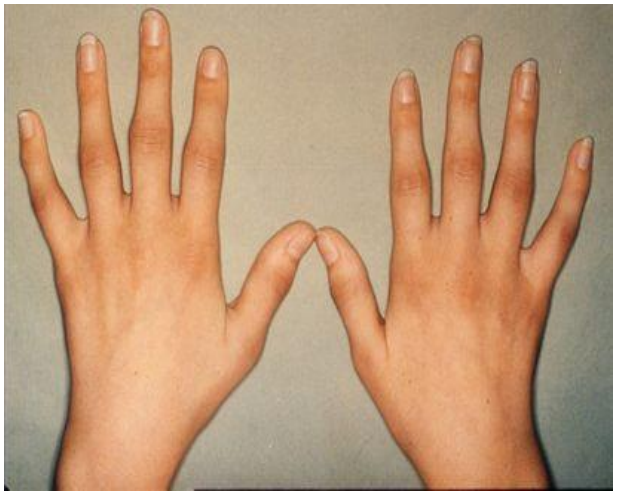
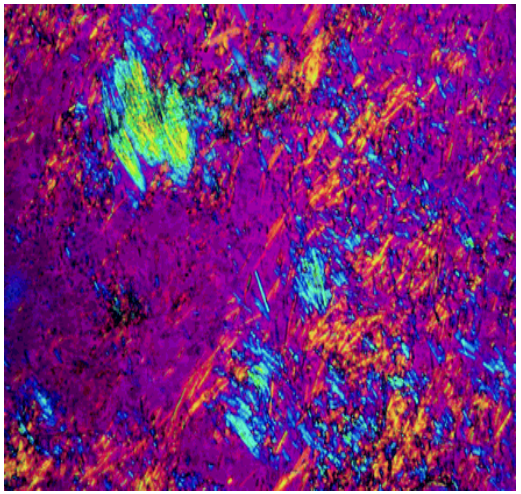
Rheumatology Update
Managing Common Joint Pains in Adults

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National Healthcare Group
Adding years of healthy life

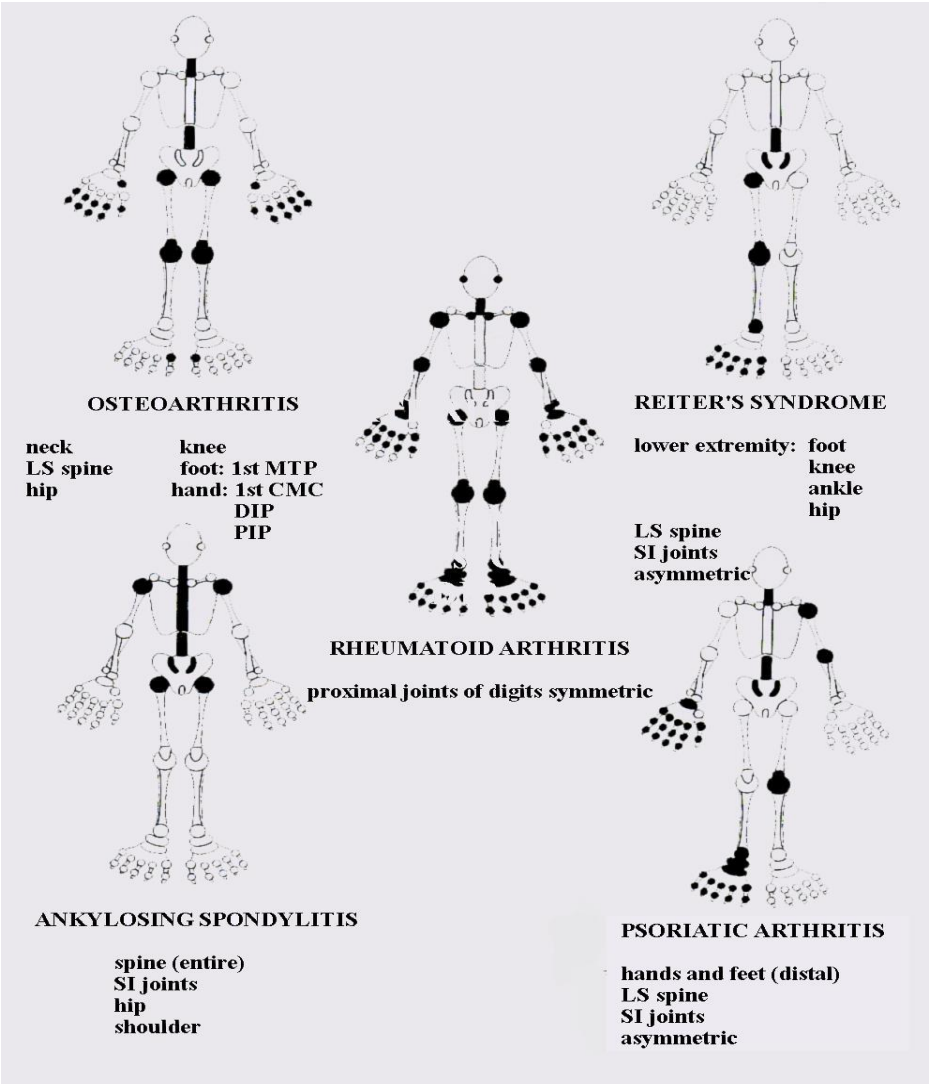
Objectives

- Approach to joint pains in adults

- Clinic management of
  - Osteoarthritis (OA)
  - Rheumatoid Arthritis (RA)
  - Gout

Diagnosis of Inflammatory Arthritis

- History
  - Pain, swelling, early morning stiffness
  - Onset & Progression
    - Acute
    - Additive
    - Migratory
    - Intermittent
    - Persistent
- Pattern of involvement
  - Axial
  - Enthesitis
  - Peripheral joints
    - Large joints
    - Small joints
      - DIPJ
      - PIPJs, MCPJs
  - Symmetric/ asymmetric
  - Mono-, oligo-, polyarthritis



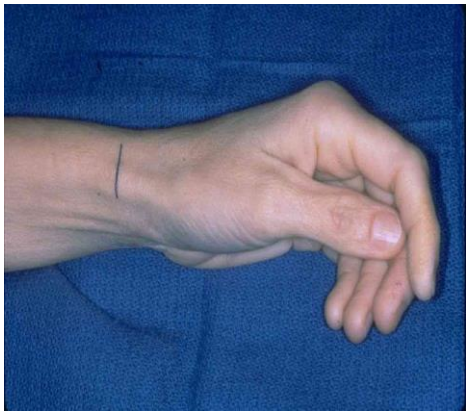
Clinical Pearls

- Different types of arthritis may coexist
  - RA wrists + OA hands
  - Pseudogout in OA knees
  - Septic arthritis in OA knees (recent intra-articular injection steroids)

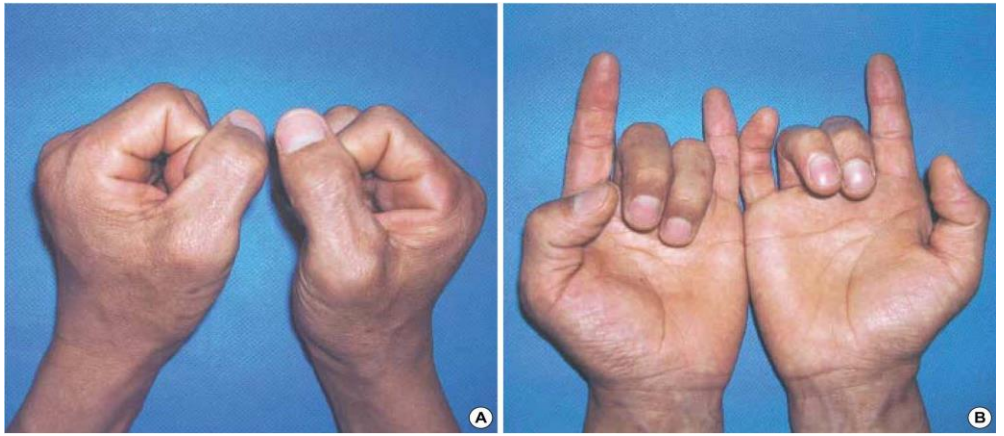
- Concomitant soft tissue problems
  - OA hands + flexor tenosynovitis (trigger fingers)
  - RA + De Quervain's tenosynovitis
  - RA + rotator cuff tendinopathy

Pes planus with posterior tibialis tendinopathy

Benign joint hypermobility



De Quervain's tenosynovitis



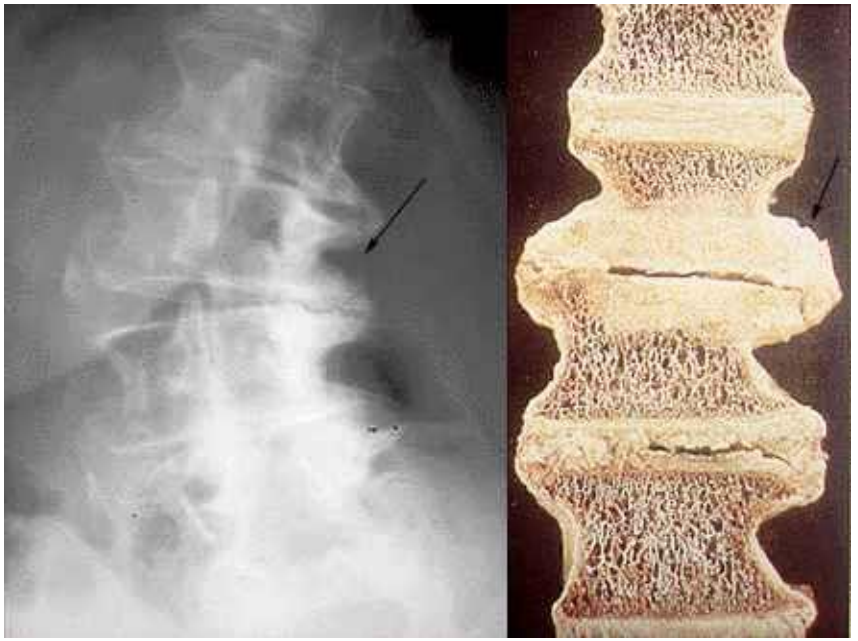
Flexor tenosynovitis (trigger fingers)

OA Patterns

- Common sites
  - Hands (Heberden's and Bouchard's nodes)
  - Knees
  - Spine (lumbar/ cervical) with degenerative disc disease

- Unusual sites – evaluate for secondary OA
  - Shoulders/ Hips
    - Evaluate for inflammatory arthritis/ RA/ SpA
    - Hips – evaluate for AVN
  - Knees with synovitis out of proportion to mechanical OA symptoms
  - Ankles – associated with pes planus

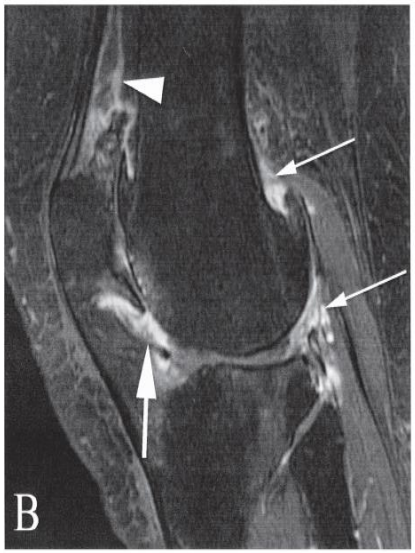
- Usual patterns – e.g. OA hands + RA wrists



OA Synovitis

- OA synovitis
  - ❑ Secondary phenomenon
  - ❑ Ligamentous injury, meniscal tears, loose bodies, hyaline cartilage deterioration in mod/ severe OA
    → Release of detritus from joint
    → Macrophages in the synovial lining

- Exclude concomitant primary inflammatory arthritis in OA knee
  - ❑ RA synovitis (RF/anti-CCP+): DMARDs
  - ❑ Crystal arthritis: Pseudogout > gout (aspirate the joint)



Guermazi A, et al. J Rheumatol 2014;41;501-8

OA: Psoriatic Arthritis May Mimic OA

- DIPJ arthritis → mimic OA Heberden's arthropathy
- Asymmetric oligoarthritis → mimic OA
- Symmetric polyarthritis → mimic RA
- Spondylitis → mimic spinal OA/ spondylosis

- Beware
  - Skin changes
  - Nail changes
  - Synovitis in atypical sites for OA

Management: Hand OA

Non-Pharmacological (OT)

- Evaluate ADL
- Joint protection techniques
- Assisted devices
- Thermal modalities e.g. wax
- Splints for trapeziometacarpal joint OA

(ACR 2012 Conditional recommendations)

Pharmacological

- Topical NSAID, capsaicin (esp age ≥ 75 years)
- Oral NSAIDs/COX-2 selective inhibitors
- Tramadol

Not recommended

- Intraarticular therapies
- Opioid analgesics

(ACR 2012 Conditional recommendations)

Hochberg MC, et al. Arthritis Care Research; 2012; 64:465-74

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Management: Knee OA

Non-Pharmacological

Strongly recommend:
- Cardiovascular (aerobic) and/or resistance land-based exercise
- Aquatic exercise
- Lose weight (for persons who are overweight)

Conditionally recommend:
- Self-management programs
- Manual therapy + supervised exercise
- Psychosocial interventions
- Medially directed patellar taping
- Medially wedged insoles (lateral compartment OA)
- Laterally wedged subtalar strapped insoles (medial compartment OA)
- Thermal agents
- Walking aids, as needed
- Tai chi programs
- Traditional Chinese acupuncture*
- Transcutaneous electrical stimulation*

No recommendations:
- Balance exercises ± strengthening exercises
- Wearing laterally wedged insoles
- Manual therapy alone
- Knee braces
- Laterally directed patellar taping

* Mod-severe pain, unable/not willing to undergo TKR – medical comorbidities, surgical risk > benefits

Hochberg MC, et al. Arthritis Care Research; 2012; 64:465-74

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Management: Knee OA

Pharmacological

Conditionally recommend:

- Acetaminophen
- Oral NSAIDs
- Topical NSAIDs
- Tramadol
- Intraarticular corticosteroid injections

No recommendations:

- Intraarticular hyaluronates
- Duloxetine
- Opioid analgesics

Should not use the following:

- Chondroitin sulfate
- Glucosamine
- Topical capsaicin

Hochberg MC, et al. Arthritis Care Research; 2012; 64:465–74

OA: Surgery

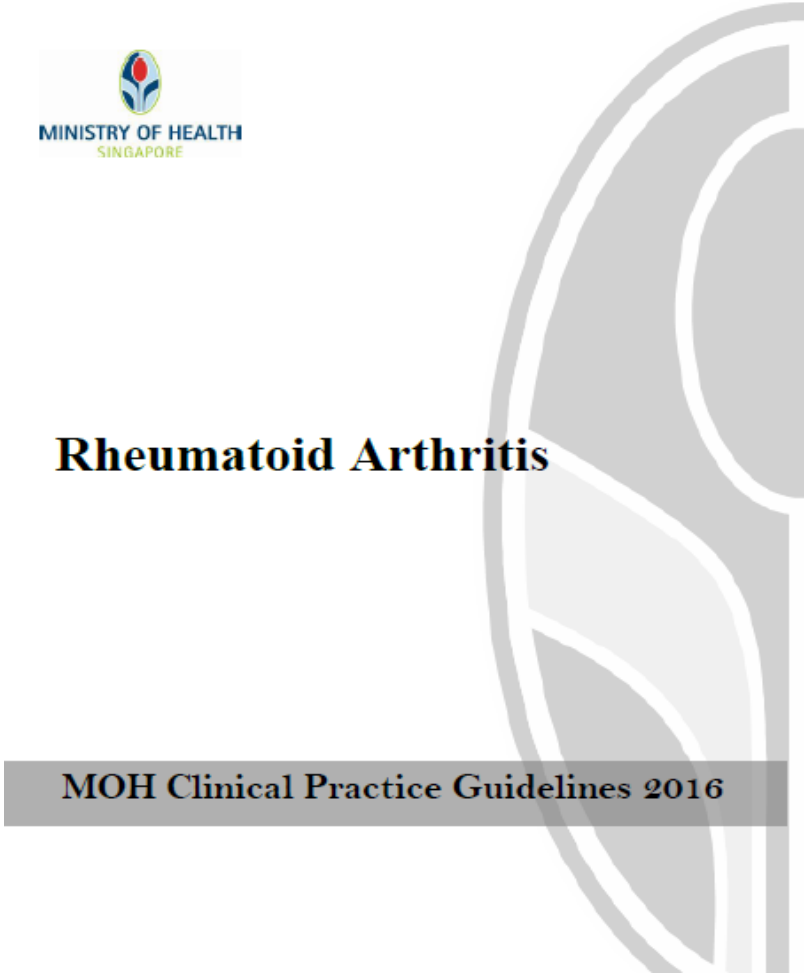
- Failure of non-pharmacologic and pharmacologic therapies

- Indications
  - Knees: progressive symptoms affecting ADLs/QoL
  - Spinal: neurogenic claudication, sciatica, increasing back symptoms
  - Hands: progressive symptoms, affecting function

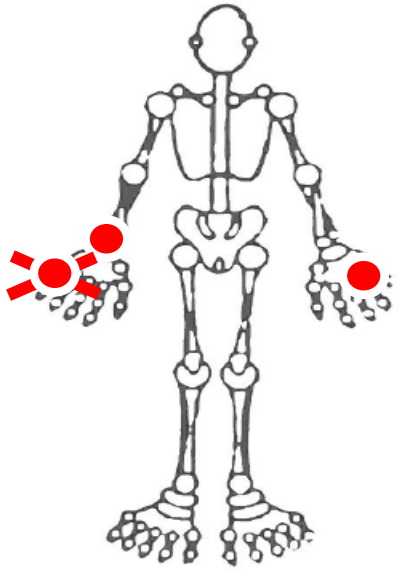
- Radiologic severity especially knees and spine is not an indication for surgery

RA

- Diagnosis
- Monitoring & Assessment (Clinical Disease Activity Index)
- Safety Monitoring for Oral DMARDs
- Management of Acute Flares
- Comorbidity Monitoring
- Immunizations



RA: Classification Criteria
Not Diagnostic Criteria



- 25 yr old Chinese Female
- 3 small joints =2
- ACPA high (+) = 3
- CRP 10 mg/dL = 1
- Duration < 6 wks = 0
- Dx = Early RA

2010 ACR/EULAR Classification Criteria for RA

Target population (who should be tested?)	
Patients with definite clinical synovitis (swelling) in at least one joint.* The observed synovitis is not better explained by another diagnosis. *The differential diagnoses can include conditions such as systemic lupus erythematosus, psoriatic arthritis, and gout. In case of doubts regarding the relevant differential diagnoses, a rheumatologist should be consulted.	
Joint involvement (0-5)	
1 large joint	0
2-10 large joints	1
1-3 small joints (large not counted)	2
4-10 small joints (large 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
Duration of symptoms (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

A score of ≥ 6 is needed for definitive classification of a patient with RA.

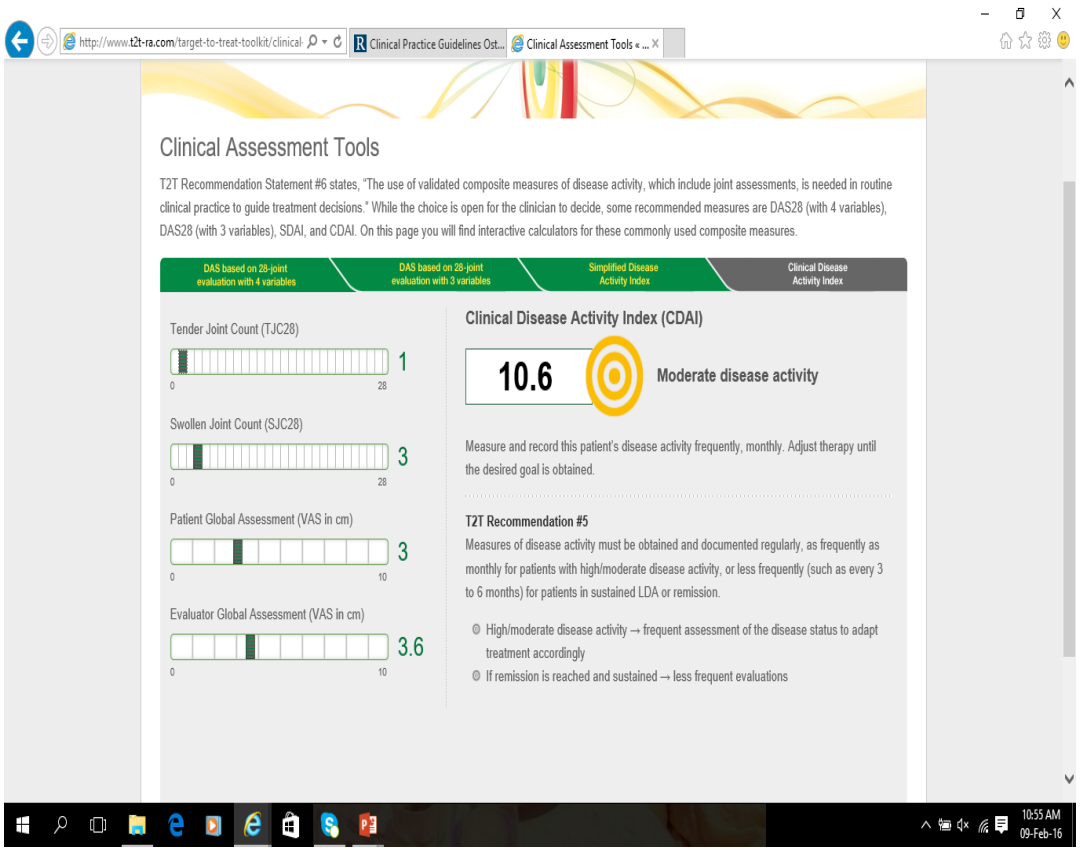
Excludes 1st CMCJ. 1st MTPJ, DIPJ
Large = shoulder, elbow, hip, knee, ankle

RA: Monitoring & Assessment (CDAI)

Cutoff points of the combined disease activity indices according to RA activity

Index	Disease activity status	Cutoff points
SDAI	Remission	≤ 5
	Low	> 5 and ≤ 20
	Moderate	> 20 and ≤ 40
	High	> 40
CDAI	Remission	≤ 2.8
	Low	≤ 10
	Moderate	> 10 and ≤ 22
	High	> 22
DAS28	Remission	≤ 2.6
	Low	> 2.6 and ≤ 3.2
	Moderate	> 3.2 and ≤ 5.1
	High	> 5.1

SDAI: Simplified Disease Activity Index; CDAI: Clinical Disease Activity Index; DAS28: Disease Activity Score (28 joints); modified from Aletaha *et al.*[83]



- Composite outcome measure (quantitative)
- Physician/Patient Global Assessment
- Tender, swollen joint counts
- ± ESR/CRP
- Aim: Low Disease Activity/ Remission

TREAT TO TARGET

http://www.t2t-ra.com/target-to-treat-toolkit/clinical-assessment-tools

RA: Safety Monitoring

- Most DMARDs
  - FBC, Cr, ALT, AST every 3 months
  - E.g. Methotrexate, Sulfasalazine, Hydroxychloroquine

- Special situations
  - Hydroxychloroquine – yearly Eye Screening baseline/ from year 5
  - Leflunomide – FBC, ALT, AST every 8 weeks
  - Ciclosporine – K/Cr
  - IM Gold/ D-Penicillamine – UFEME/dipstix for proteinuria
  - Cyclophosphamide – UFEME for microscopic haematuria

- Caution in Primary Care
  - Drugs that may ↑ ALT/AST: statins
  - Drugs that may ↑ Cr: ACE inhibitors, diuretics
  - Conditions necessitating interruption of DMARD 1-2 weeks: viral infection (causing ↓ TW, platelets)

British Society of Rheumatology 2008 Guidelines
http://www.rheumatology.org.uk/includes/documents/cm_docs/2009/d/diseasemodifying_antirheumatic_drug_dmard_therapy.pdf

RA: Acute Flares

- Oral
  - Prednisolone 5 mg bd or less, short term (< 1 month)
  - NSAID
  - selective COX-2 inhibitor
  - Tramadol
- Intra-articular steroid injection
  - ≤ 4 times a year
  - Intra-articular triamcinolone
    - 40 mg (knee, shoulder)
    - 20 mg (elbow, wrist or ankle)
    - 10 mg (MCPJ, PIPJ)
  - Addition of lignocaine
    - ↓ pain
    - ↓ risk of steroid-induced atrophy
    - ↓ joint inflammation secondary to the formation of steroid crystals

Gout 2016

- Classification
  - Acute, intercritical, chronic tophaceous gout

- Acute Rx
  - NSAID/Coxib
  - Intra-articular triamcinolone injections
  - Prednisolone (in CKD, NSAID hypersensitivity)
  - Colchicine (caution in CKD, statins/macrolides)

- Maintenance Urate Lowering Therapy (ULT)
  - Uricosuric agents (target renal transporters of uric acid e.g. URAT1)
    - Probenecid, Benzbromarone, Losartan
  - Xanthine oxidase inhibitors
    - Allopurinol
    - Febuxostat (for Allopurinol allergy)
  - Uricases e.g. IV Pegloticase (USA/Europe) **

- Target serum uric acid (sUA) $\leq$ 360 umol/L ($\leq$ 300 umol/L if tophaceous)

Gout – Practical Considerations

- Cross-reacting NSAID hypersensitivity
  - Etoricoxib generally safe but best to have drug provocation test done, alternative Prednisolone up to 0.5 mg/kg/d x 5-7 days + Colchicine 0.5 mg bd

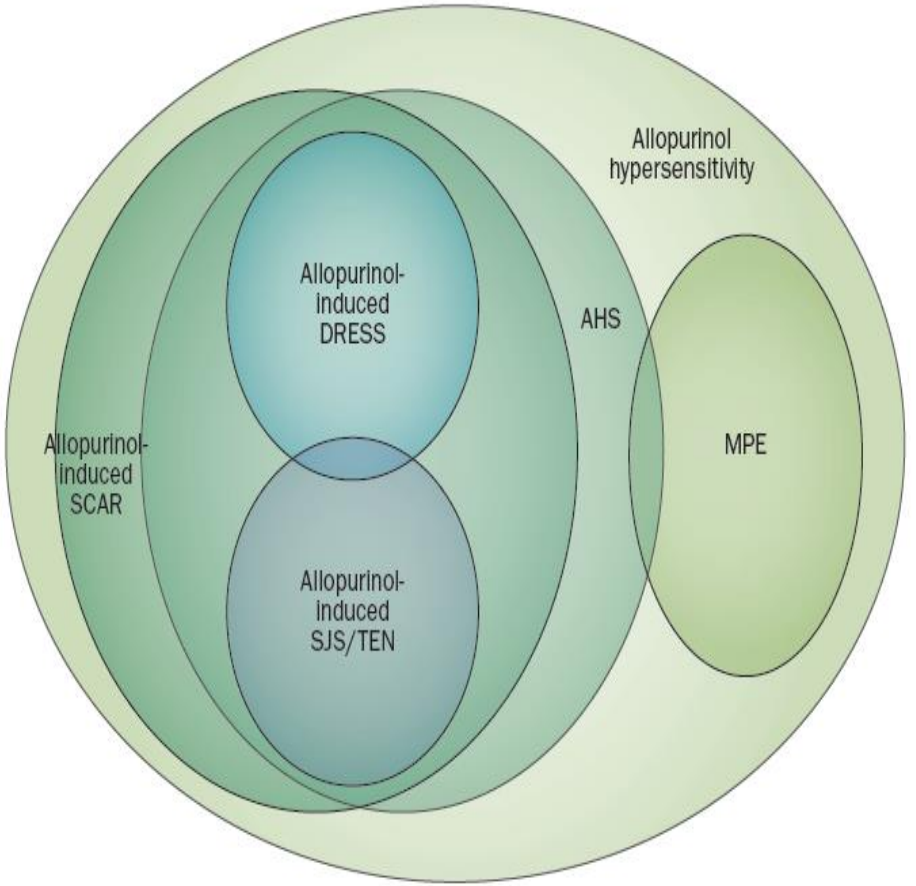
- Chronic Kidney Disease
  - Avoid NSAID/ COX-2 inhibitors, Colchicine esp if Cr > 200 umol/L

- Colchicine
  - Avoid in CKD, or attenuate dose to 0.5 mg 2-3x/week when Cr < 200 umol/L
  - Beware drug interactions with statins/macrolides → risk of vacuolar myopthy

- Probenecid
  - Possibly ineffective when CCT < 30 ml/min
  - Drink plenty of fluids to avoid renal stones
  - Demonstrate low urinary urate excretion with 24h UUA

HLA-B*5801 and Gout

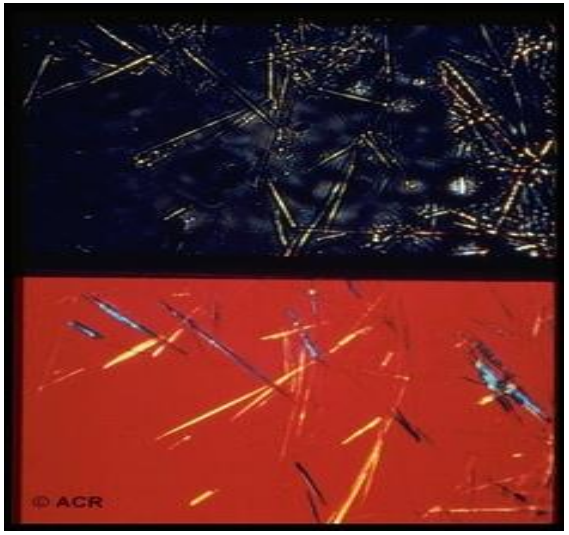
- Association with ethnic Han Chinese (Taiwan)
- High carrier frequency in Asians (6.1%) vs non-Asians (e.g. 0.75% Caucasians)
- Risk of severe cutaneous adverse reactions (SCAR)
  - Stevens Johnson syndrome (SJS)
  - Toxic epidermal necrolysis (TEN)
  - Allopurinol Hypersensitivity Syndrome (HHS)
    - Fever
    - Maculopapular eruption (MPE)
    - Drug induced liver injury (DILI)
    - Acute kidney injury (AKI)



Hershfield MS, et al. Clin Pharmacol Ther 2013; 93:153-8
Stamp LK, et al. Nat Rev Rheumatol 2015 Sep 29. doi: 10.1038/nrrheum.2015.132.

Acute gout (Podagra)

Chronic tophaceous gout



Monosodium urate crystals

Maculopapular eruption

Stevens Johnson Syndrome

Toxic epidermal necrolysis

Risk Factors

Category	Factor	References
Time-related factors	Recent commencement of allopurinol	Hande *et al.* (1984),[4] Hung *et al.* (2005),[6] Lupton & Odom (1979),[20] Stamp *et al.* (2012),[27] Singer & Wallace (1986)[65]
Genetic factors	*HLA-B*58:01*	Hung *et al.* (2005),[6] Saito *et al.* (2015)[31]
Drug-concentration factors	Starting dose	Hande *et al.* (1984)[4]
	Renal impairment	Hande *et al.* (1984),[4] Lupton & Odom (1979)[20]
	Diuretic therapy	Hande *et al.* (1984),[4] Lupton & Odom (1979)[20]

Abbreviation: AHS, allopurinol hypersensitivity syndrome.

Starting dose: 50-100 mg/d, increase after 4-6 weeks
Careful monitoring in first 2-6 weeks esp in CKD (↓ excretion of oxypurinol)
HLA-B*5801 screening not recommended in S'pore

Stamp LK, et al. Nat Rev Rheumatol 2015 Sep 29. doi: 10.1038/nrrheum.2015.132.

Conclusion

- History and physical examination key to diagnosis
- Different types of arthritis may coexist
- Beware of infection especially in joints where injection steroids have been administered
- Non-pharmacological and pharmacologic therapies often needed
- Avoid using oral Predniolone/ Dexamethasone as a "quick fix"