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ON HAEMOPHILIA, VWD AND RARE BLEEDING DISORDERS

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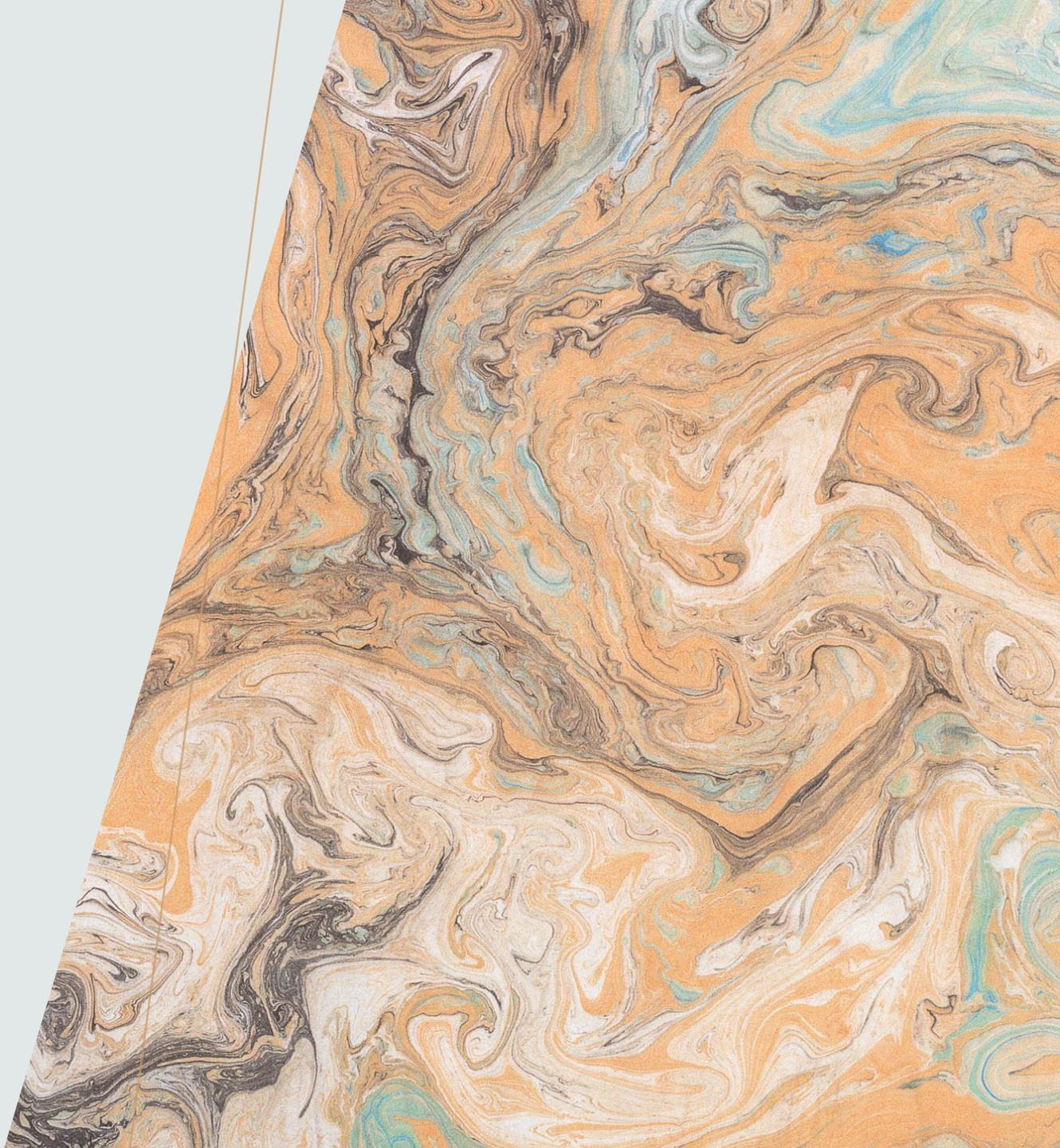
ACUTE SWOLLEN JOINT

DR ROBERT RUSSO



OBJECTIVES

- Evaluation of the acute swollen joint
- Consider differential diagnoses:
  - Mechanical injuries
  - Rheumatic Diseases
  - Metabolic Disease
  - Infectious Conditions
- Approach to investigations

EXAMINATION OF THE SWOLLEN JOINT

- Observation
  - Loss of bony contour
  - Location of swelling
  - Presence of erythema / bruising
  - Skin rashes
- Motion
  - Limitation of movement
  - Fixed positioning of affected joint
  - Abnormal gait
- Touch
  - Heat
  - Focal vs diffuse

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Examination of an acutely swollen joint is not specific

Therefore importance of;

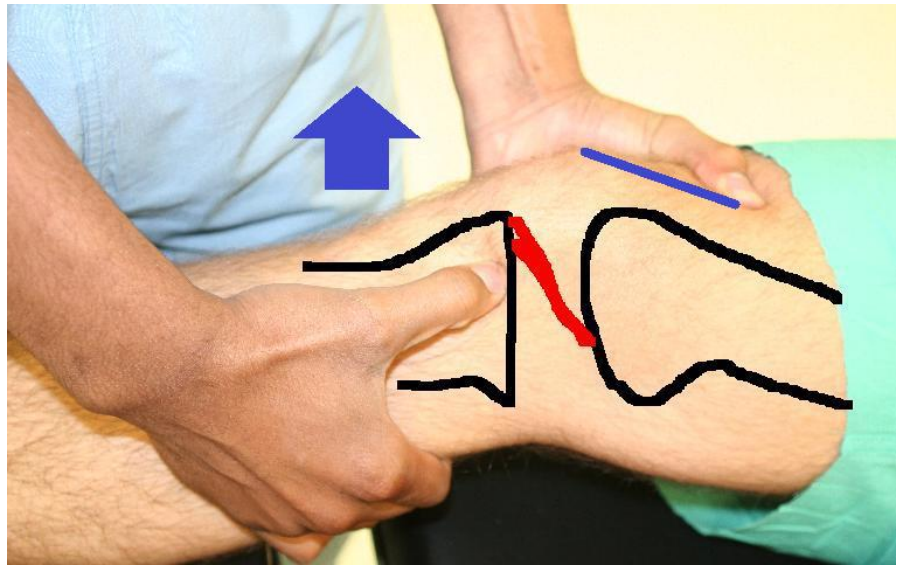
- Preceding history
- Associated symptoms
- Comorbid health conditions
- Family history

MECHANICAL INJURIES

- Most common cause of acute joint / soft tissue swelling
  - Ligament tears
  - Osteochondral trauma
  - Chronic tendon pathology
  - Osteoarthritis
- Usually has an immediate preceding precipitating event
  - Occasionally swelling develops 1-2 days subsequently
- Swelling is predominantly a haemarthrosis
- Specific injury related to;
  - Biomechanics of force
  - Age
  - Structural variation

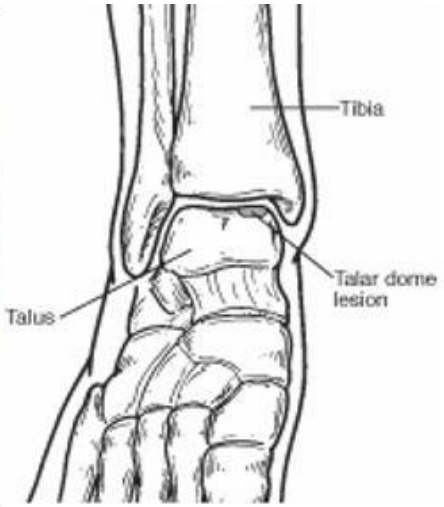
LIGAMENT TEAR

- Examination procedures aim to exert a force normally resisted by an intact ligament



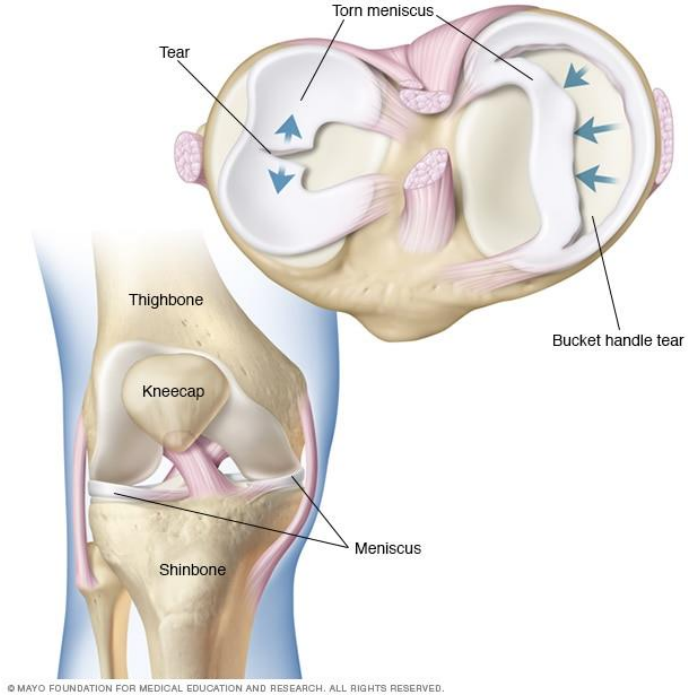
OSTEOCHONDRAL TRAUMA

- Can occur at the same time as ligamentous injury
- Ankle and knee most common
- Clinical indication is persistence of symptoms



MENISCAL INJURY

- Most commonly at the knee
- Mechanisms is a twisting motion on the weight bearing leg
- Suggestive symptom includes
  - Joint locking
  - Giving way
  - Persistent swelling



TENDON PATHOLOGY

- Swelling is usually focal
- Often aggravated by activities that load the tendon

Figure 2

Osgood Schlatter disease

OSTEOARTHRITIS

- Chronic process related to degeneration of cartilage
- Can be accelerate by inflammation of any cause, such as haemarthrosis
- Subchondral bone marrow oedema correlates closely with pain

RHEUMATIC DISEASES

- Group of conditions characterized by the activation of the immune system against self
  - Phenotype defined by specific immune pathways and consequent cytokines involved
  - Cause unknown but relevant factors include;
    - Genetics
      - HLA B27: Seronegative arthropathies
      - HLADR3: Rheumatoid Arthritis
    - Hormonal factors
      - RA, SLE: F>M
      - AS: M>F
    - Environmental Factors
      - Viruses

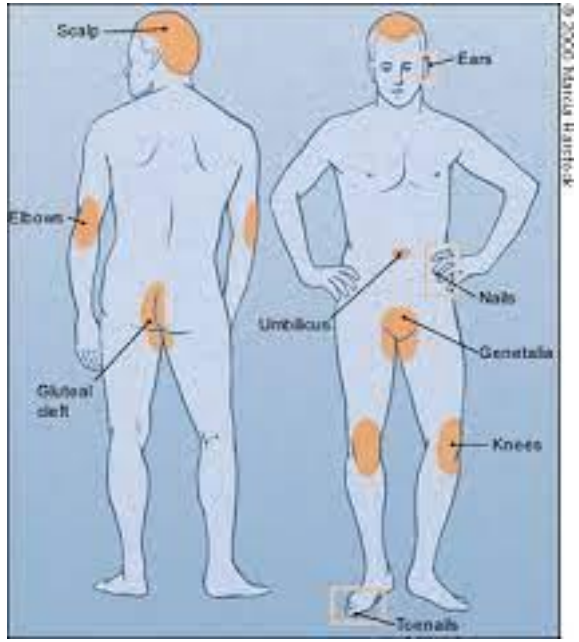
WHAT IS THE CAUSE?

PSORIATIC ARTHRITIS

- Joint disease usually follows skin disease
  - Ave 10yrs
- Skin disease can manifest in various manners
  - Plaque
  - Palmar-plantar
  - Guttate
  - Inverse
  - Pustular
  - Erythrodermic
  - Nail

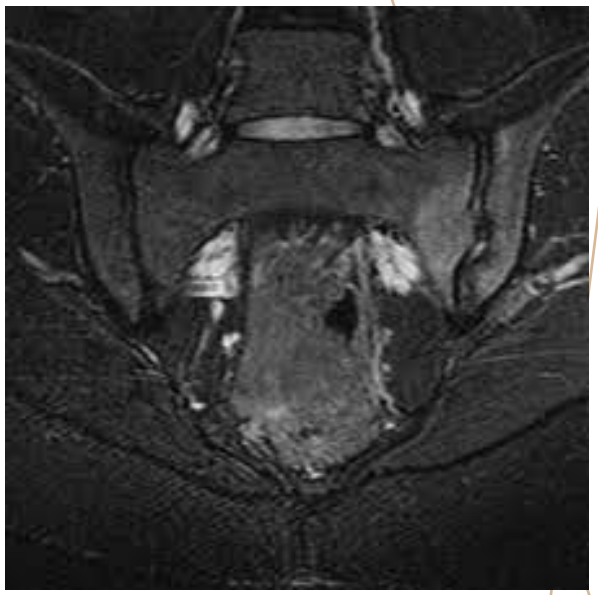
PSORIATIC ARTHRITIS

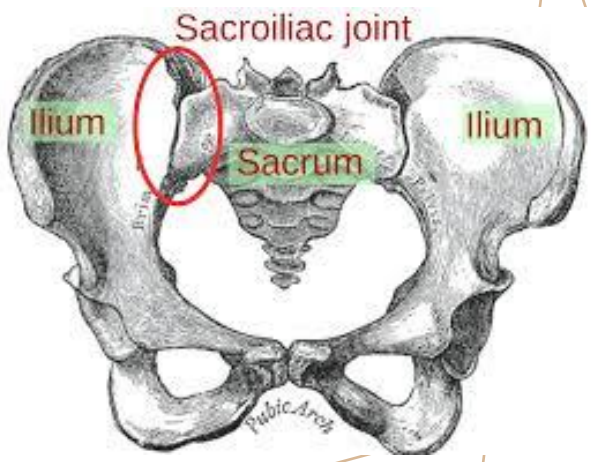
- Skin disease



PSORIATIC ARTHRITIS

- Can present in a number of phenotypes
  - Monoarthritis
  - Polyarticular – Rheumatoid like
  - Axial Spondyloarthritis
  - Mutilans





PSORIATIC ARTHRITIS

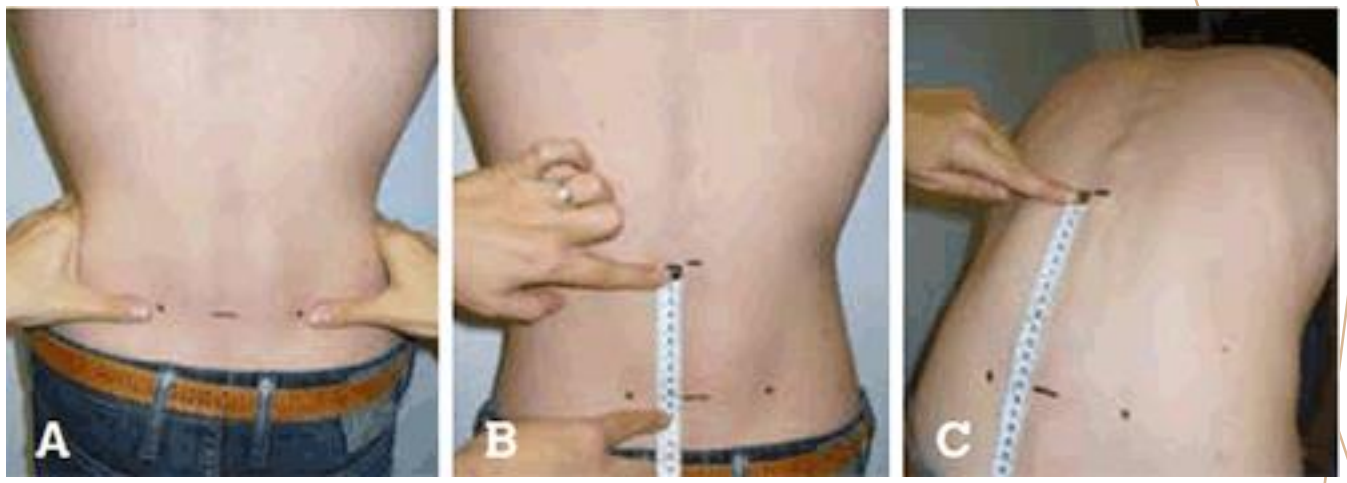
- Extra-articular manifestations include;
  - Uveitis
  - Inflammatory bowel disease
  - Enthesitis

- Variable course
  - Relapsing-remitting
  - Chronic active disease

WHAT IS THE CAUSE?

ANKYLOSING SPONDYLITIS

- Inflammation of entheses
  - Characteristic involvement of spine
    - Most commonly affects sacroiliac joints and thoracic spine
  - Peripheral joint involvement
    - Lower limb joints
      - Knees and ankle
  - Lower limb tendon insertion
    - Achilles tendon and plantar fascia
- M>F
- Progressive loss of movement in spine
- HLA B27 positive : 90%



WHAT IS THE CAUSE?

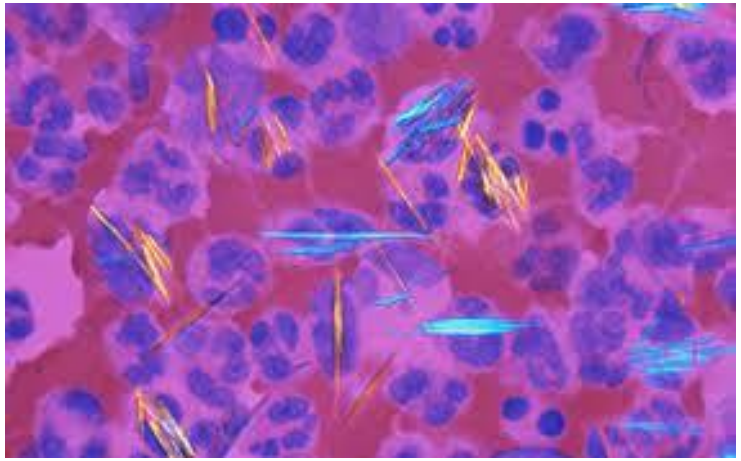
RHEUMATOID ARTHRITIS

- Most commonly presents in polyarticular pattern
  - Rarely present as monoarthritis
  - Most commonly affects hands, wrists, and feet
    - MCP, PIP, MTP joints
    - Spares DIP joints
  - Spine not involved, except C1/2
- F>M
- Erosive arthritis resulting in deformity
  - Affects function

WHAT IS THE CAUSE?

GOUT

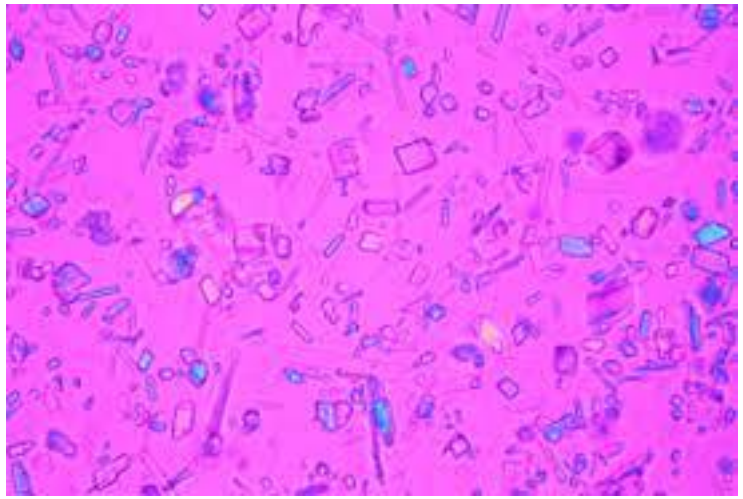
- Metabolic disorder and clearance of Urate metabolism
  - Main factor is inability to clear urate faster than production
  - Genetic predisposition – OAT mutations
    - More common in certain populations – Polynesians
  - M>F
- Development of Monosodium Urate deposits
  - Termed gouty tophi
    - Joints and skin
- Episodes of pain and swelling
  - Triggered by fluctuation in serum urate levels
    - Dietary factors
    - Disease
    - Medications
  - Duration variable: 1-4 weeks



GOUT

CALCIUM PYROPHOSPHATE DEPOSITION DISEASE - CPPD

- Also known as Pseudogout
- Development of Calcium pyrophosphate crystals within cartilage in context of chondral dysfunction
  - Most commonly related to Osteoarthritis
  - Can be secondary to metabolic diseases, such as;
    - Haemachromotosis
    - Hyperparathyroidism
    - Hypophosphatasia
    - Hypomagnesaemia
    - Hypothyroidism



CALCIUM PYROPHOSPHATE DEPOSITION DISEASE - CPPD

- Clinically often presents as a monoarthritis
  - Lower limb joints commonly involved
  - Can affect elbow and wrist
  - Similar episodic pattern
    - Flares lasting 1-4 weeks
  - Do not develop tophi

WHAT IS THE CAUSE?

INFECTION ASSOCIATED ARTHRITIS

- Any microbial organism can associate with an arthritis
- Viral associated arthritides
  - Most commonly polyarticular
  - Typical culprits:
    - Parvovirus B19
    - Chickungunya / Dengue
    - Hepatitis
    - HIV
    - COVID19
- Bacterial
  - Present typically as a monoarthritis
    - Staph A and Strep most common
  - Rapidly destructive process

Chickungunya Associated Arthritis

Septic Arthritis

WHAT IS THE CAUSE

INFECTION ASSOCIATED ARTHRITIS

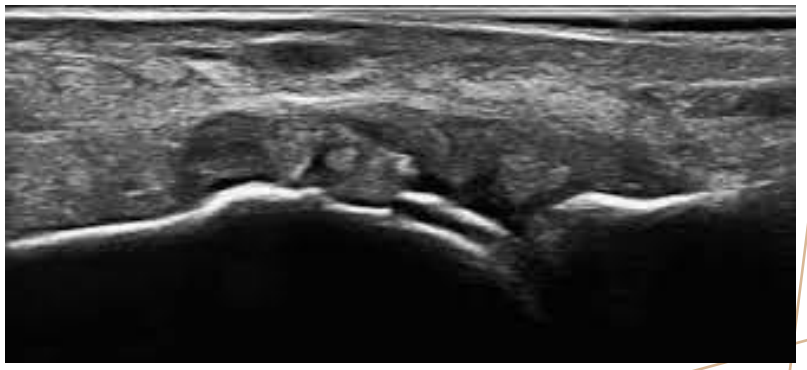
- Reactive Arthritis
  - Sexually transmitted Infections
    - Gonorrhoea
    - Chlamydia
  - Food borne infections
    - Campylobacter
- Clinical feeatures
  - Typically mono or oligoarticular
  - Enthesitis
    - Including spine
  - Iritis / Uveits
  - Urethritis
  - Skin changes

APPROACH TO INVESTIGATION

- Great history and examination
- JOINT ASPIRATE
- JOINT ASPIRATE
- JOINT ASPIRATE
- Blood and urine tests
- Imaging
  - Ultrasound
  - X-ray
  - MRI

APPROACH TO INVESTIGATION

- Blood tests:
  - Serology
    - RF, anti CCP, ANA, HLA B27
  - Metabolic
    - Urate, Iron studies, CMP, PTH, TFTs
  - Inflammatory markers
    - ESR, CRP



CONCLUSION

- Not every swollen joint is a bleed
- The differential diagnosis is broad
- Associated clinical features can be useful
  - However significant overlap exists
- JOINT ASPIRATE should be considered in all to exclude infection
- Imaging can also be of value