Welcome!

Distinguishing Rheumatoid Arthritis from Osteoarthritis

Jennifer Mandal, MD

January 26, 2023

INDIAN + COUNTRY ECHO

AMERICAN COLLEGE of RHEUMATOLOGY *Empowering Rheumatology Professionals*

UCSF Health

DISCLOSURES

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Disclosure Statement

Planners Jennifer Mandal, MD, Leslie Dexheimer Gleason, RN, and Tabitha Carroway, MPH have stated they have no relationships to disclose. Speaker Wendy Grant, MD has stated she has no relationships to disclose.

Quick reminder

- Rheumatology Office Hours today (1-1:30PM)

Distinguishing RA from OA

Jennifer Mandal, MD
UCSF Division of Rheumatology
RA ECHO, Session #2
1/26/23

Roadmap

- A rheumatologist’s approach to joint pain
- RA vs. OA
- Erosive/Inflammatory OA
- Case Presentation

Approach to the patient with joint pain: Clinical Clues

- Demographics: age, sex
- Duration of symptoms: acute, subacute, chronic
- Number of joints involved: monoarticular, oligoarticular, polyarticular
- Pattern of joints involved: size, symmetry, distribution
- Inflammatory vs. non-inflammatory features

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RA vs. OA

	RA	OA
Description		
Demographics		

RA vs. OA

	RA	OA
Description	Most common form of autoimmune, inflammatory arthritis	Degenerative arthritis, characterized by progressive wearing down of cartilage*
Demographics		

RA vs. OA

	RA	OA
Description	Most common form of autoimmune, inflammatory arthritis	Degenerative arthritis, characterized by progressive wearing down of cartilage*
Demographics	• US prevalence = 0.8% (**1-10% among AI/AN depending on tribe**) • **Female** (2:1) • Onset at **any age** (30-50 most common) • Environmental risk factors: **smoking**, gingivitis • First degree relative w/ seropositive RA → 3-5x lifetime risk	• **Most common form of arthritis** by far. Lifetime risk of symptomatic knee OA: 45%; hip OA: 25%; Hand OA: 40% • **Female** (1.7 to 1) • Age **>50** • Risk factors: **obesity**, prior joint injury, physically demanding job, joint malalignment

Approach to the patient with joint pain: Clinical Clues

- Demographics: age, sex, ethnicity
- Duration of symptoms: acute, subacute, chronic
- Number of joints involved: monoarticular, oligoarticular, polyarticular
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RA vs. OA

	RA	OA
Duration of symptoms	Gradual, insidious onset over months *Rarely, RA can present w/ "explosive" onset*	Gradual, insidious onset over months-years

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Poll Question #1

Rheumatoid arthritis is a symmetric polyarthritis that almost always SPARES the:

A. Cervical spine
B. Distal interphalangeal joints (DIPs)
C. Elbows
D. Hips
E. Metacarpophalangeal joints (MCPs)

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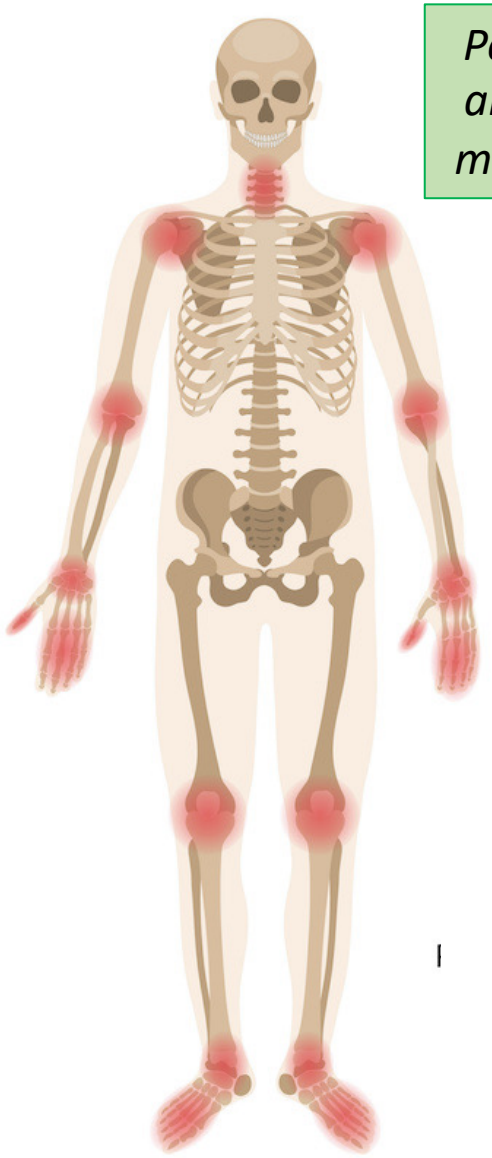
Joint Distribution

Rheumatoid arthritis



Polyarticular, symmetric arthritis affecting small, medium, and large joints

Neck
Shoulders
Elbows
Wrists
Hands (MCPs, PIPs)
Knee
Toes

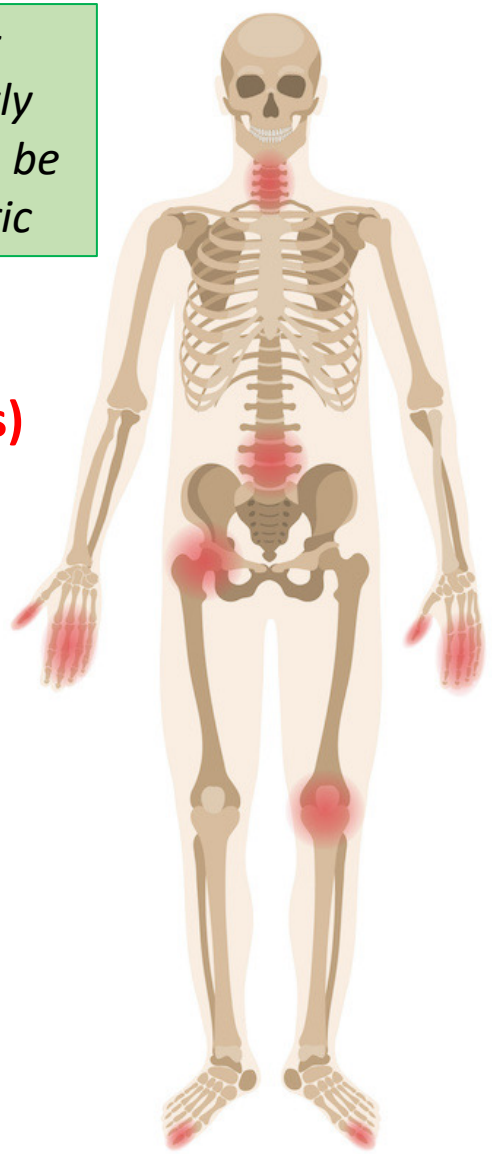
Spares the:

- **Low back**
- **DIPs**

Osteoarthritis

Oligo- or polyarticular arthritis, affecting mostly large joints + fingers, can be symmetric or asymmetric

Fingers (PIPs, DIPs)
Low back
Hip
Knee



Spares the:

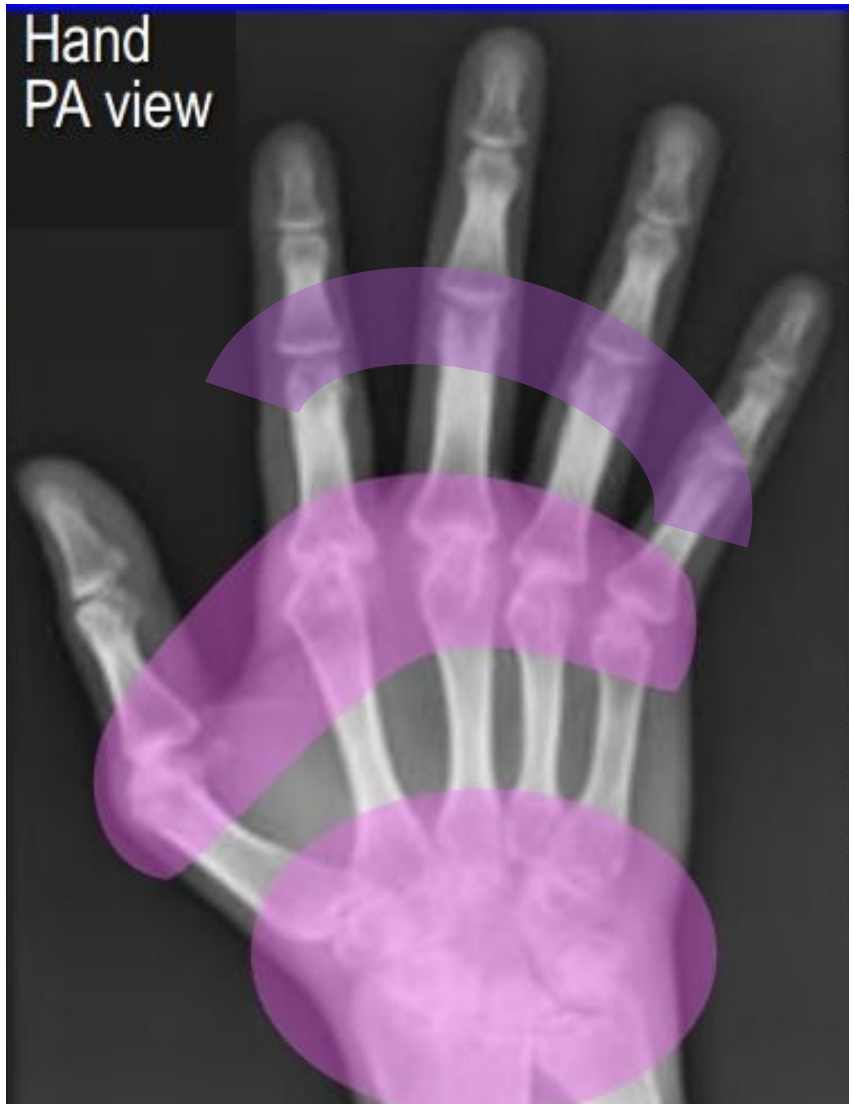
- **MCPs**
- **Wrists**

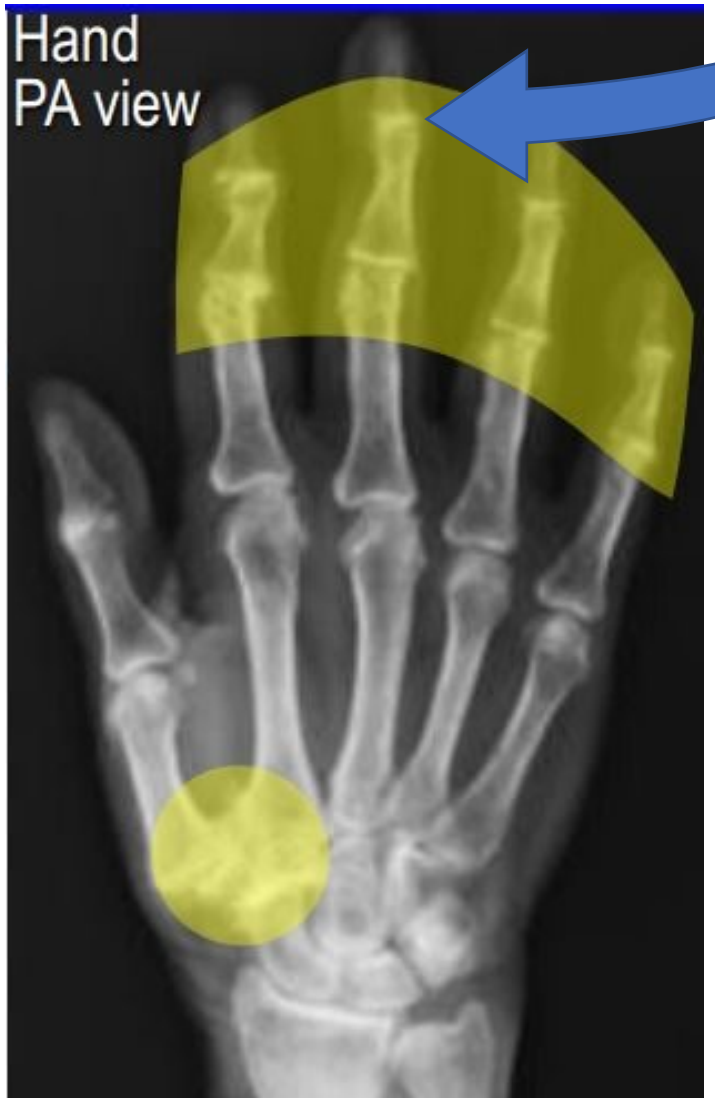
Give me a hand….

Quick Pearl: DDx for DIP arthritis

- OA
- Psoriatic Arthritis
- Gout/CPPD

RA



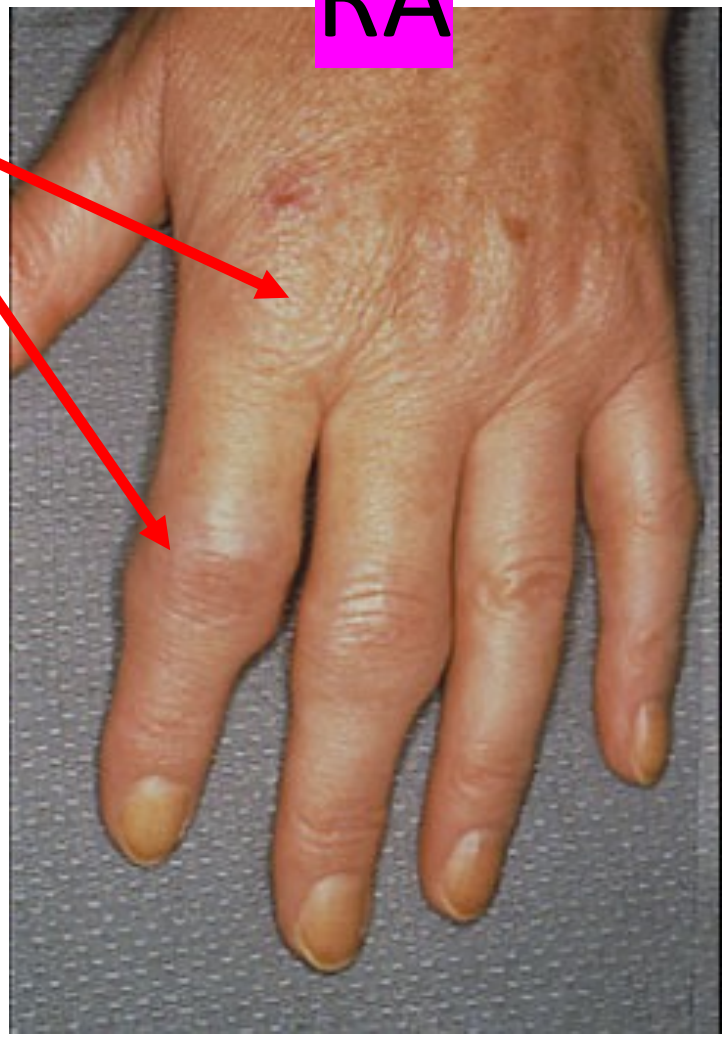


OA

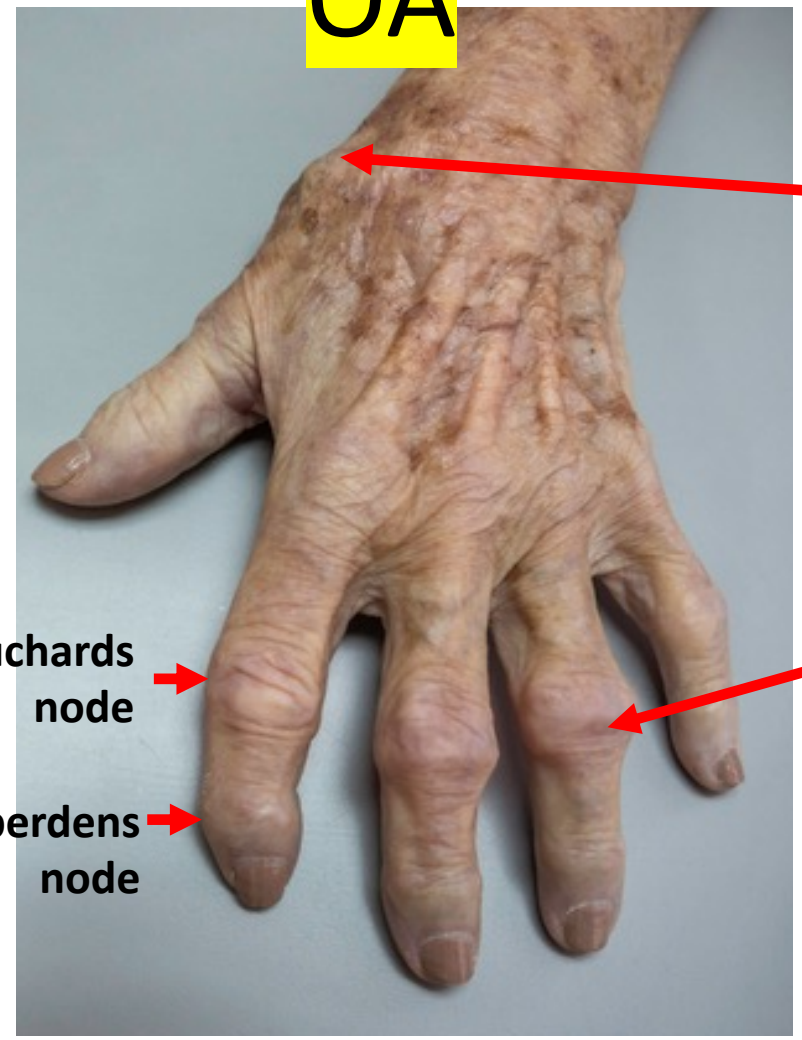
Give me a hand….

RA

Synovitis (“squishy”, “bouncy”)



OA



“Squaring off” at base of thumb

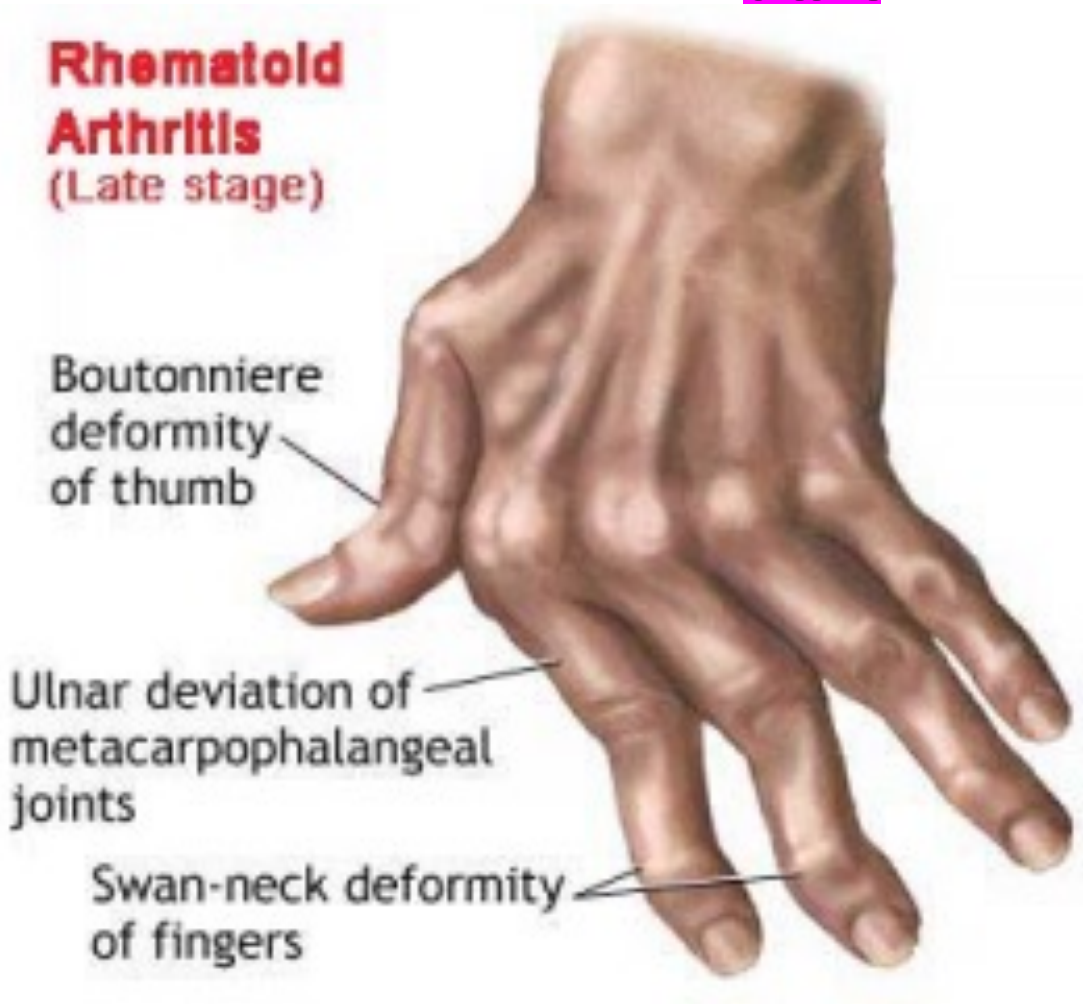
Bouchards node

Heberdens node

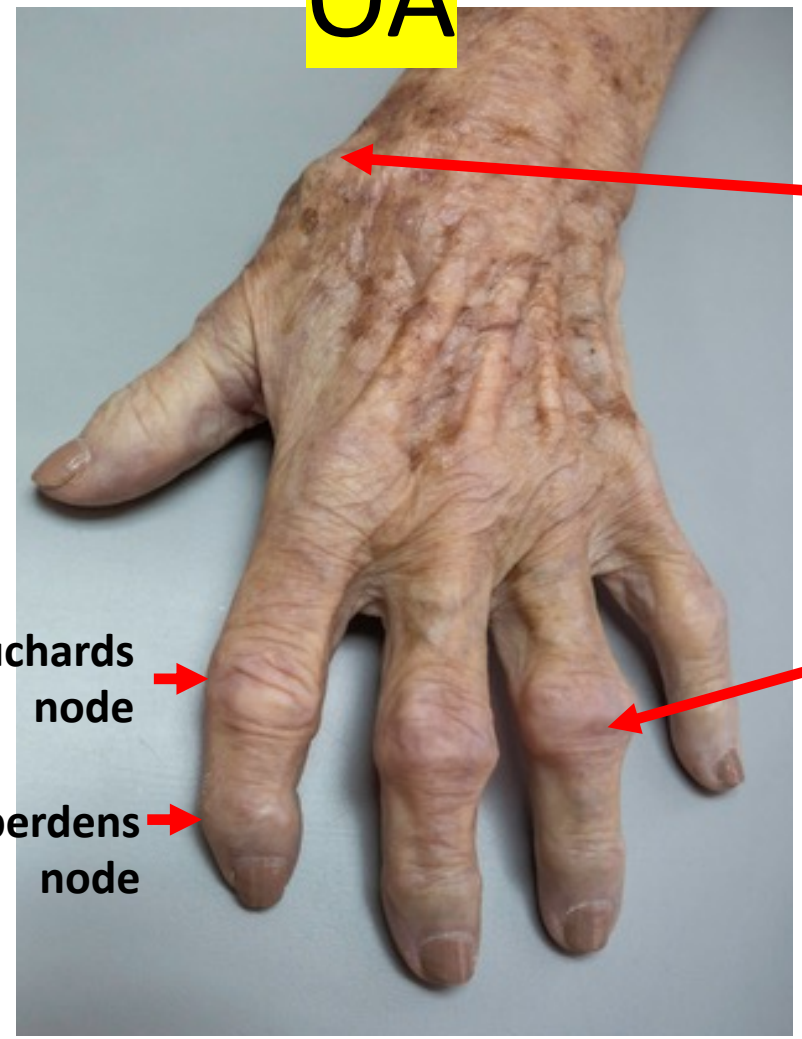
Bony enlargement **without** synovitis

Give me a hand….

RA



OA



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Poll Question #2

If you are trying to distinguish between INFLAMMATORY vs NON-INFLAMMATORY joint pain, which is the highest yield question to ask your patient?

A. Have you noticed joint swelling?

B. Does your joint pain getter better with activity, or worse?

C. Do your joints feels stiff when you wake up in the morning?

D. How long has your joint pain been going on?

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Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Prolonged morning stiffness (>1hr)		
Improves or worsens with activity?		
Constitutional sx		
ESR/CRP		
Extra-articular manifestations		

Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Prolonged morning stiffness (>1hr)	+	–
Improves or worsens with activity?		
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Inflammatory vs. non-inflammatory joint pain

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Prolonged morning stiffness (>1hr)	**+**	**–**
Improves or worsens with activity?	**Improves**	**Worsens**
Constitutional sx		
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Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Prolonged morning stiffness (>1hr)	**+**	**–**
Improves or worsens with activity?	**Improves**	**Worsens**
Constitutional sx	**+**	**–**
ESR/CRP		
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Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Prolonged morning stiffness (>1hr)	**+**	**–**
Improves or worsens with activity?	**Improves**	**Worsens**
Constitutional sx	**+**	**–**
ESR/CRP	**Elevated**	**Normal**
Extra-articular manifestations		

Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Prolonged morning stiffness (>1hr)	**+**	**–**
Improves or worsens with activity?	**Improves**	**Worsens**
Constitutional sx	**+**	**–**
ESR/CRP	**Elevated**	**Normal**
Extra-articular manifestations	**+**	**–**

Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Synovitis (ex: hands, wrist)		
Joint effusion (ex: knee)		
Warmth		
Erythema		

Inflammatory vs. non-inflammatory joint pain

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Synovitis (ex: hands, wrist)	+	–
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Inflammatory vs. non-inflammatory joint pain

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Joint effusion (ex: knee)	**+**	**+/-**
Warmth		
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Synovitis (ex: hands, wrist)	**+**	**–**
Joint effusion (ex: knee)	**+**	**+/-**
Warmth	**+/-**	**–**
Erythema		

Inflammatory vs. non-inflammatory joint pain

	Inflammatory ***(RA, SpA, SLE, etc)***	**Non-inflammatory** ***(OA)***
Synovitis (ex: hands, wrist)	**+**	**–**
Joint effusion (ex: knee)	**+**	**+/-**
Warmth	**+/-**	**–**
Erythema	**+/-**	**–**

Useful screening questions for inflammatory arthritis

- “Is there a particular time of day when your joint pain and stiffness is the worst?”
  - [If they report AM stiffness → “How long does it take before your joints start to loosen up?”]

- ”Does being active (walking around, using your hands, etc) generally make your joints feel better or worse?”

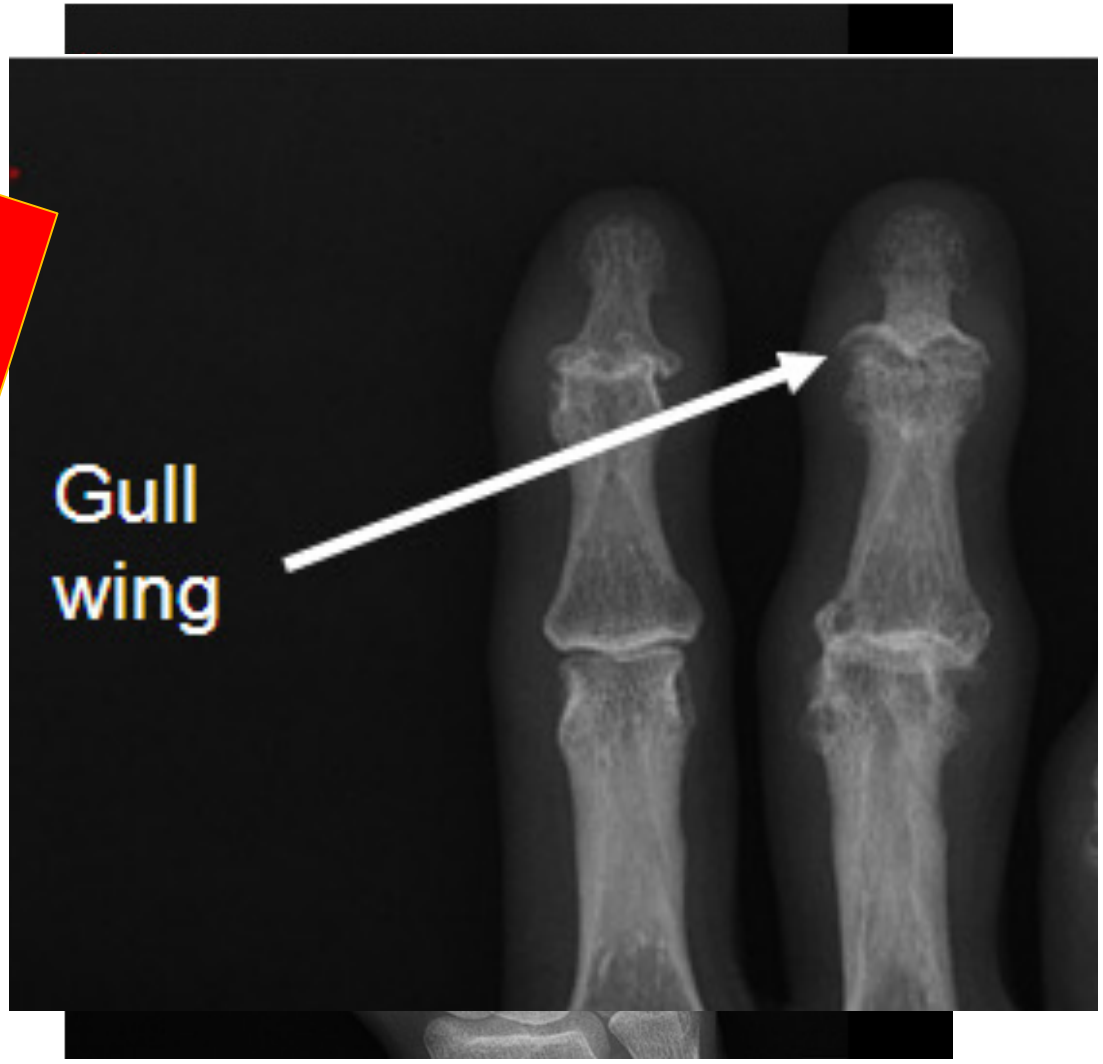
The plot thickens…

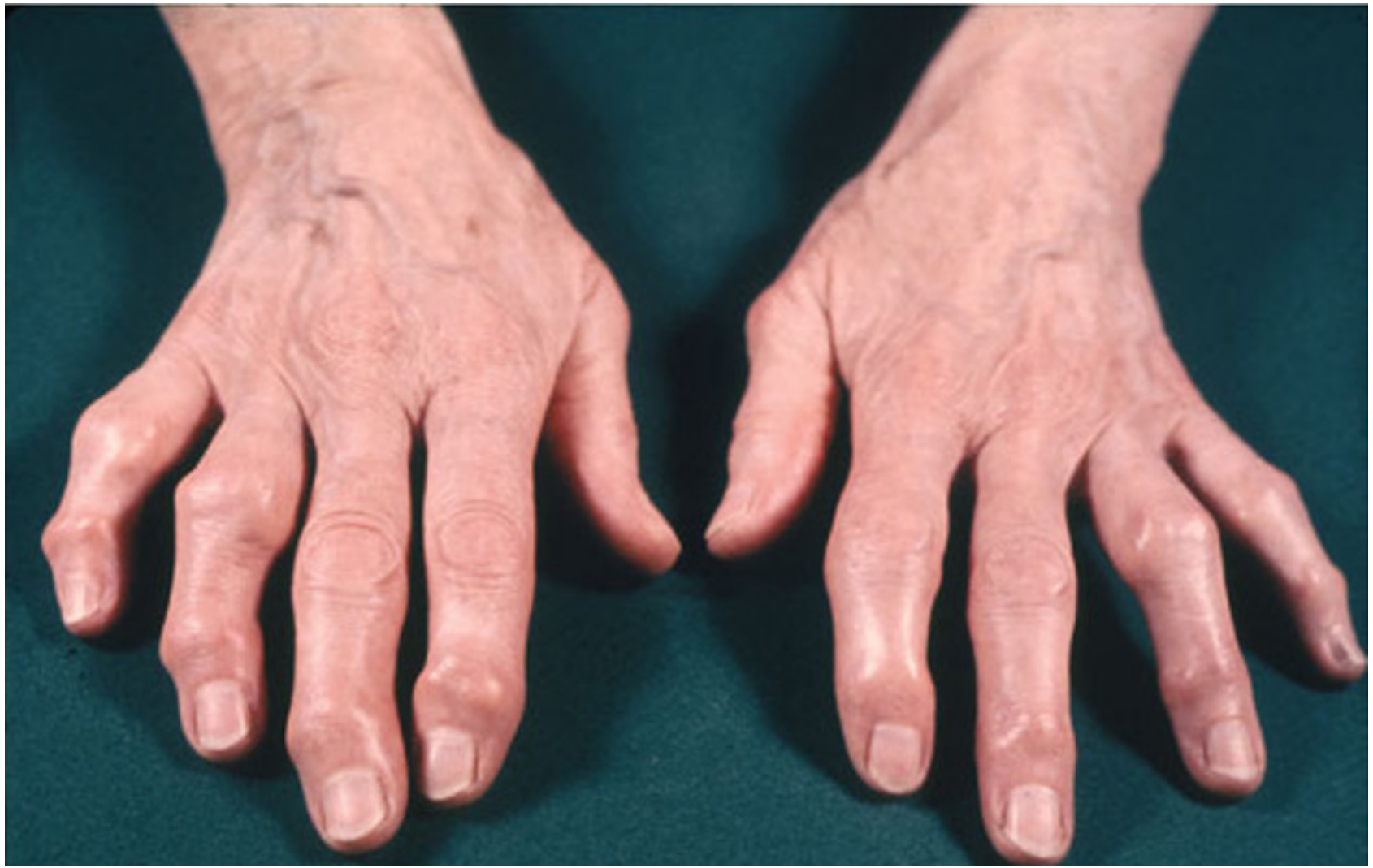
So what is Erosive OA??

A form of OA that is characterized by inflammation and erosions.

Wait, what???

- Affects the **hands (DIPs,** PIPs)
- Peri/postmenopausal women
- Warmth, swelling, synovitis, AM stiffness
- Can cause **central erosions** in the DIPs/PIPs
- NOT autoimmune, does not benefit from immunosuppression
- DDx = psoriatic arthritis, gout/CPPD
- Less debilitating than RA, tends to “burn out” over time



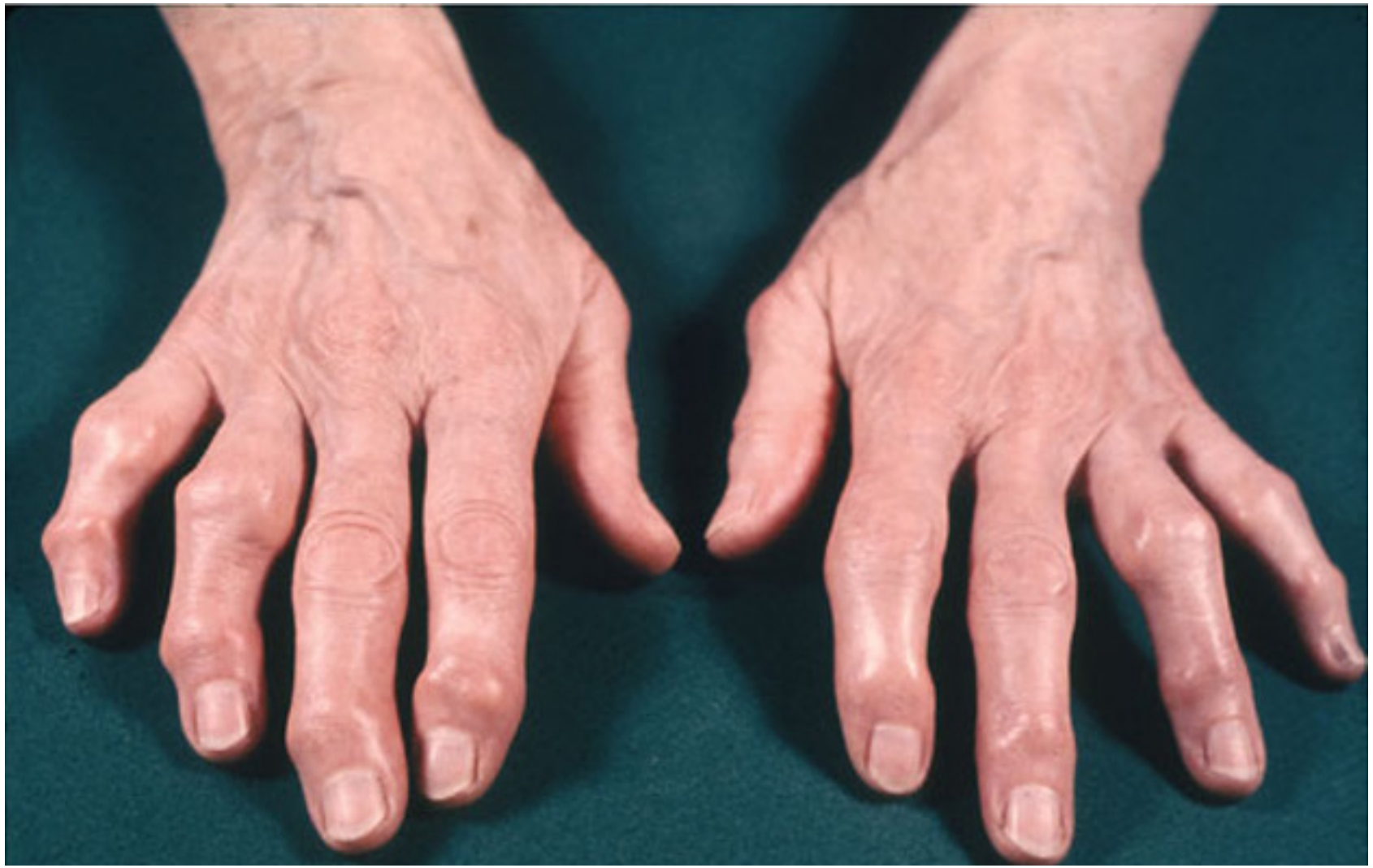


	Erosive OA	RA
Demographics	F>>>M (12:1), often starts around menopause, family history common	F>M (2:1), typical onset age 30-50 but can occur at any age
Joints involved	Fingers: **DIPs**, PIPs	Widespread: small/med/large joints. **Spares the DIPs.**
Erosions	Central (“gull-wing deformity”)	Marginal
Warmth, synovitis, AM stiffness	Yes	Yes
ESR, CRP	Normal	Elevated
RF, CCP	Negative	Usually positive
Natural history	Worsens in each joint for ?2-5 years, then plateaus	Chronic, progressive
Treatment	Typical OA treatments, intra-articular steroid injections, ?hydroxychloroquine	Immunosuppression: conventional DMARDs, biologics, steroids

Case Presentation

Case

- A 60 year old woman presents with pain and stiffness in her fingers that has been worsening over the past 5 years.
- All of her PIPs and DIPs are affected -- she notes that these joints have been getting bigger and becoming “twisted”. She can no longer wear her rings. It is difficult to do her favorite crochet hobby.
- She reports tenderness in her PIPs and DIPs that waxes and wanes – sometimes associated with swelling, warmth, and redness.
- The pain and stiffness is worst in the morning, lasting several hours
- She has tried Tylenol and ibuprofen, which both help somewhat.
- She recalls her mother had similar changes in her hands later in life.



Does this sound like inflammatory or non-inflammatory arthritis?

Case

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- The pain and stiffness is **worst in the morning, lasting several hours**
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- She recalls her mother had similar changes in her hands later in life.

Which of the following would you do next?

A. Detailed skin exam
B. Order uric acid
C. Order hand xrays
D. Order Rheumatoid Factor (RF) and anti-CCP Ab
E. All of the above

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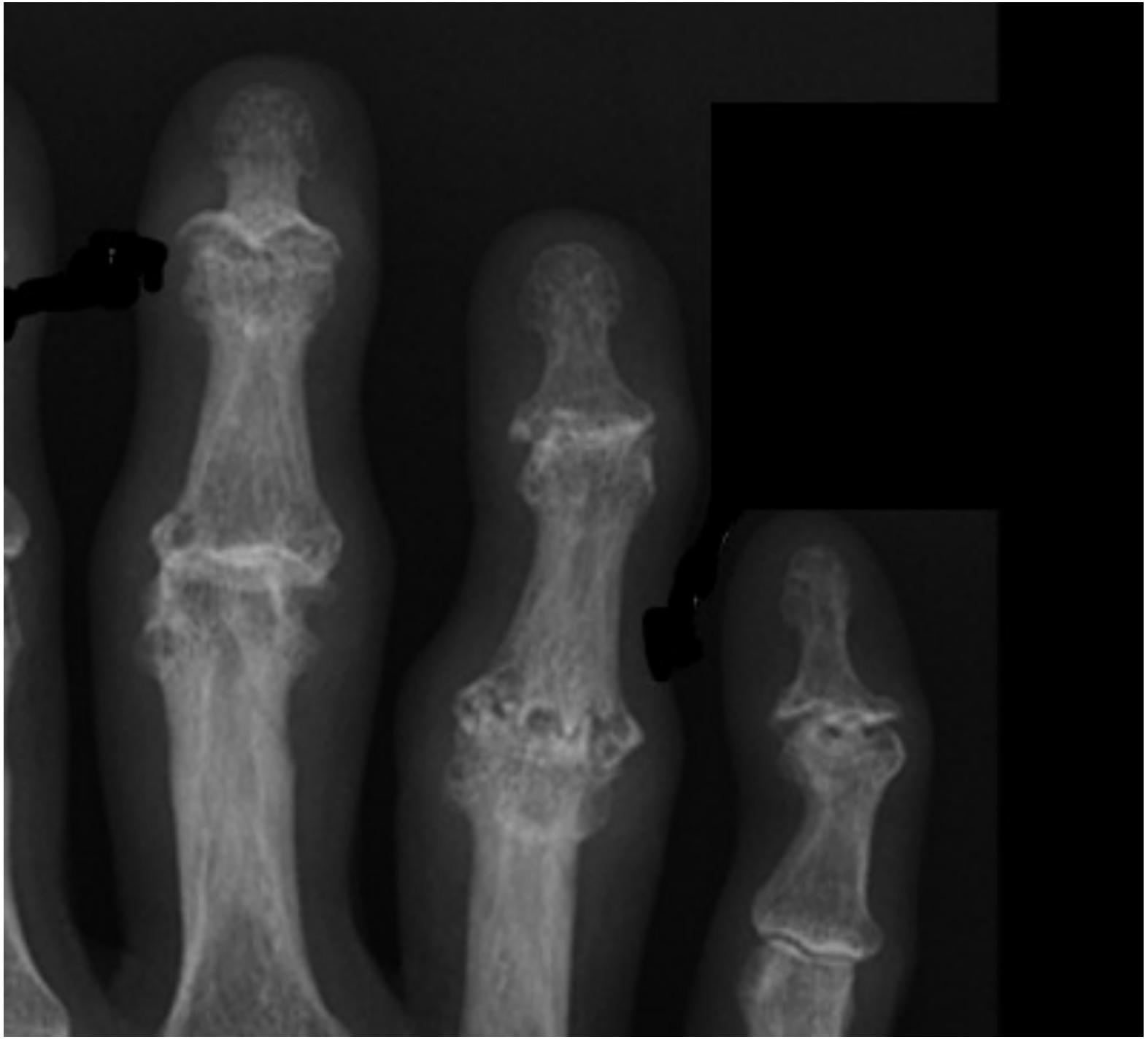
Case, continued

- She denies any history of skin rashes such as psoriasis. There is no psoriasis or nail pitting on exam.
- Uric acid is normal.
- RF and CCP are negative.

Hand xrays



What is the most likely diagnosis?

A. Osteoarthritis
B. Seronegative Rheumatoid Arthritis
C. Psoriatic Arthritis
D. Pseudogout/CPPD
E. Erosive Osteoarthritis

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C. Psoriatic Arthritis
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Next week….

Labs & Xray Findings in RA

Thank you!

Please reach out to raeinitiative@gmail.com with any inquiries or comments.