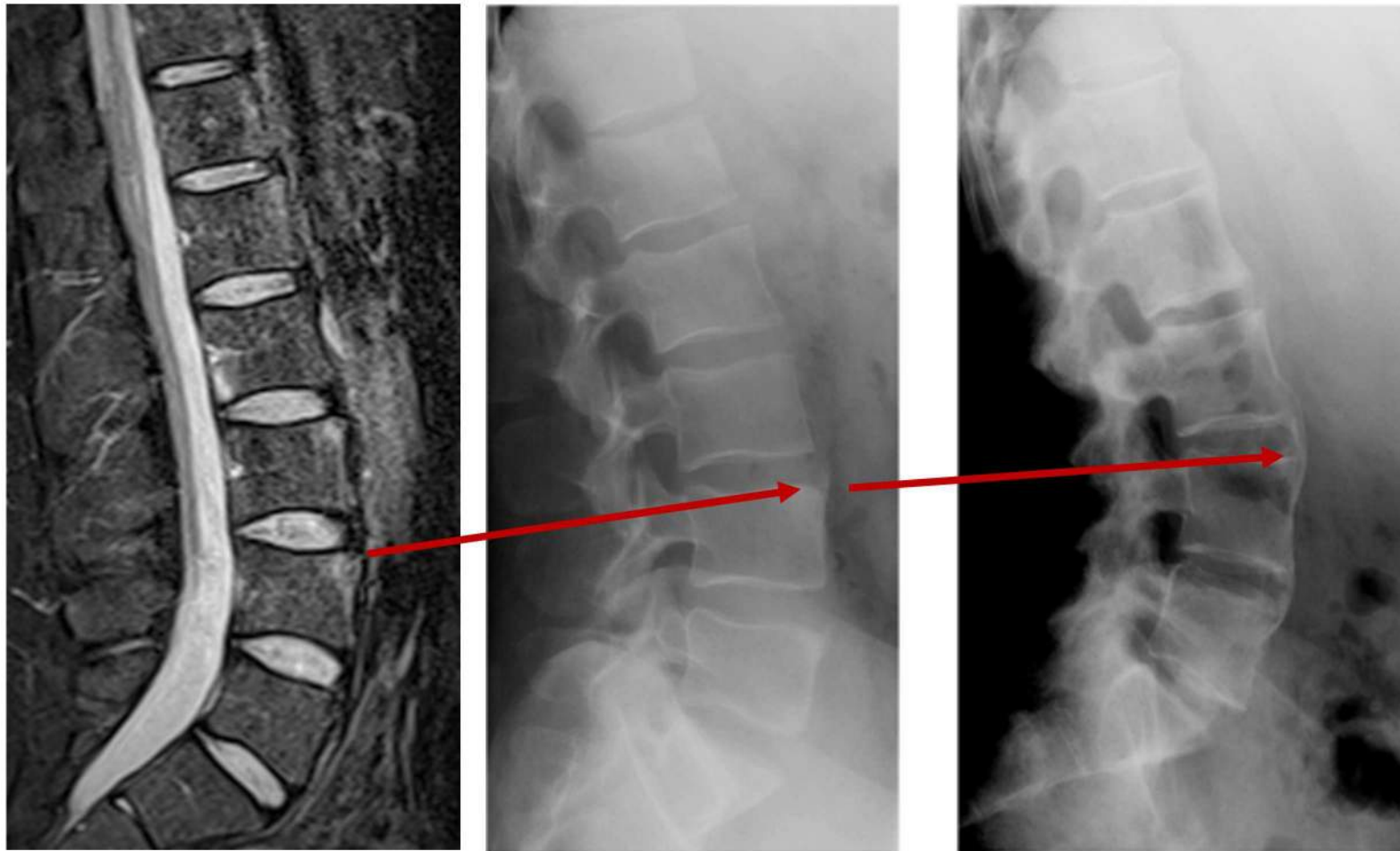








How Does Ankylosis Develop from Inflammation? Can Ankylosis Be Retarded/Prevented?



Sacroiliitis Grade 3 Bilaterally



Newcastle SpA Clinic

- Multidisciplinary clinic
 - Lesley Kay, Michelle Rutherford, Maureen Motion
- 240 patients on anti-TNF for AS
- 150 patients with PsA
- Collaborative working with dermatology, gastroenterology and ophthalmology

Treatments

- NSAIDs
 - At least two for greater than 4 weeks
- Conventional DMARDs
 - Methotrexate, sulfasalazine
 - for inflammatory peripheral symptoms only
- Physiotherapy and education
- CT guided SI joint injections
- (iv bisphosphonates)
- anti-TNF

Anti-TNF in Ankylosing Spondylitis

- NICE approval and guidance 2008 (TA143)
 - Etanercept
 - Adalimumab
 - Not infliximab
 - Golimumab (2011)
- Very effective improvement in inflammation and symptoms
- Risk / fear of side effects
- Unproven effect on new bone formation

Do they meet NICE criteria?

Please place a mark on each line below to indicate your answer to each question, relating to the past week .

1. How would you describe the overall level of fatigue/tiredness you have experienced?
NONE _____ VERY SEVERE
0 10
2. How would you describe the overall level of AS neck, back or hip pain you have had?
NONE _____ VERY SEVERE
0 10
3. How would you describe the overall level of pain/swelling in joints other than the neck, back or hips you have had?
NONE _____ VERY SEVERE
0 10
4. How would you describe the overall level of discomfort you have had from any areas tender to touch or pressure?
NONE _____ VERY SEVERE
0 10
5. How would you describe the overall level of morning stiffness you have had from the time you wake up?
NONE _____ VERY SEVERE
0 10
6. How long does your morning stiffness last from the time you wake up?

0hrs ½ hr 1 hr 1½ hrs 2 or more hours

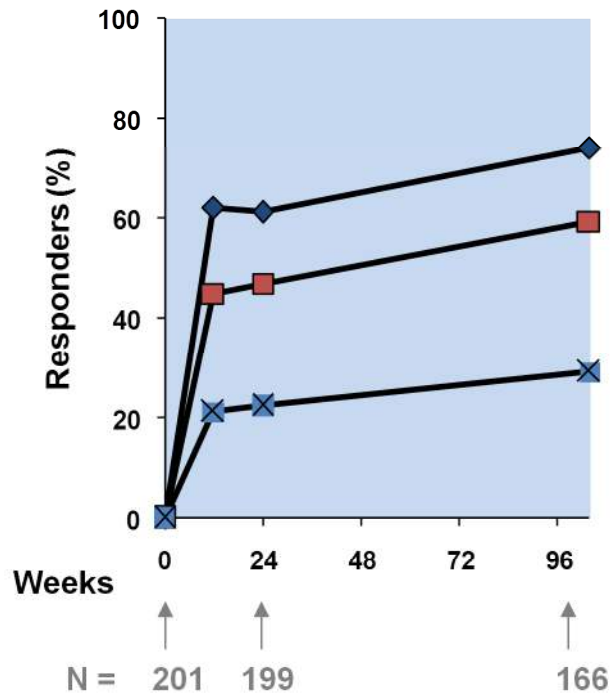
- BASDAI >4
- Spinal pain >4

- on 2 occasions,
more than 3
months apart

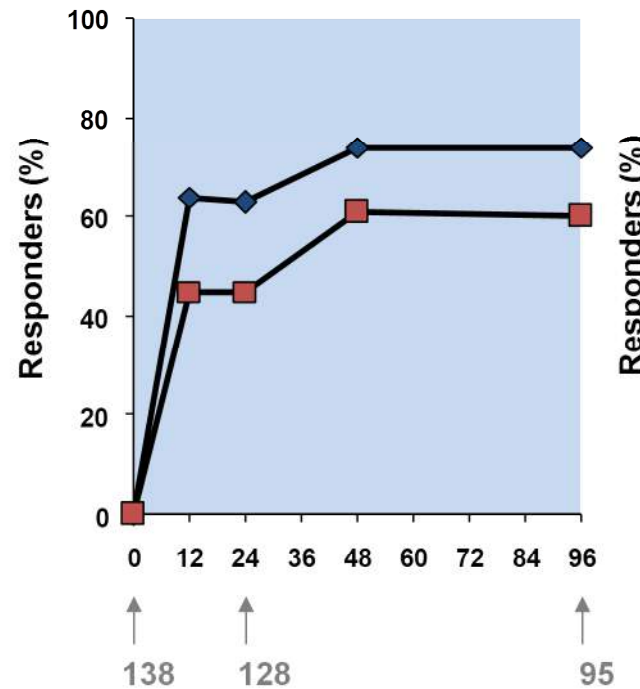
Long-term (2 Years) Efficacy of TNF α -Antagonists in Patients with Ankylosing Spondylitis*

*Different studies, no head to head comparison

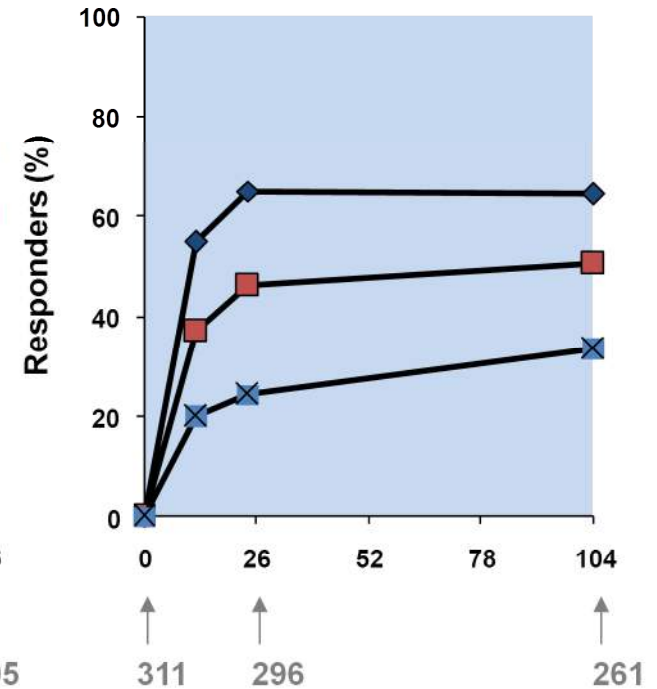
Infliximab (ASSERT)¹



Etanercept²



Adalimumab (ATLAS)³



N = number of patients on therapy

◆ ASAS20

■ ASAS40

✕ ASAS Partial Remission



1. Braun J et al. Arthritis Rheum 2008;59:1270-8
2. Davis J et al. Ann Rheum Dis 2005;64:1557-62
3. van der Heijde D et al. Ann Rheum Dis 2009;68:922-9

Surgical Options

- Total hip replacement
- Vertebroplasty / kyphoplasty for osteoporotic fractures
- Corrective spinal osteotomy

Spondyloarthritis - Summary

- Key symptom is inflammatory back pain
- Examination finding of reduced ROM axial spine and tenderness of SIJs
- Inflammatory markers may be raised
- X-ray changes – late and specific
- MRI SIJs / axial spine – sensitive, ?specificity
- Treatment can be challenging
 - NSAIDs
 - Anti-TNF

To be able to recognise patients with inflammatory back pain (IBP)

- Onset < 40 years
- Morning stiffness
- (Alternating) buttock pain
- Waking due to pain at night
- Better with exercise
- Response to NSAID

Understand which patient groups are at increased risk of spondyloarthritis

- Overlapping conditions (B27 +)
 - Psoriasis
 - Inflammatory bowel disease
 - Crohn's, ulcerative colitis
 - Anterior uveitis
 - 'Seronegative' pattern inflammatory arthritis
 - enthesitis
 - asymmetrical
 - RF and anti-CCP negative

Be aware of referral routes and sources of advice regarding these patients

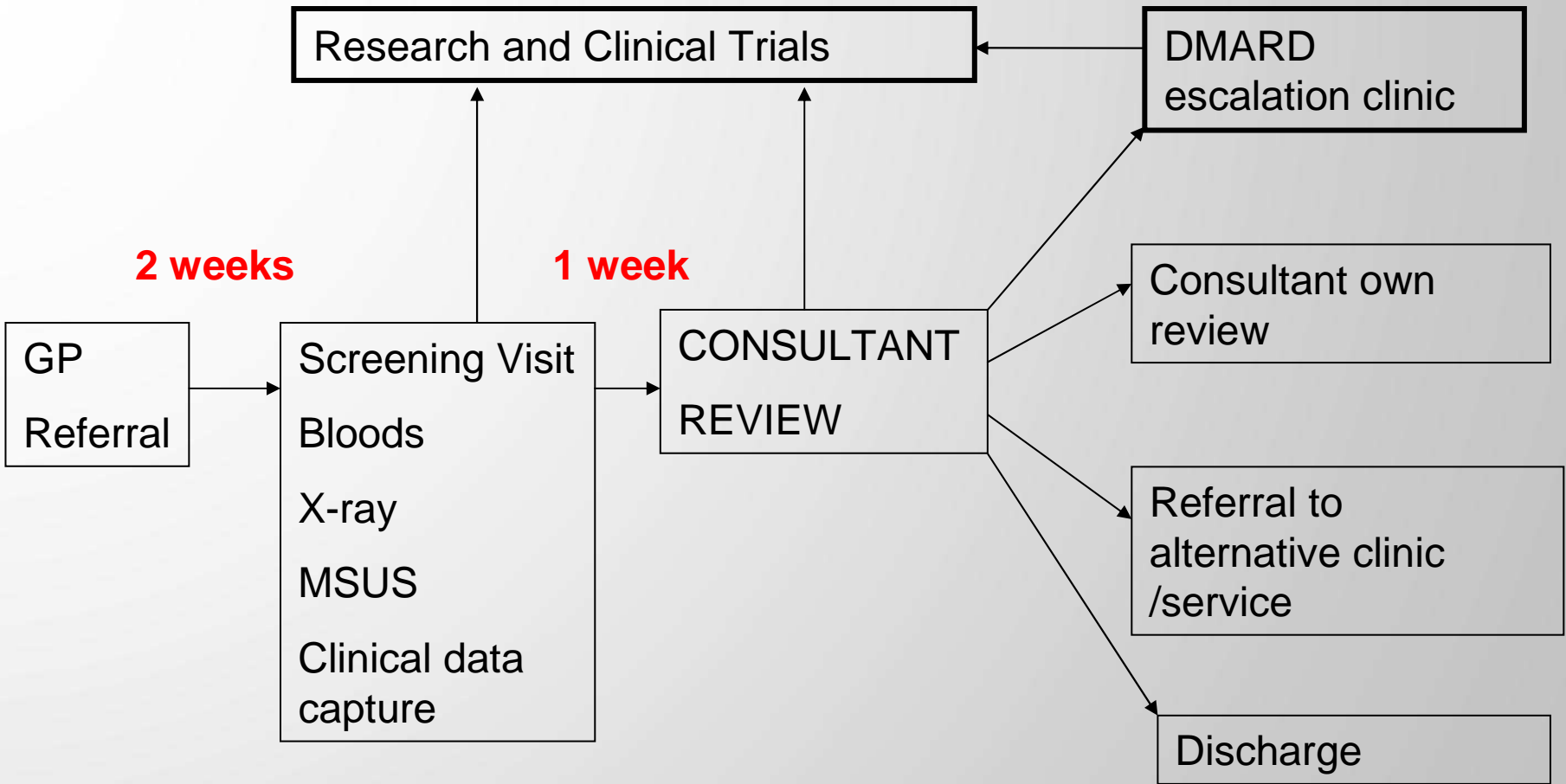
- Suspected new spondyloarthritis
 - refer Dr Lesley Kay / Dr Ben Thompson
 - or ESP physio Maureen Motion
- Suspected new peripheral arthritis
 - Early arthritis clinic
 - GP choose and book / fax referral to rheumatology secretaries 0191 223 1159
- Advice Rheumatology SpR on-call
 - 9am-7pm Mon – Fri
 - 9am-1pm Sat-Sun

Understand medical treatment options for patients with ankylosing spondylitis (AS)

- NSAIDs
- Standard DMARDs for peripheral disease
- Local steroid injection for limited disease
- Anti-TNF
- Newer biologic treatments in development

Thank you

any questions?



Research Blood,
Consent



DATA Collected – Clinical, Biological, MSUS, PROM's - DATABASE

Have you got... The **S** Factor?

For further information, please contact:

Stiffness

Early morning joint stiffness lasting over 30 minutes

Swelling

Persistent swelling of one joint or more, especially hand joints

Squeezing

Squeezing the joints is painful in inflammatory arthritis



nras

National Rheumatoid Arthritis Society

The National Rheumatoid Arthritis Society

Unit B4 Westacott Business Centre
Westacott Way, Littlewick Green
Maidenhead, SL6 3RT

Phone: 0845 458 3969

Free Helpline: 0800 298 7650

Email: enquiries@nras.org.uk

Web: www.nras.org.uk

This could be inflammatory arthritis

See your doctor now! Delay can cause long term disability



Informed by

PCR
PRIMARY CARE
RHEUMATOLOGY SOCIETY

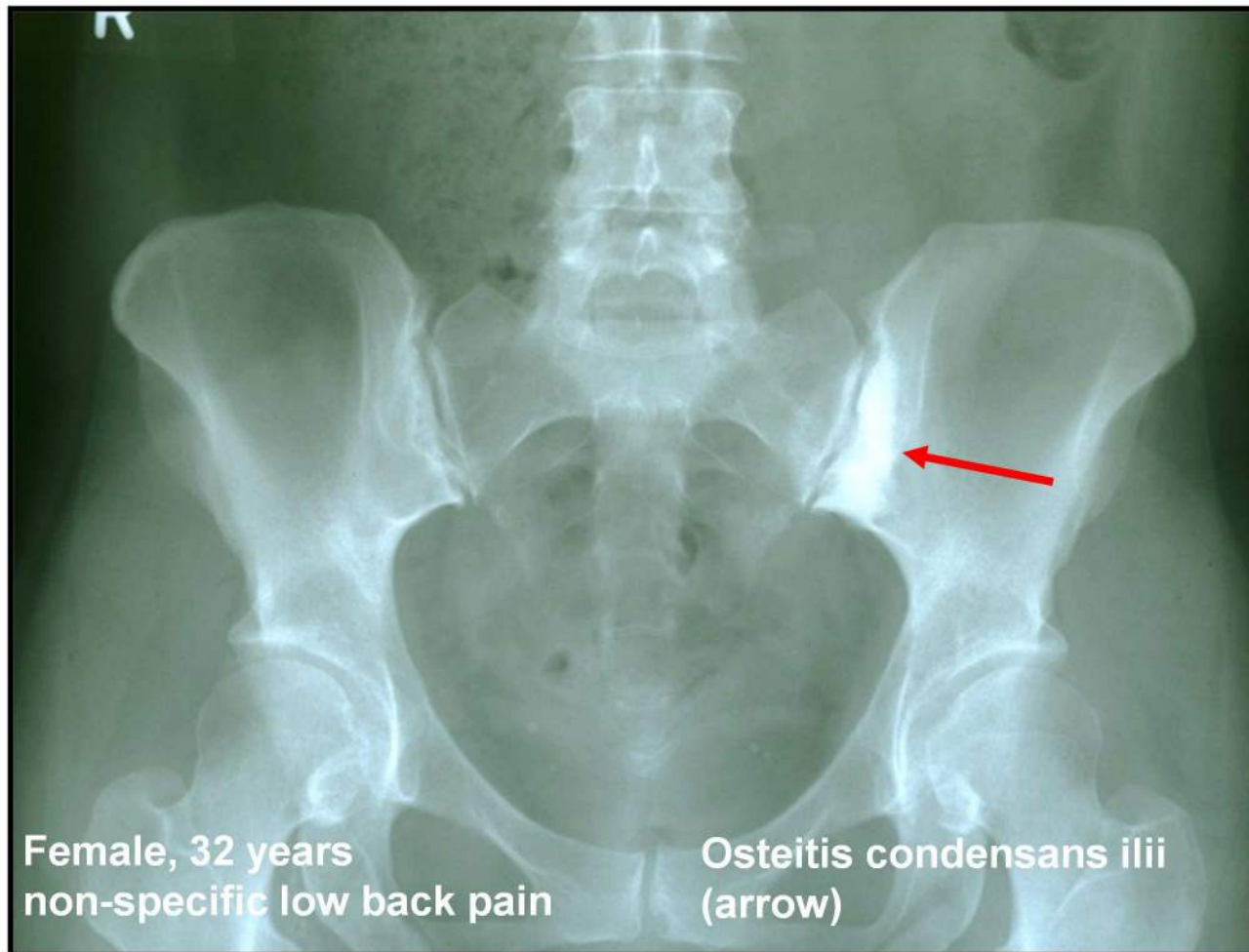


Royal College of
General Practitioners

Sacroiliitis Grade 4 Bilaterally



Differential Diagnosis of Sacroiliitis



Differential Diagnosis of Sacroiliitis

