

Approach to Polyarthrititis

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Definition

- ▶ Polyarthrititis – Arthritis which involves >4 joints simultaneously
- ▶ Pauci/Oligoarthrititis - Arthritis which involves < 4 joints simultaneously
- ▶ Monoarthrititis – 1 Joint



Assessment of joint pain

1. Site and distribution of pain
2. Type of pain
3. Duration of pain
4. Other risk factors
5. Associated Symptoms
6. Physical signs



1.Site and distribution of pain

- ▶ Is the joint, peri-articular or muscle pain?
- ▶ Which joints are involved ?
- ▶ Symmetrical or Asymmetrical ?
- ▶ Pattern of involvement?



Articular vs non articular pain

Articular

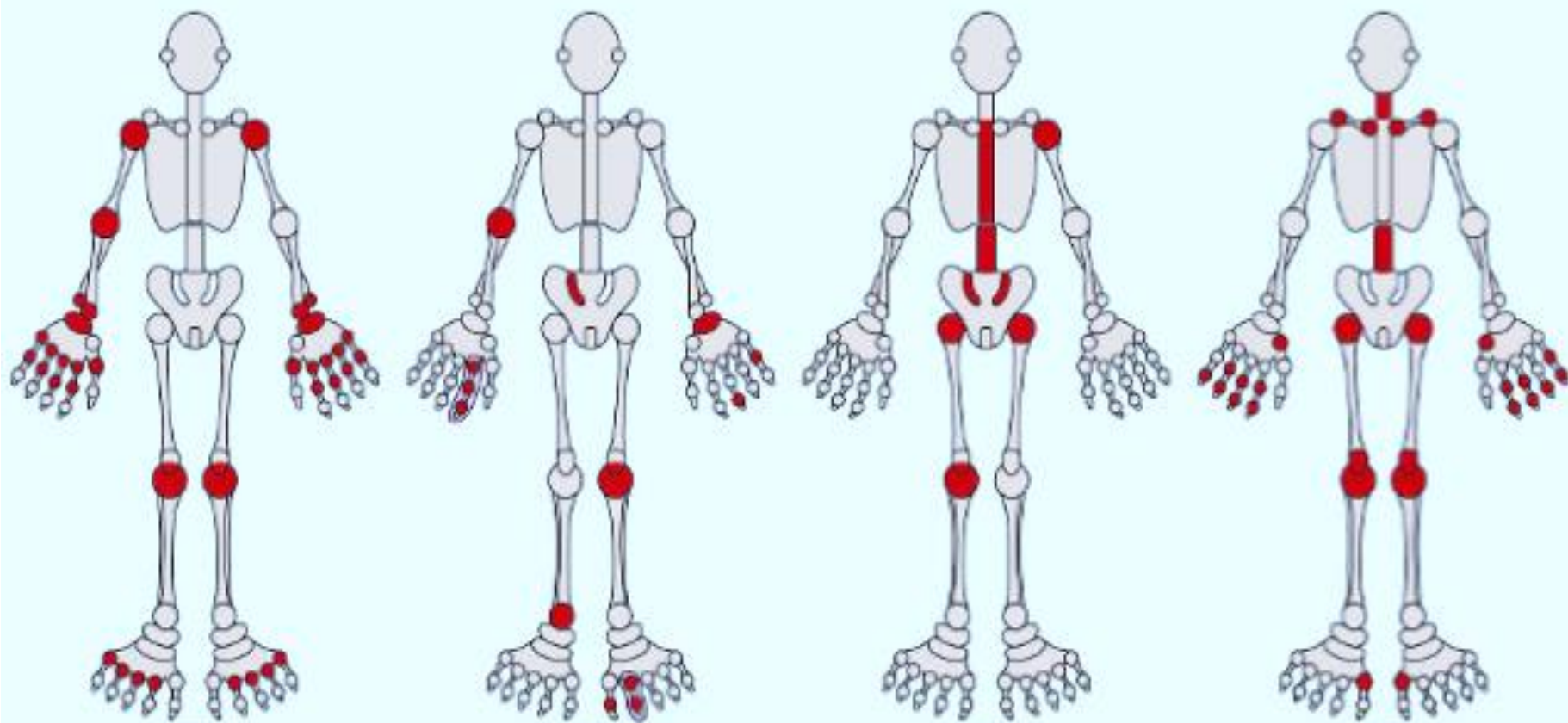
- ▶ Diffuse/Deep pain
- ▶ Pain/Limitation of AM and PM
- ▶ Swelling of joint
- ▶ Crepitation and locking

Non Articular

- Localized pain
- Painful AM but not PM
- Swelling, crepitation, locking and deformities are rare



Symmetrical Vs Asymmetrical



From left to right: Rheumatoid affecting MCP, PIP, MTP and other joints in a symmetrical fashion. Psoriatic arthritis affecting PIP, DIP and large joints in an asymmetrical fashion. Ankylosing spondylitis affecting the axial skeleton and large peripheral joints in an asymmetrical fashion. Osteoarthritis affecting the DIP, base of thumb, knees, hips, lumbar and cervical spine.

Temporal pattern of involvement

- ▶ Additive
- ▶ Migratory
- ▶ Intermittent
- ▶ Palindromic



Temporal pattern of involvement

Additive- Inflammation persists in involved joints as new ones become affected.

Intermittent- Episodic involvement occurs, with intervening periods free of joint symptoms.

Migratory: Inflammation persists for only a few days in each joint. The arthritis migrates from one joint to the other.



Temporal pattern of involvement

Palindromic- sudden, multiple, and recurring attacks of joint pain and swelling.

- ▶ Each episode lasting for a few hours – days
- ▶ Two or more joints are involved
- ▶ Different joints are involved in different episodes.



2.Type of pain

- ▶ Is it Inflammatory?
- ▶ Is it Mechanical/Degenerative?
- ▶ What makes the pain worse/better?



Inflammatory Vs Mechanical

Feature	Inflammatory	Mechanical
Morning stiffness	>30-60m	< 30 min
Fatigue	Profound	Minimal
Activity	Improves	Worsens
Rest	Worsens	Improves
Systemic	Yes	No
Corticosteroid	Yes	No



Inflammatory Vs Mechanical

Feature	Inflammatory	Noninflammatory
Pain (when?)	Yes (Morning)	Yes (Evening)
Swelling	Soft tissue	Bony
Erythema	Sometimes	Absent
Warmth	Sometimes	Absent
AM stiffness	Prominent	Minor (< 30 ')
Systemic features	Sometimes	Absent



3. Duration of pain

- ▶ Acute (< 6weeks)
- ▶ Chronic (>6weeks)



Acute Polyarthrititis

▶ **Infection**

- ▶ Gonococcal
- ▶ Meningococcal
- ▶ Acute rheumatic fever
- ▶ Bacterial endocarditis
- ▶ Viral(esp.. rubella, hepatitis B, parvovirus, Epstein-Barr, HIV)

▶ **Other inflammatory**

- ▶ Rheumatoid arthritis
- ▶ SLE
- ▶ Reactive arthritis
- ▶ Psoriatic arthritis
- ▶ Polyarticular gout



Chronic Polyarthrititis (>6 weeks)

▶ **Inflammatory**

- ▶ Rheumatoid arthritis
- ▶ Polyarticular Juvenile chronic arthritis
- ▶ SLE
- ▶ Progressive systemic sclerosis
- ▶ Polymyositis
- ▶ Reiter's syndrome

▶ **Noninflammatory**

- ▶ Osteoarthritis
- ▶ Pseudogout (CPPD)
- ▶ Polyarticular gout
- ▶ Paget's disease
- ▶ Fibromyalgia
- ▶ Hemochromatosis



4. Other Risk Factors

- ▶ Age
- ▶ Sex
- ▶ Racial/Ethnic background
- ▶ Family History



Males vs Females

AGE	FEMALE	MALE
Young adults	RA, SLE	Sero-ve/ Reactive Psoriatic
Middle age	RA, OA	RA, GOUT
Old Age		OA, Polymyalgia rheumatica, Crystal arthritis

Family history may be particularly relevant in spondyloarthropathies- HLA-B27, rheumatoid arthritis,



5. Associated symptoms & Signs

Skin, nails and mucous membranes

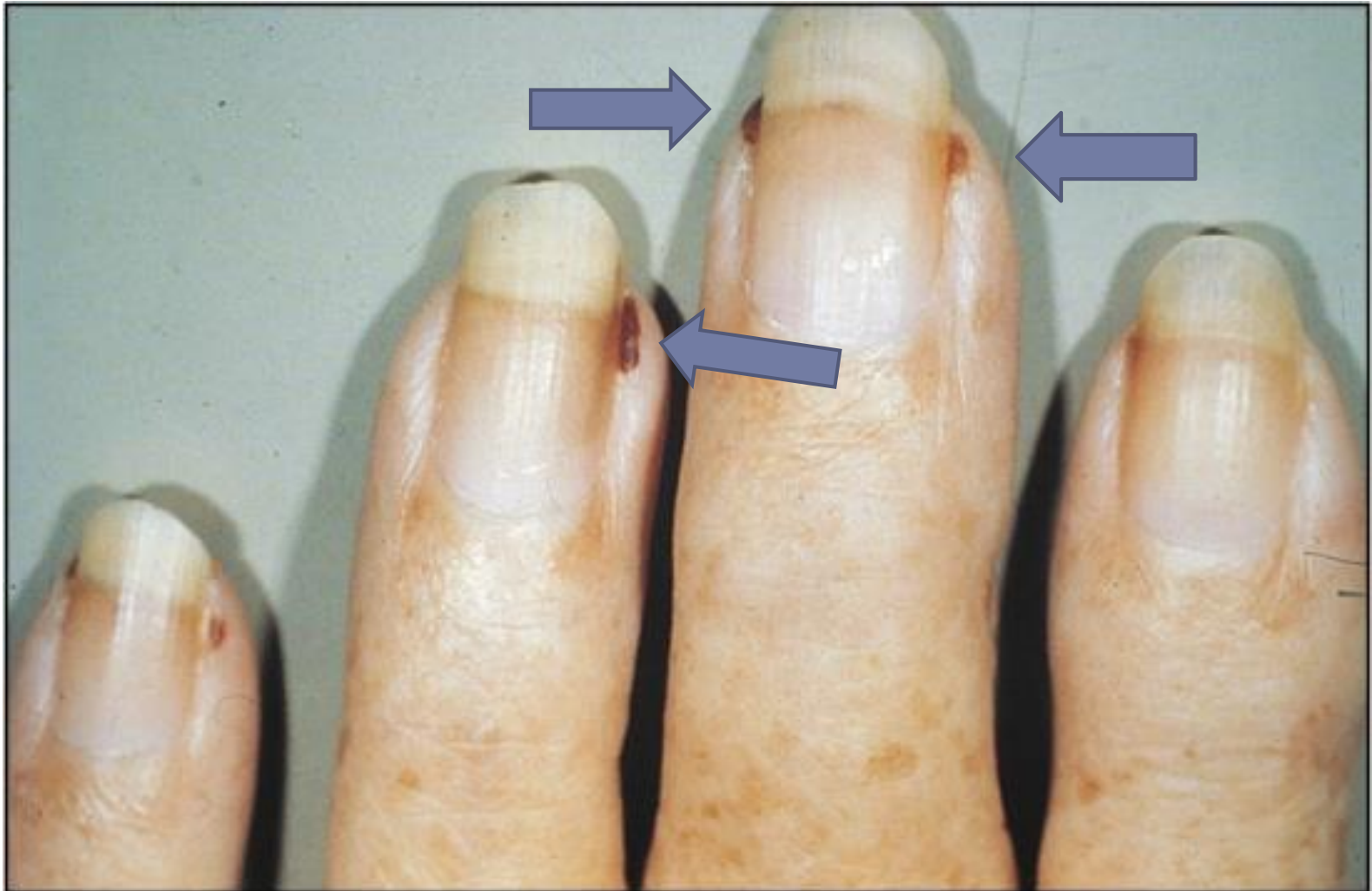
- ▶ Psoriasis, nail pitting and dystrophy → Psoriatic arthritis.
- ▶ Raynaud's phenomenon,
Photosensitivity, Oral ulcers → SLE
- ▶ Splinter haemorrhages, nail-fold infarcts → Vasculitis
- ▶ Large nodules on the extensor surfaces → RA, Gout



Nail Pitting - Psoriasis



Nail Fold Infarcts



Raynaud's phenomenon

Raynaud's Phenomenon



1. Fingers can become white due to the lack of blood flow



2. The fingers may turn blue as the blood vessels dilate to keep the blood in the tissues



3. Finally the fingers may turn red as the blood begins to return



Molly's Fund
fighting lupus

www.mollysfund.org

Nodules on extensors



Associated symptoms & Signs

Eyes

▶ Uveitis  Seronegative spondyloarthropathies

▶ Conjunctivitis  Reactive arthritis

▶ Episcleritis, scleritis  RA, vasculitis

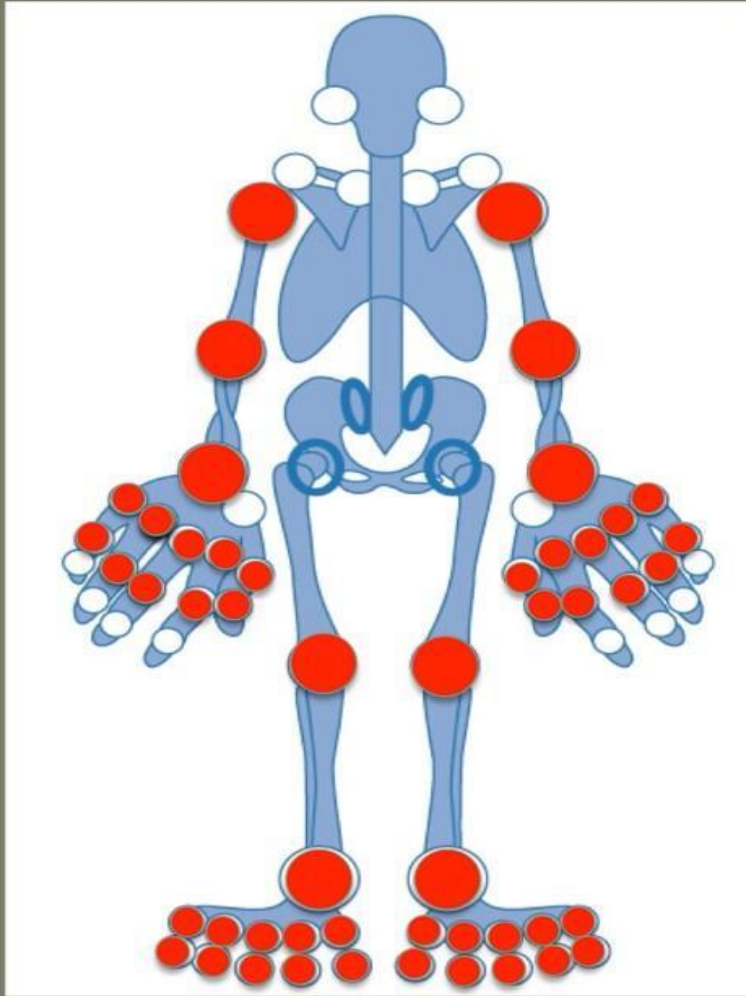


Differential Diagnosis

- ▶ Rheumatoid arthritis
- ▶ Chronic gout
- ▶ Septic arthritis
- ▶ SLE
- ▶ Ankylosing spondylosis
- ▶ Psoriatic arthritis



Rheumatoid arthritis



Arthritis Patterns 1 Rheumatoid Arthritis

- Bilateral Symmetric
- Involves small joints of hands and feet
- DIPs & 1st CMC are commonly spared
- Can also involve larger joints in addition

Rheumatoid arthritis - Deformities

Swan neck deformity



DIP flexion with PIP hyperextension

Normal joint



Swan neck deformity



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Rheumatoid arthritis - Deformities

Z- Deformity



- Radial deviation at the wrist
- Ulnar deviation of the digits, and often
- Palmar subluxation of the proximal phalanges



Extra articular manifestations

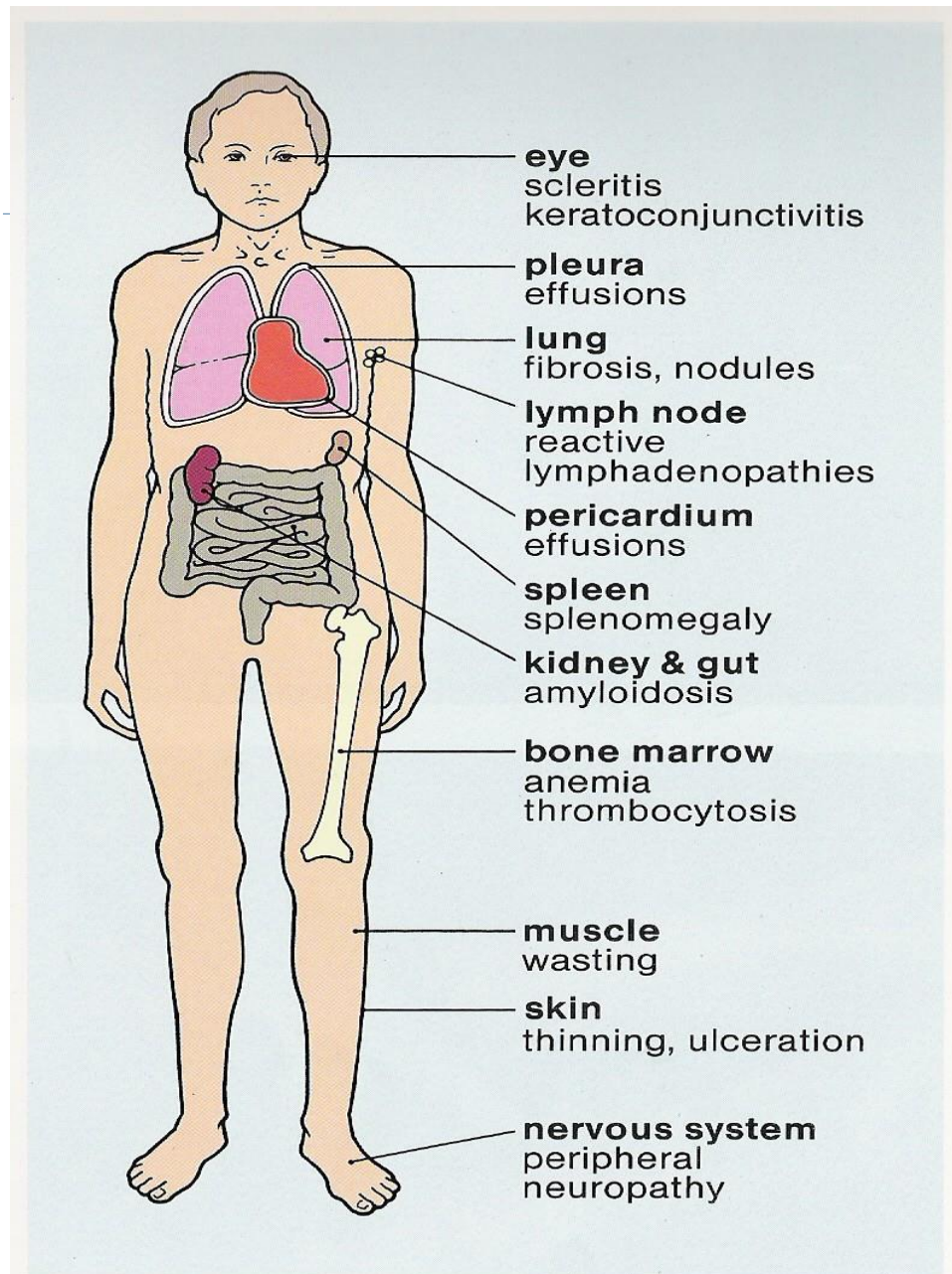
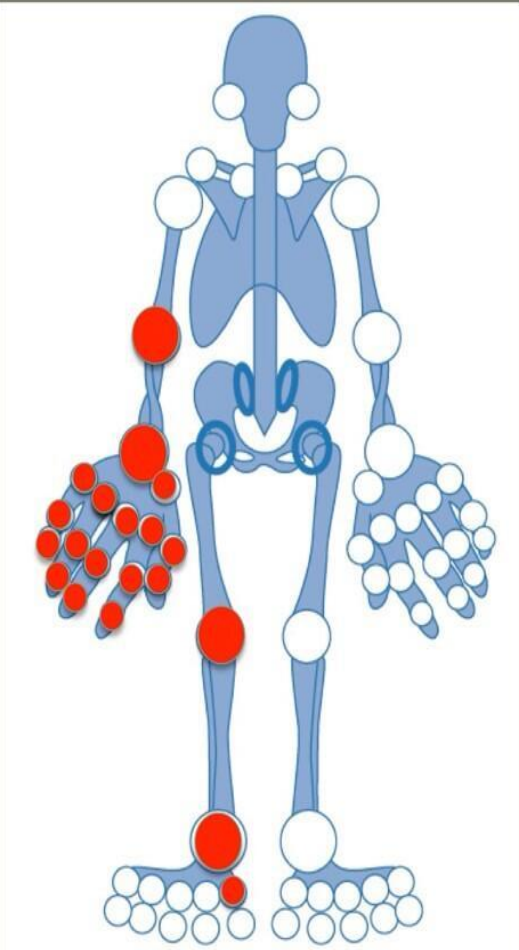


Fig. 3.27 Other organs commonly involved in rheumatoid disease.

Chronic gout



Arthritis Patterns 2
Gout

- 1st MTP is a classic presentation
- Can also affect knees, MTPs, PIPs and DIPs prominently
- Commonly monoarthritis
- Can also present as bilateral asymmetrical polyarthritis
- Red, hot and prominent tophi are clues

- Monoarthritis
- B/L Asymmetrical polyarthritis

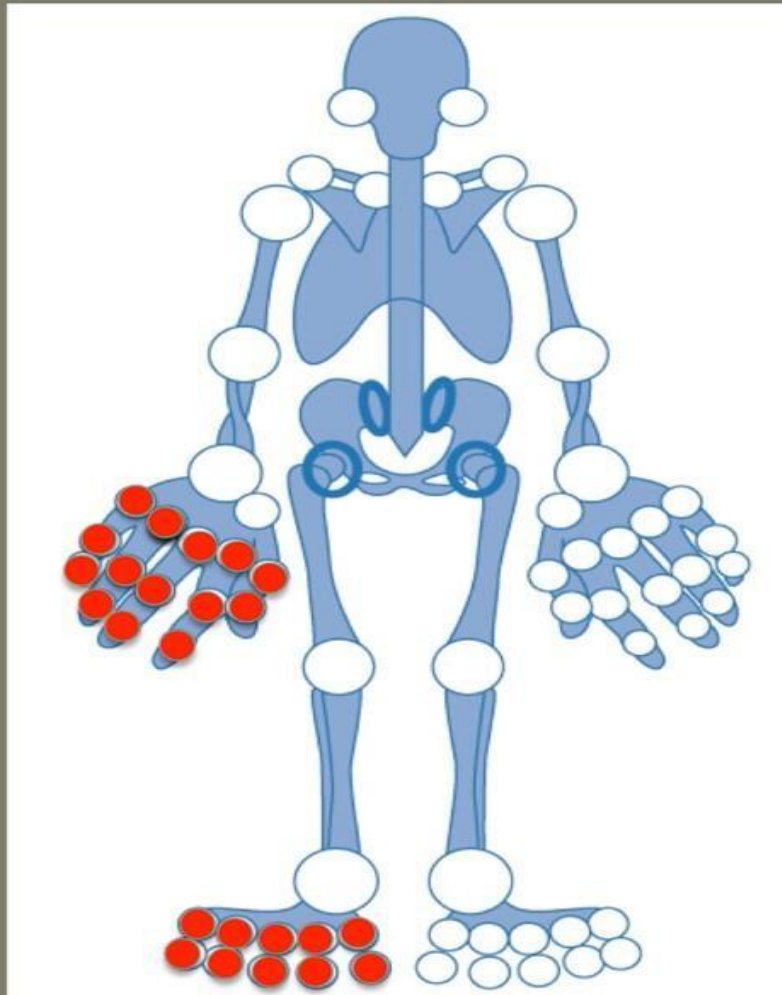


Chronic Gout

- ▶ Hyperuricemia
- ▶ Monoarticular in early stages
- ▶ MTP Joint – Great toe ,
classical presentation
- ▶ Uric acid crystal deposition




Psoriatic Arthritis



Arthritis Patterns 4 Classic Psoriatic Arthritis

- Bilateral asymmetric polyarthritis
- Prominent DIP involvement
- Other clues are enthesitis, dactylitis, tenosynovitis, psoriatic skin changes, psoriatic nail changes
- The 5 patterns of psoriatic arthritis are
 - Classic
 - RA like
 - Oligoarthritis
 - Arthritis Mutilans
 - Spondyloarthropathy

Psoriatic Arthritis

- ▶ Asymmetrical polyarthritis
- ▶ Higher frequency of DIP involvement.
- ▶ Dactylitis (Sausage shape digits) 
- ▶ Enthesitis
- ▶ Recognition of psoriatic plaques



Arthritis in SLE

- ▶ Common manifestation
- ▶ Symmetric involvement
- ▶ Small joints on hand, wrist and Knee joint common
- ▶ Nodules similar to RA
- ▶ Jaccoud's arthropathy
- ▶ Systemic features help in diagnosis



Jaccoud's Arthropathy



Ulnar deviation and Swan neck deformity

Malar rash.



Idiopathic inflammatory myopathies

- ▶ Connective tissue disorder with myositis and weakness.
- ▶ Exact etiology unknown
- ▶ Maybe secondary to SLE or Vasculitis
- ▶ Associated with malignancy

1. Polymyositis

2. Dermatomyositis

3. Inclusion body myositis



2 vs 1

	Dermatomyositis	Polymyositis
Age of onset	Childhood and adult	Adult > 18 years
Clinical features	Symmetric proximal > distal weakness	Symmetric proximal > distal weakness
Skin rash/changes	Yes	No
CPK	Normal/elevated (up to 50 times)	Elevated (up to 50 times)
Associated conditions		
Connective tissue disease	Scleroderma and overlap syndromes	None
Other systemic autoimmune diseases	Infrequent	Yes
Malignancy	Yes	Yes



Signs of dermatomyositis



Gottron's Papules
Scaly erythematous lesions on
extensors of IP joints



Heliotrope Rash

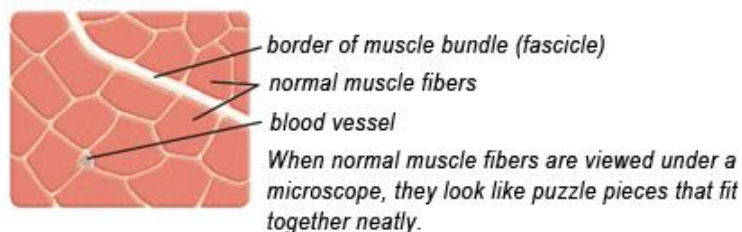
Seen on upper eyelid
Edema +



Inclusion body Myositis

- ▶ MC Muscle disease over 50yrs
- ▶ Males are effected more often
- ▶ DISTAL muscle weakness > Proximal
- ▶ Other features are similar to polymyositis.

Normal Muscle



Inclusion-Body Myositis (IBM)

