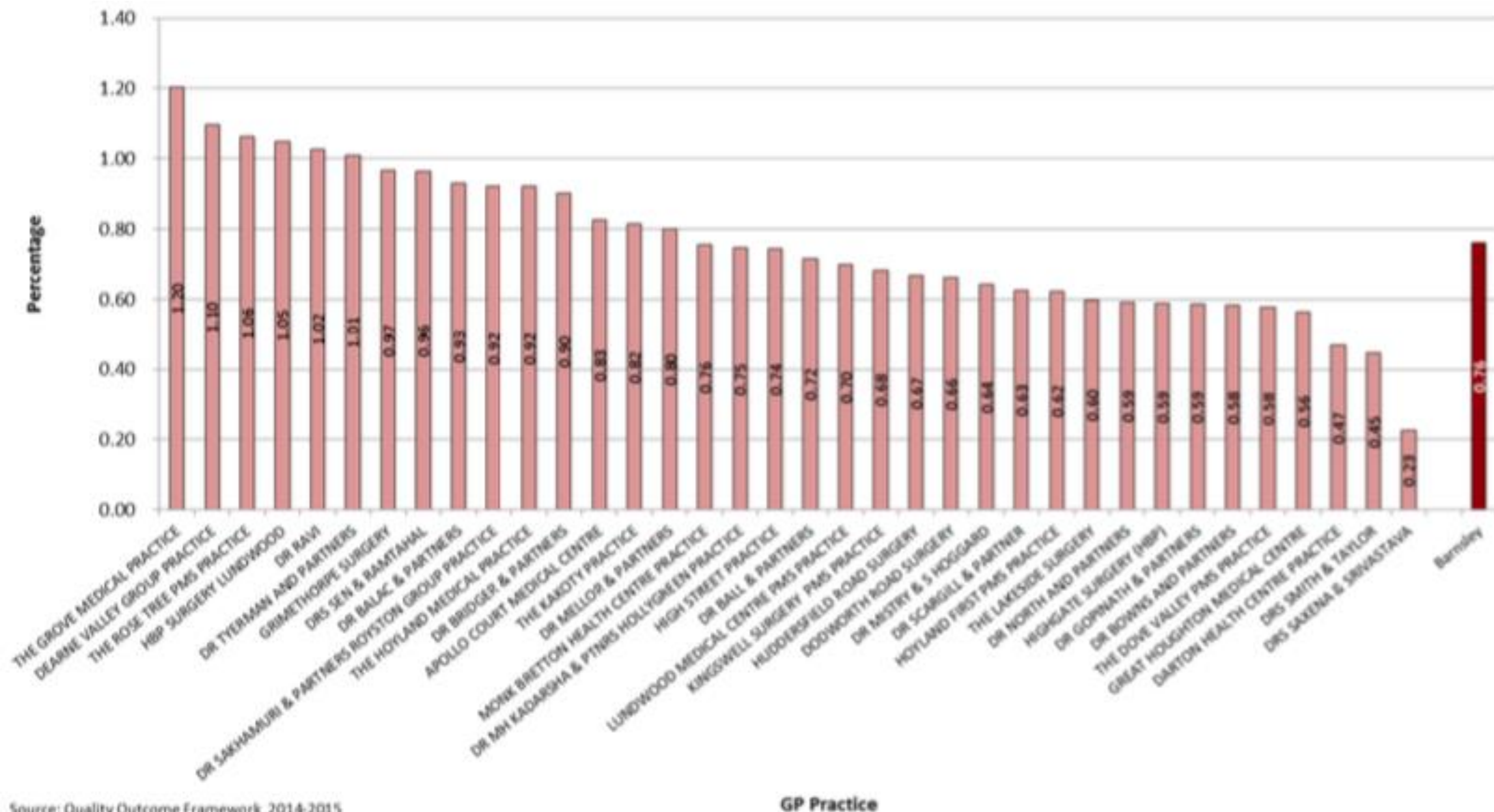
Early Inflammatory Arthritis

What GPs need to know

Prevalence of RA in GP populations for Barnsley Practices 2014-15



Objectives

- Increase understanding of EIA
- Explain need for EIA clinics
- Who to refer and how

2010 ACR/EULAR Classification Criteria for RA

JOINT DISTRIBUTION (0-5)	
1 large joint	0
2-10 large joints	1
1-3 small joints (large joints not counted)	2
4-10 small joints (large joints not counted)	3
>10 joints (at least one small joint)	5
SEROLOGY (0-3)	
Negative RF AND negative ACPA	0
Low positive RF OR low positive ACPA	2
High positive RF OR high positive ACPA	3
SYMPTOM DURATION (0-1)	
<6 weeks	0
≥6 weeks	1
ACUTE PHASE REACTANTS (0-1)	
Normal CRP AND normal ESR	0
Abnormal CRP OR abnormal ESR	1

≥6 = definite RA

What if the score is <6?

Patient might fulfill the criteria…

→ **Prospectively** over time (cumulatively)

→ **Retrospectively** if data on all four domains have been adequately recorded in the past

AMERICAN COLLEGE OF RHEUMATOLOGY
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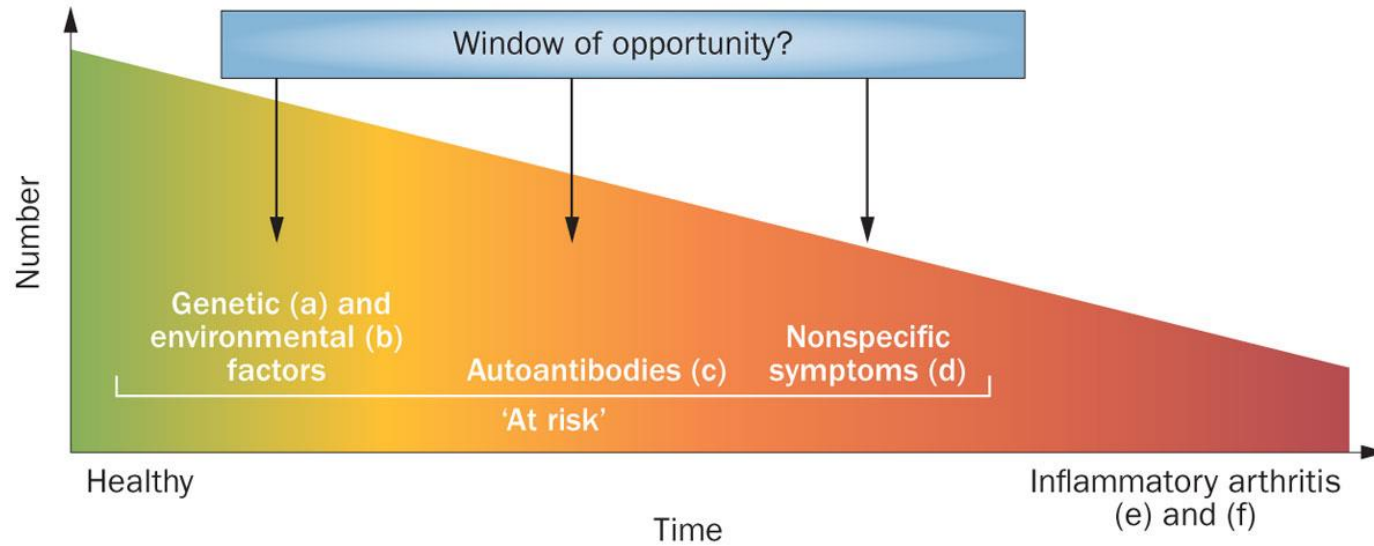
eular

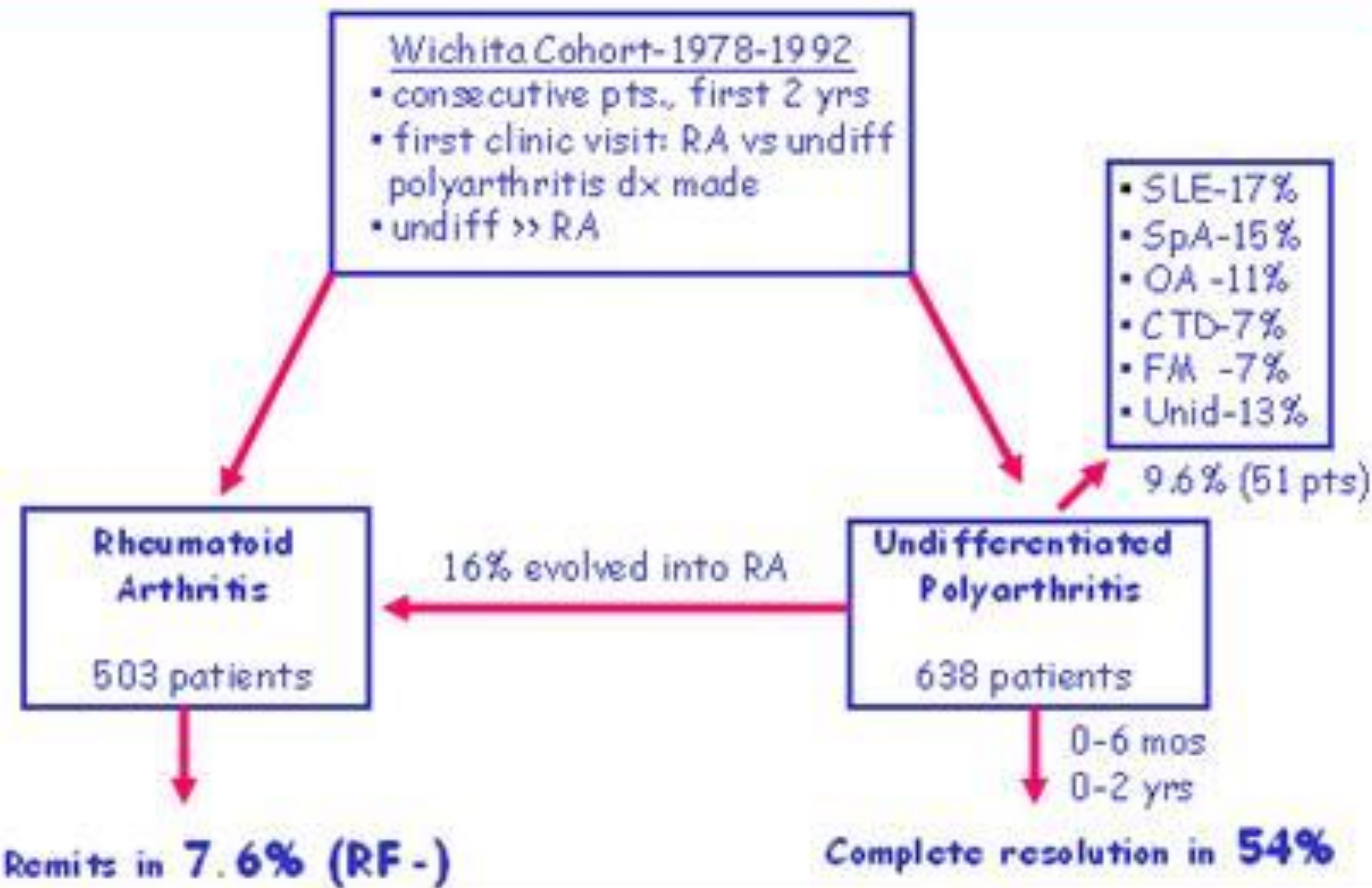
Figure 1 Inflammatory arthritis continuum



Hunt, L. & Emery, P. (2014) Defining populations at risk of rheumatoid arthritis: the first steps to prevention
Nat. Rev. Rheumatol. doi:10.1038/nrrheum.2014.82

nature REVIEWS RHEUMATOLOGY

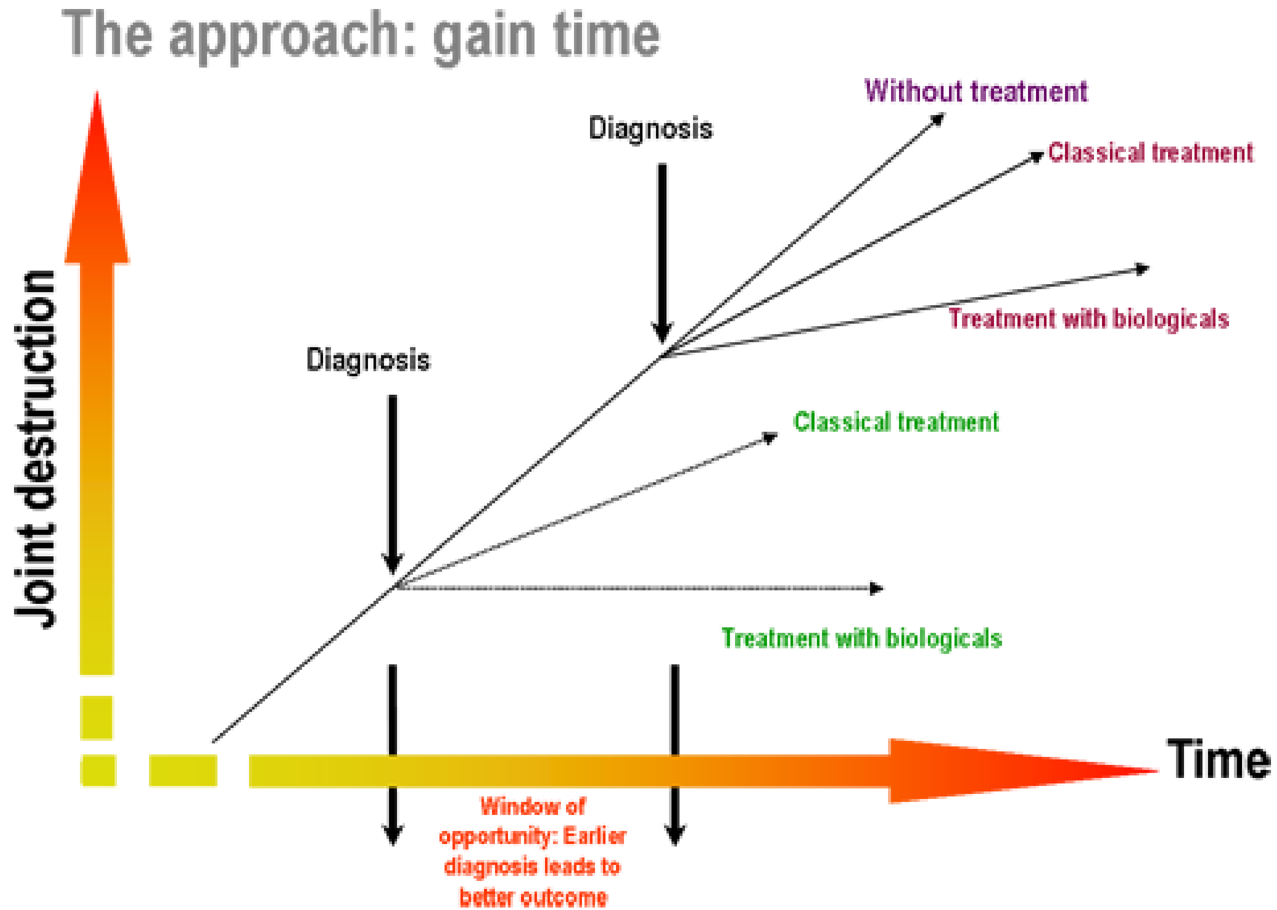
Early, Inflammatory, Undifferentiated Polyarthritis Syndrome: Wolff, et al. J Rheum, 1993



Why is it Important that GPs Recognise Early Inflammatory Arthritis (EIA)?

- DMARDs has been shown to reduce the progression of radiologically evident joint damage and improve long term disability.
- Evidence is accumulating that very early RA (within 12 weeks) may be an immunopathologically distinct phase of disease
- Treatment during this “window of opportunity” may switch off the disease process.
- The strongest predictor of improvement in disease activity is shorter disease duration at start of treatment
- < 50% patients diagnosed within 3 months on onset.

RA – Window of Opportunity



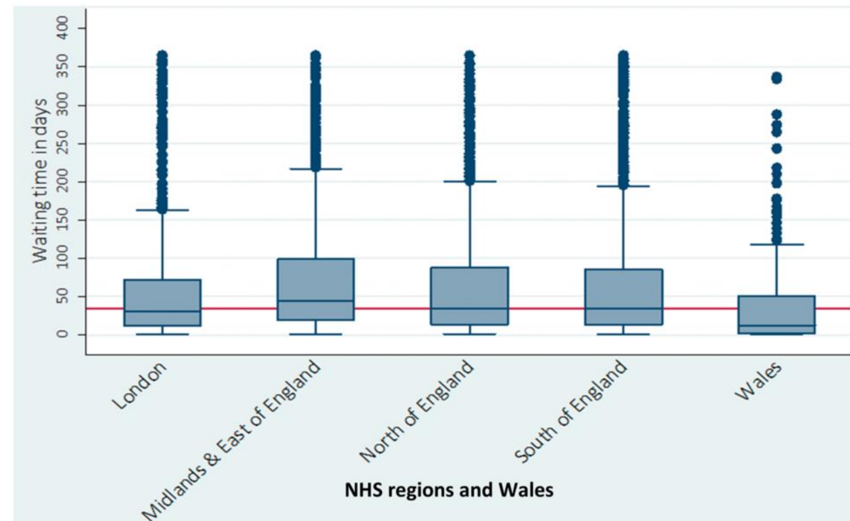
NICE Quality Standards For RA

- QS1, general practitioner (GP) referral time
  - suspected persistent synovitis affecting the small joints of the hands or feet, or more than one joint, should be referred to a rheumatology service within 3 working days of presentation to their GP.
- QS2, waiting time
  - suspected persistent synovitis should be assessed in a rheumatology service within 3 weeks of referral.
- QS3, time to DMARD
  - newly diagnosed RA should be offered short-term glucocorticoids (steroids) and a combination of DMARDs by a rheumatology service within 6 weeks of referral.

Is Early Referral Happening?

From: **Achievement of NICE quality standards for patients with new presentation of inflammatory arthritis: observations from the National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis**

Rheumatology (Oxford). 2016;56(2):223-230. doi:10.1093/rheumatology/kew308



Nationally 17%

Barnsley (48 pts) 33%
16 pts
Median 10 days, (2-28)

Figure Legend:

Variability for NICE quality standard 1 across NHS regions and Wales

Red line shows national median waiting time. Boxes show median (blue line) and interquartile range (IQR). Whiskers show 1.5 × IQR and blue dots show outlying values.

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Are Patients being Seen?

From: **Achievement of NICE quality standards for patients with new presentation of inflammatory arthritis: observations from the National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis**

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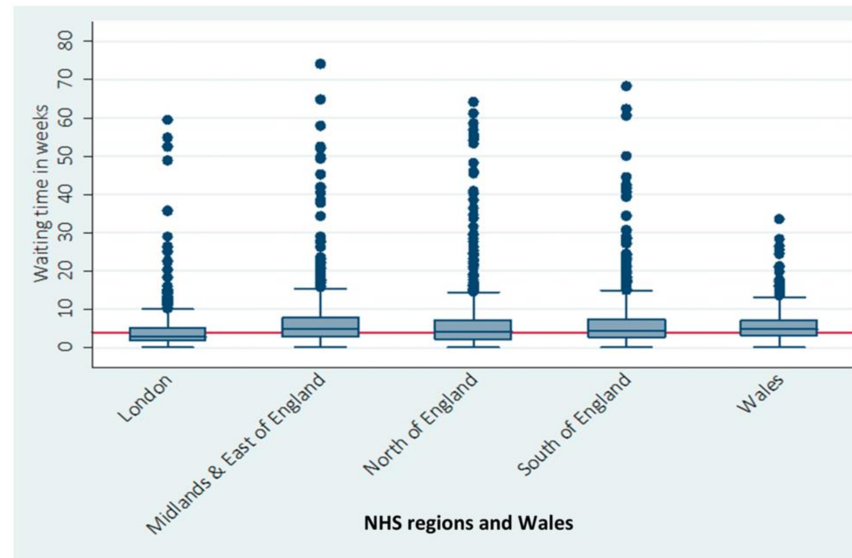

Nationally 37%

Barnsley 44%

Figure Legend:

Variability in NICE quality standard 2 by NHS region and Wales

The red line represents the overall national median (4 weeks). Boxes show median (blue line) and interquartile range (IQR). Whiskers show 1.5 × IQR and blue dots show outlying values.

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Delays to Diagnosis – What Can be Done

- PUBLIC HEALTH JOB
  - Educate Patients
- PRIMARY CARE JOB
  - Recognise inflammatory arthritis
- SECONDARY CARE JOB
  - search for a definite diagnosis (eg, RA, PSA, spondyloarthritis)
  - estimate the risk of developing persistent and/or erosive arthritis using clinical, laboratory and radiographic parameters
  - propose an optimal therapeutic strategy
- Dedicated Early Arthritis Clinics

Have you got... The factor?

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

Endorsed by

PCR
PRIMARY CARE RHEUMATOLOGY SOCIETY

Royal College of General Practitioners

This could be inflammatory arthritis

See your doctor now!
Delay can cause long term disability

For further information see www.arthritisresearchuk.org

Arthritis Research UK

Providing answers today and tomorrow

With recognition and special thanks to the Rheumatology Futures Project Group

Difficulties in Diagnosing EIA

Patients can present with a wide range of manifestations

TYPICAL
- Polyarticular onset
- Insidious in 75%
- Initially affects MCP and MTP the small joints of the hands before spreading to the larger joints.

ATYPICAL
- *Polymyalgic onset*
  - Elderly , shoulder stiffness, raised ESR, good response to prednisolone.
- *Palindromic onset*
  - Recurrent episodes of pain, swelling and redness affecting any one joint or several joints at a time, each lasting only a day or two.
  - Symptoms may later become persistent
- *Systemic onset*
  - weight loss, fatigue, depression, or fever or extra-articular feature such as serositis
  - articular manifestations may be absent

Difficulties in Diagnosing RA

Clinical diagnosis of inflammatory arthritis is not always straightforward

- Objective signs may be lacking or have been suppressed by anti-inflammatory medication
- Joint swelling can be difficult to identify in obese patients
- The sensation of joint swelling is common in patients with fibromyalgia
- Osteoarthritis causes morning stiffness
- ESR or CRP are normal in about 60% of patients
- Patients with OA can also get RA
- RhF and ACPA (anti CCP antibodies) maybe false positive or false negative
- Other conditions can present as polyarthritis and mimic RA

EULAR defined characteristics describing arthralgia at risk for RA

These parameters are to be used in patients with arthralgia without clinical arthritis and without other diagnosis or other explanation for the arthralgia.

- History taking:
  - Joint symptoms of recent onset (duration <1 year)
  - Symptoms located in MCP joints
  - Duration of morning stiffness ≥60 min
  - Most severe symptoms present in the early morning
  - Presence of a first-degree relative with RA
- Physical examination:
  - Difficulty with making a fist
  - Positive squeeze test of MCP joints

http://ard.bmj.com/content/early/2016/10/06/annrheumdis-2016-209846.full

The Squeeze Test

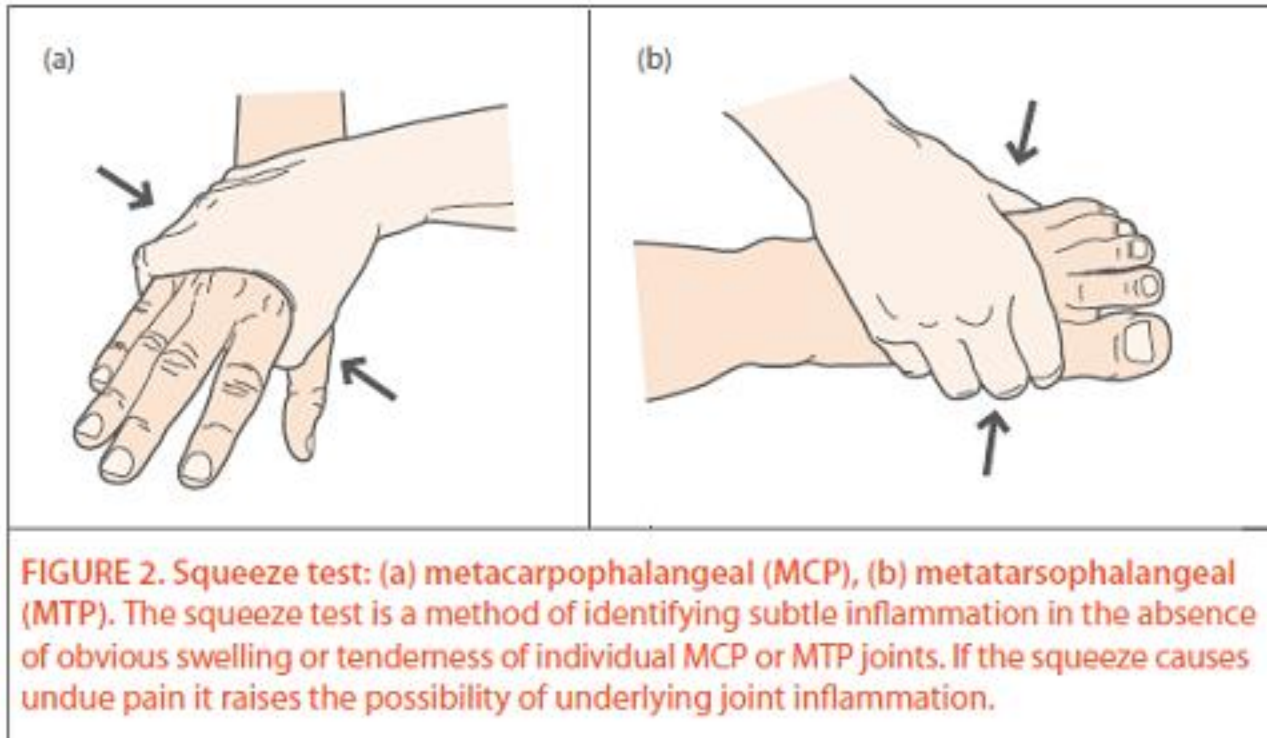

FIGURE 2. Squeeze test: (a) metacarpophalangeal (MCP), (b) metatarsophalangeal (MTP). The squeeze test is a method of identifying subtle inflammation in the absence of obvious swelling or tenderness of individual MCP or MTP joints. If the squeeze causes undue pain it raises the possibility of underlying joint inflammation.

Other Features Suggestive of Inflammatory Arthritis

- Systemic symptoms such as fatigue or weight loss
- Raised inflammatory markers
- High titre positive rheumatoid factor
- Positive anti CCP
- The presence of extra-articular features of IA eg, psoriasis, dactylitis or uveitis.

ACPA (anti-CCP antibodies) use in Early Disease

- ~ 58% of anti CCP +ve patients referred to a rheumatological were diagnosed with RA at their first visit.
- Of note, some of those who were anti CCP +ve went on to develop RA.
- Some who are anti CCP +ve never go on to develop RA.
- Cannot exclude a diagnosis of RA on the basis of anti CCP –ve status.

Barnsley EIA Clinic

Appointment Type	First outpatient
Service Location	BARNSLEY HOSPITAL
Service Provider Organisation	BARNSLEY HOSPITAL NHS FOUNDATION TRUST
Specialty	Rheumatology
Directly Bookable	Yes
Age Range Treated	18 years and over
Gender Treated	Male and Female
Service Transition Date	-
Service End Effective Date	-
Clinic Type	Inflammatory Arthritis
Available on Secondary Care Menu	Yes

Appointment Request	Yes

Priorities Supported and Indicative Wait Times

Urgent	9 Days

Town	BARNSLEY
County	SOUTH YORKSHIRE
Country	England
Postcode	S75 2EP

Service Contact Information

Service Contact Name	Appointments Centre
Contact Telephone Number	0122 643 4343
Fax Number	0122 643 4994
Text Telephone Number	
E-mail Address	outpatients.cal ...

Referrer Alert: This clinic is for suspected inflammatory arthritis patients needing DMARD treatment.

Referral to Treatment: 11 weeks is the approximate time that 92% of patients referred to Rheumatology at BARNSLEY HOSPITAL NHS FOUNDATION TRUST waited to start their treatment

Request Additional Requirements

Conditions Treated

Inflammatory arthritis/Rheumatoid arthritis/Psoriatic arthritis requiring treatment with DMARDS

Procedures Performed

Joint injections
Depo steroid injections

Exclusions

Symptoms present longer than 12 months
No swollen joints
Established rheumatoid arthritis
Gout
Polymyalgia Rheumatica

Suggested Investigations

FBC, ESR, CRP, RHF, U+E, LFT, CCP

Barnsley EIA Clinic

- Wednesday morning
- Bookable on Choose and Book up to 3 weeks in advance
- One Stop Clinic – assessment, investigation, treatment
- Rapid Bloods / Xray / USS
- IM / oral steroids
- DMARDS

Pathway for GPs

Algorithms based on the 2016 update of the European League Against Rheumatism recommendations for management of early arthritis.

A

Early arthritis
Swollen joints, pain, stiffness

History
laboratory
testing

Clinical
examination

Definite
arthritis

Infection
Reactive arthritis
Other
spondyloarthritis
Connective tissue
disease
Polymyalgia
rheumatica
Crystal arthritis

Undifferentiated arthritis

Risks factors
Erosions, ACPA, RF,
high disease activity

YES

NO

Persistent and /or
erosive arthritis

Self-limiting
arthritis

B

Early arthritis at risk of
persistency/erosiveness

No contra-indication
for methotrexate

Contra-indication
for methotrexate

Information
Education
NSAIDs
Dynamic exercises
Occupational
therapy
Prevention**
e.g.: management of
comorbidities

Methotrexate
with dose
optimization

+&

Short term low
dose
glucocorticoïds

+&

Leflunomide or
sulfasalazine or DMARDs
combination

Close monitoring of disease activity
every 1-3 months

YES

Achieve remission*
within 6 months

NO

Continue

Adapt
treatment
strategy

Bernard Combe et al. Ann Rheum Dis
doi:10.1136/annrheumdis-2016-210602

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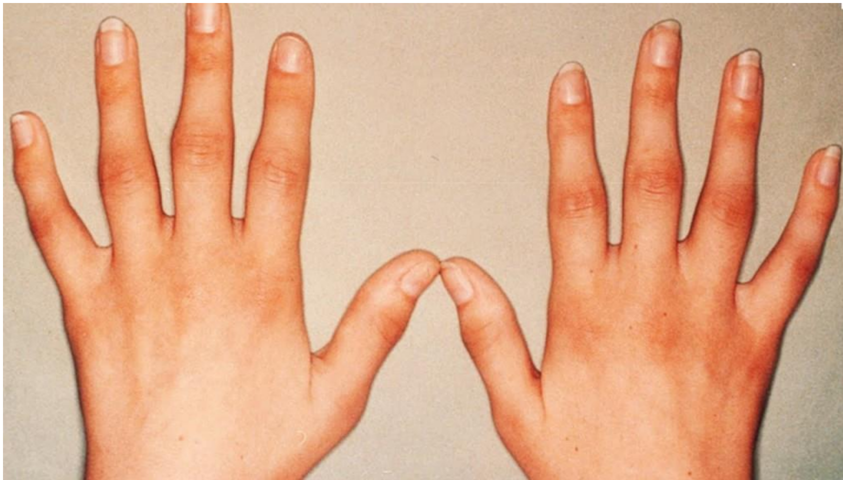
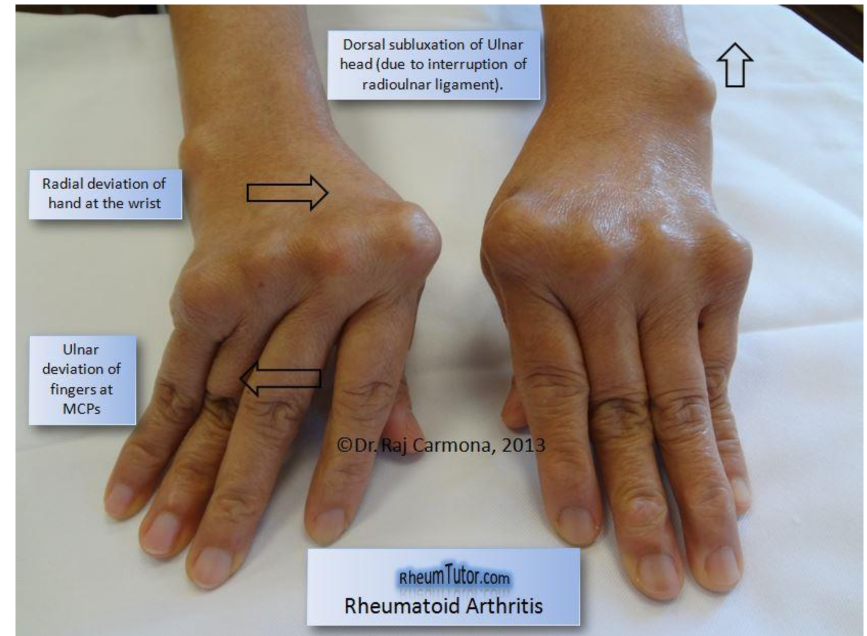
Any Questions?





Mrs LC

- 25 year old secretary
- 3/12 old baby, breast feeding
- Tingling, numbness in R hand at night, during pregnancy but getting worse
- Aching joints
- Fingers going cold and blue
- Tired and tearful, baby had been unwell

Mrs LC – Further Questions

- Morning Stiffness 30 mins
- MCP joints
- No metatarsalgia
- Similar pains before during 1st 2 months of pregnancy
- Mother had arthritis
- Itchy scalp

Mrs LC - Examination

- Squeeze test positive
- Tinels negative, Phalens positive
- No definite synovitis
- Scaly rash around umbilicus

Mrs LC – Differential Diagnosis ?

- Rheumatoid arthritis
- Psoriatic arthritis
- Connective tissue disease
- Viral arthritis
- Carpal tunnel syndrome

What to do next

- Refer to Early Inflammatory Clinic (EIA)
- ESR, CRP, RhF, CCP
- TSH, routine bloods
- ANA

Results

- HB 110, MCV 74, ferritin 400
- TSH N , routine bloods N
- RhF 25, CCP 200
- ANA + speckled pattern

Mrs LC – EIA clinic

- DAS 28 – 5.96
  - S 6 SJ, 2 wrists, T 12, VAS 8, ESR 2
- No other signs CTD
- Xray hands, feet normal
- USS – erosion ulnar head

Mrs LC - Diagnosis

- Seropositive RA
- Poor prognostic features
  - Erosions
  - CCP
  - High disease activity

Mrs LC - Management

- IM depomedrone
- MTX – dose escalated
- HCQ added 1/12
- S/C MTX 4/12

8/12 LDAS

Carpal tunnel symptoms resolved

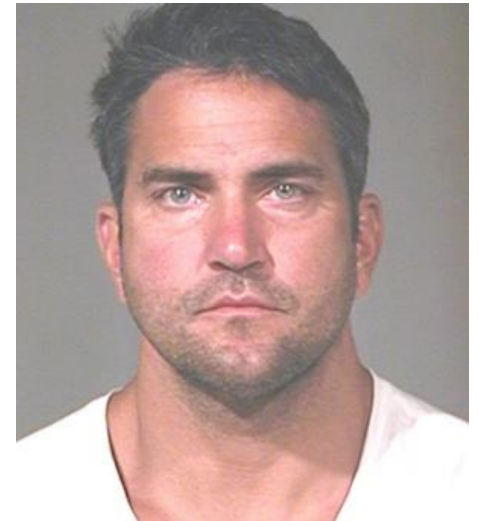
No steroids

Case Presentation 2
Why we need rheumatologists!

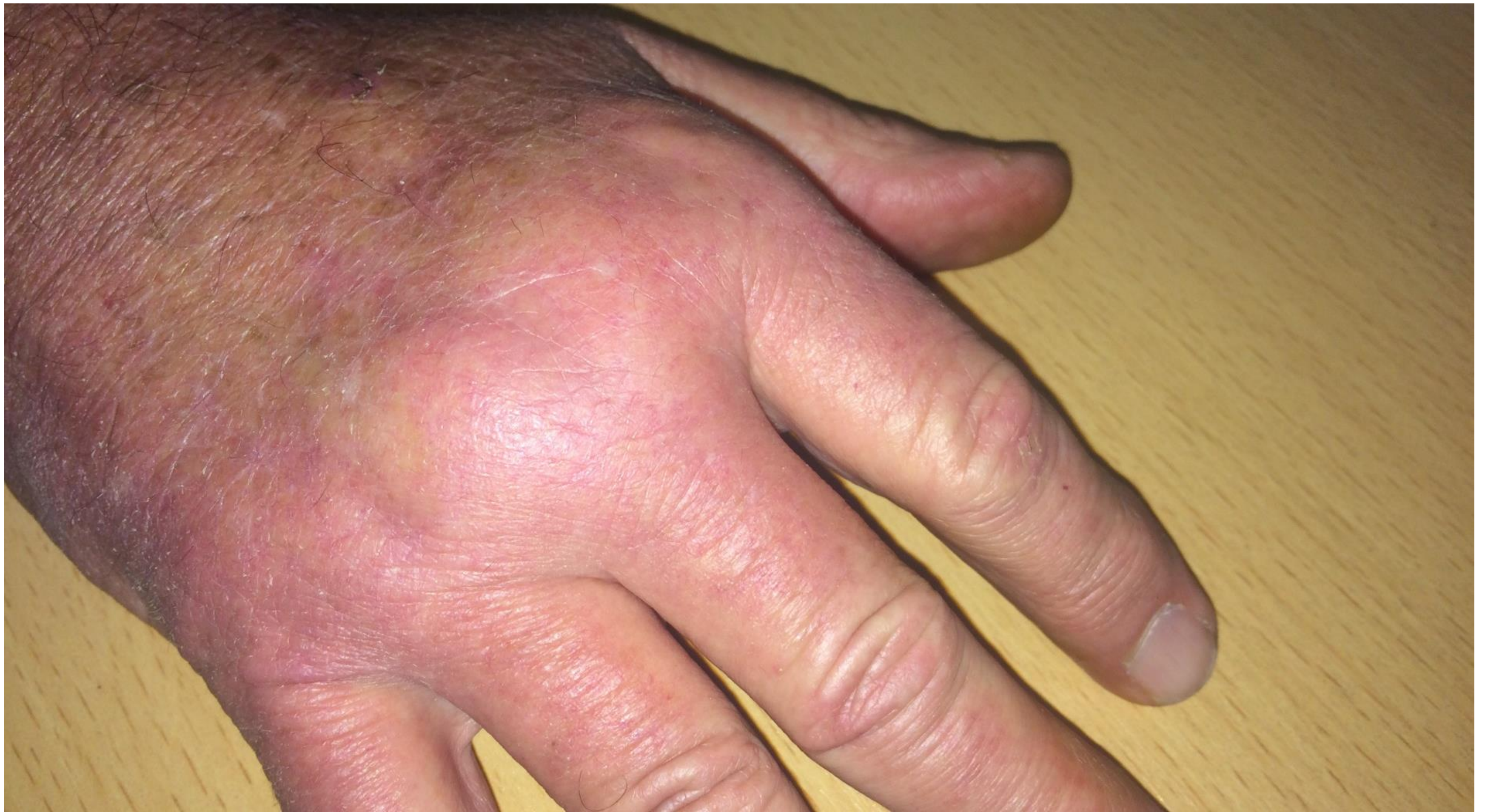
- Mr PC 55 yr old man
- 2nd opinion - worsening joint pain
- Seropositive RA 2015
- HCQ , SZP loose stool
- Refuses methotrexate due to alcohol
- Swollen MCPs - IM depomedrone - M

Examination Findings

- Plethoric
- MCP swelling bilaterally - synovial thickening
- No metatarsalgia
- No rheumatoid nodules
- 2cm hepatomegaly, no spleen



PC Hand

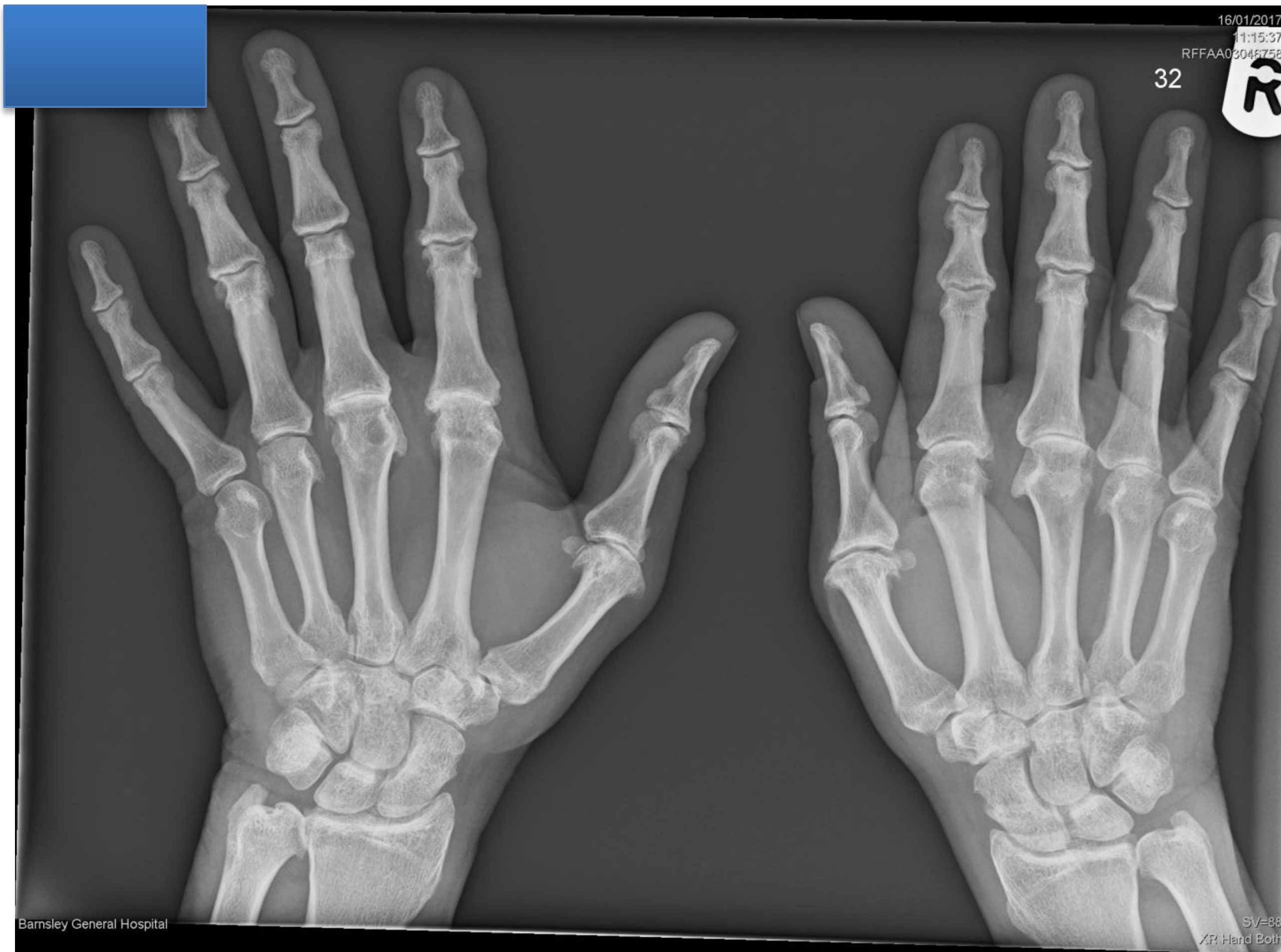


Differential Diagnosis and Investigations

Results

- FBC
- HB 143 – all N
- ESR 2, CRP 2
- LFT N,
- U and E N
- RhF 15
- CCP N
- Glucose N, HbA1C N

XRay



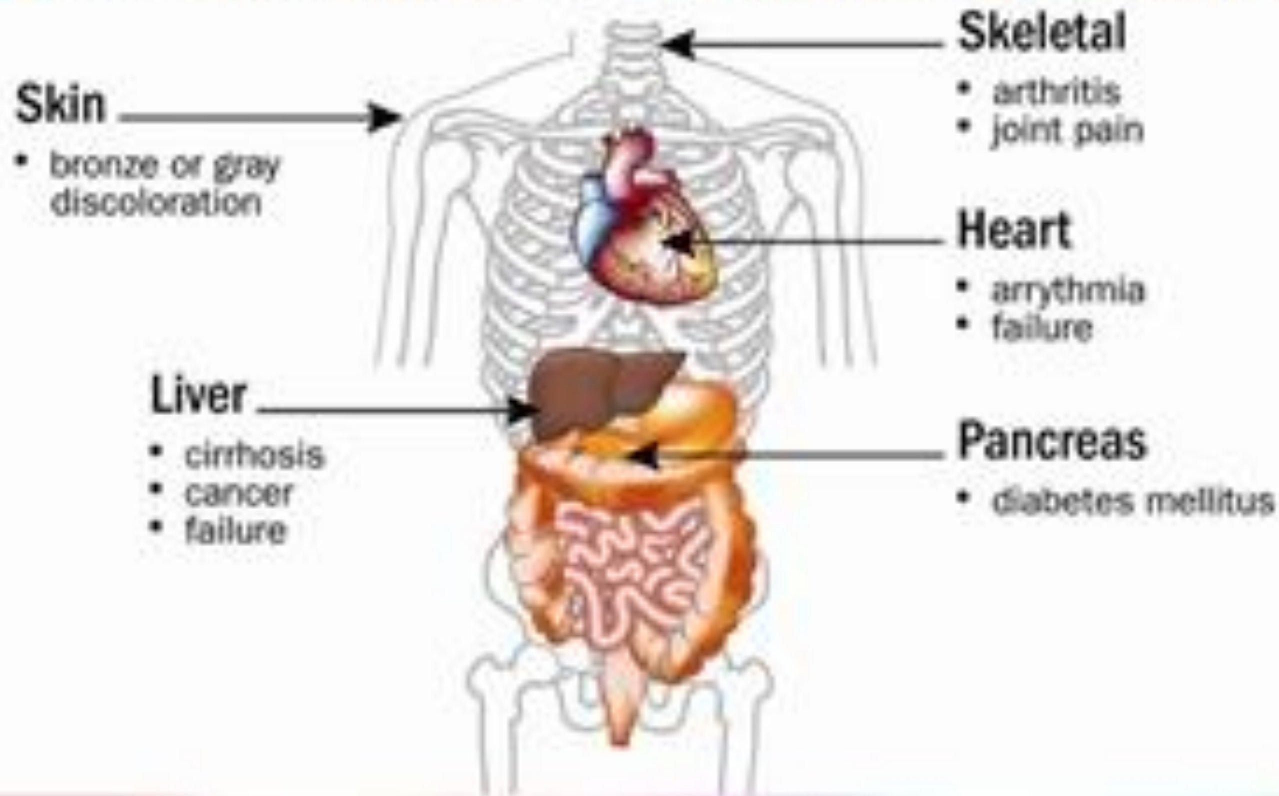
Results Iron Studies

- Iron 36 (12-31)
- Transferrin 1.6 (2-3.2)
- TIBC 40 (45-81)
- Transferrin saturation 90% (20-50)
- Ferritin 1806 (22-322)

Comparing disorders of iron

iron panel	IRON PANEL TESTS					
	Serum Iron	Serum Ferritin	Transferrin Iron Saturation Percentage	Total Iron Binding Capacity (TIBC)	Transferrin	Hemoglobin
Hemochromatosis	↑	↑	↑	↓	↓	NORMAL
Iron Deficiency Anemia	↓	↓	↓	↑	↑	↓
Sideroblastic Anemia	↑	↑	↑	↓	↓	↓
Thalassemia	↑	↑	↑	↓	↓	↓
Porphyria Cutanea Tarda (PCT)	↑	↑	↑	↓	↓	NORMAL
Anemia of Chronic Disease (ACD)	↓	↑ OR NORMAL	↓	↓	↓	↓
African Siderosis (AS)	↑	↑	↑	↓	↓	NORMAL
Vitamin B12 Deficiency (pernicious anemia)	↑ OR NORMAL	↑ OR NORMAL	↑ OR NORMAL	↓ OR NORMAL	↓ OR NORMAL	↓

Iron overload secondary to hereditary haemochromatosis



GP Resources

- BMJ Learning Zone Easily missed - rheumatoid arthritis 30 minute module
  - http://learning.bmj.com/learning/module-intro/.html?moduleId=10056281&g=w_bmj_learning
- PulseLearning - Key questions on rheumatoid arthritis
  - http://pulse-learning.co.uk/clinical-modules/musculoskeletal-medicine/key-questions-ra
- ARUK GP AREA
  - http://www.arthritisresearchuk.org/health-professionals-and-students/information-for-gps.aspx
- JOINT ZONE – A study of Rheumatology- interactive case studies
  - http://www.jointzone.org.uk/

  The approach to the patient presenting with multiple joint pain

  - http://www.arthritisresearchuk.org/health-professionals-and-students/reports/hands-on/hands-on-autumn-2012.aspx
- NRAS
  - http://www.nras.org.uk/publications/category/video

Thank you