

Inflammatory Arthritis

[Disclaimer](#)

This pathway is for patients aged > 15 years. See also [Gout](#).

Contents

Disclaimer.....	1
Red Flags	2
Background – About Inflammatory Arthritis	2
Assessment	2
Management	5
Acute management	5
Referral	7
Information	7
For health professionals.....	7
For patients.....	8
Disclaimer.....	8

Red Flags

- [Septic arthritis](#)
- Unexplained fever or illness when taking a biologic medication
- Recent fall in renal function and ESR > 100
- Significant constitutional symptoms (fever, weight loss and fatigue)

Background – About Inflammatory Arthritis

- Joint inflammation is a feature of many diseases other than rheumatoid arthritis.
- Diagnosis is largely based on history and clinical exam. In early disease, diagnosis may be difficult. Positive laboratory results are supportive but are not diagnostic.
- Many patients cannot be classified (undifferentiated inflammatory arthritis), particularly in the first 4 to 6 months.

Assessment

1. Take a **history**:

History

Ask about:

- *Back pain*
- *Bowel symptoms*
- *Rashes particularly psoriasis, malar rash, vasculitis type rashes*
- *Recent infections including viral, enteric or genitourinary infection*
- *Family history of inflammatory arthritis*
- *Travel history including mosquito bites*
- *Risk factors for blood borne viruses if viral arthritis is suspected*

Check for diagnostic clues:

- *Joints affected, including onset, duration and associated swelling, erythema and stiffness*
- *Diurnal fluctuations in symptoms*
- *Morning stiffness*
- *Dactylitis*
- *Enthesitis e.g., Achilles tendonitis, plantar fasciitis*
- *Constitutional symptoms, including fever, weight loss, fatigue (may suggest systemic inflammation)*
- *Weakness (myopathy due to connective tissue disorder)*
- *Recent cough or bloody nasal discharge (may indicate vasculitis)*
- *Symptoms that respond to NSAIDs or prednisolone if used*

- Ask how symptoms are impacting on the patient's daily activities.
- Ask the patient to take photographs of their swollen joints to help with diagnosis and monitoring.
- Review previous management.

2. Examination:

- Check for fever.
- Look for **signs of inflammatory arthritis**.

Signs of inflammatory arthritis

- *Synovitis – clinically appears as soft tissue swelling and tenderness around joints, sometimes with heat*
- *Functional limitation – loss of range of motion and strength in affected joint*
- *Number of affected joints (mono, oligo- or polyarticular > 4 joints)*
- *Distribution*
- *Symmetry*
- *Deformity – seen later and generally more rarely now due to availability of DMARDs.*
Includes:
 - *Swan neck deformity – distal interphalangeal (DIP) hyper-flexion with proximal interphalangeal (PIP) hyper-extension*
 - *Boutinierre's deformity – PIP flexion with DIP hyper-extension*
 - *Ulnar deviation due to inflammation of the metocarpophalangeal joints causing dislocation of the fingers*

- Use the **squeeze test**.

Squeeze test

This is a screening test for inflammatory arthritis. If gentle squeezing together of the 2nd and 4th metacarpophalangeal (MCP) or the metatarsophalangeal (MTP) joints elicits tenderness in a symmetrical distribution, the test is positive and suggests inflammatory arthritis.

See [Squeeze Test for MCP Joints](#) (video, 8 seconds).

3. Make a differential diagnosis, based on history and clinical examination, and order investigations or follow relevant pathway:

- If suspected inflammatory arthritis, arrange FBE, urea, electrolytes and creatinine, ESR and CRP.
- If suspected septic arthritis, arrange urgent aspiration, see the [Septic Arthritis](#) pathway.
- If **rheumatoid arthritis**, order rheumatoid factor (RF) and anti-cyclic citrullinated peptide (anti-CCP). See also [Rheumatoid Arthritis](#) pathway.

Rheumatoid arthritis

Typically, symmetrical polyarthritis with wrist, metacarpal phalangeal (MCP) or metatarsophalangeal (MTP) involvement.

Squeeze test frequently positive.

- If **seronegative spondyloarthropathy**, arrange according to sub-type, e.g.:

Seronegative spondyloarthropathy

- *The typical pattern is oligoarticular, asymmetrical, lower limb-predominant joint pattern.*
 - *May have dactylitis, enthesitis e.g., Achilles tendonitis or plantar fasciitis, extra-articular manifestations may be present (e.g., uveitis, [psoriasis](#), erythema nodosum).*
 - *Ankylosing spondylitis causes inflammatory back pain and may also cause alternating buttock pain.*
 - *Inflammatory markers are usually elevated and anti-cyclic citrullinated peptide (anti-CCP) and rheumatoid factor (RF) negative.*
- [Ankylosing spondylitis](#) – order plain X-rays of the pelvis, with particular reference to the sacroiliac joints, looking for sacroiliitis.
 - [Psoriatic arthritis](#)
 - Enteropathic arthritis – associated with [inflammatory bowel disease](#)
 - Reactive arthritis – if sexually acquired, reactive arthritis may be associated with urethritis in males and cervicitis in females. See also [Chlamydia](#) and [Gonorrhoea](#).

- If **connective tissue diseases**, arrange antinuclear antibody (ANA) and urinalysis.

Connective tissue diseases

Includes systemic lupus erythematosus (SLE), Sjögren's syndrome, and scleroderma. Usually accompanied by other systemic features.

- *SLE most commonly affects young females. Can cause small to medium joint polyarthritis, photosensitive malar rash, hard palate ulcer, and alopecia.*
 - *FBE may show a low platelet count.*
 - *ESR will be elevated and antinuclear antibodies (ANA) is usually positive.*
 - *Sjögren's syndrome can cause arthritis, fatigue, dry eyes, dry mouth and myalgias.*
 - *Schirmer's test positive (usually arranged by a rheumatologist)*
 - *ANA may be positive, typically speckled pattern.*
 - *About 70% are positive for SSA antibody on extractable nuclear antigen (ENA) testing, and patients with Sjögren's often have high titres of multiple autoantibodies.*
 - *Scleroderma – symptoms and signs include arthralgias, reflux, fatigue, swelling of hands and feet, dyspnoea, sclerodactyly, Raynaud's phenomenon, and skin thickening.*
 - *Raynaud's phenomenon is present in 100% of cases. If absent, review diagnosis.*
 - *ANA is positive in > 90% of patients.*
 - *FBE may be normal or show microcytic anaemia.*
 - *ESR is occasionally elevated, CRP usually normal.*
 - *Urinalysis may show proteinuria with few cells or casts.*
 - *Chest X-ray and pulmonary function testing may show interstitial lung disease.*
 - *A range of other connective tissue disorders may cause arthralgia including systemic vasculitis, dermatomyositis, and polymyositis.*
- If [polymyalgia rheumatica](#), it may present with a peripheral synovitis.
- **Viral arthritis** – arrange viral serology.

Viral arthritis

Viral arthritis usually presents as an acute polyarthritis, with or without joint swelling (depending on the specific virus).

- There may be fever and/or rash.
- Check if there is a history of travel to endemic areas. This should prompt consideration of mosquito-borne viruses such as Dengue fever, Chikungunya, [Zika](#), Ross River Fever, and Barmah Forest Virus.

See also [Mosquito-borne Disease in Victoria](#) and *Fever in Returned Traveller*.

- Other viral infections that can cause viral arthritis include parvovirus B19, hepatitis A, B, or C, and HIV.
- [Fibromyalgia](#)
 - [Gout](#)
 - [Osteoarthritis \(OA\)](#)

Management

Acute management

1. Refer for [immediate rheumatology assessment](#) if:
 - fever and acutely painful, hot, swollen joint for suspected [septic arthritis](#). If needed, provide resuscitation and arrange ambulance transfer.
 - a patient with known inflammatory arthritis being treated with biologic or immunosuppressive medications, presents with unexplained illness or fever.
2. Suspect vasculitis if patient presents with a recent fall in renal function and ESR >100, particularly if accompanied by recent cough or bloody nasal discharge. Seek urgent [rheumatology](#) or [nephrology](#) advice.
3. If presenting significant constitutional symptoms (fever, weight loss and fatigue), seek [rheumatology advice](#) as this suggests significant systemic inflammation.
4. Prescribe anti-inflammatory medications for symptom relief.
 - Give **NSAIDs** as first-line management of symptoms unless contraindicated. Inflammatory arthritis usually responds well to NSAIDs.

Nonsteroidal anti-inflammatory drugs (NSAIDs)

- If co-prescribed angiotensin-converting-enzyme (ACE) inhibitors and diuretics, use with caution and check renal function within 10 to 14 days.
- Discuss harm versus benefits and the recommendation against long-term use in chronic pain.
- If higher risk of gastrointestinal bleeding, consider prescribing a gastro-protective drug.
- Be aware that multiple side-effects may occur in the elderly and those with asthma, gastrointestinal, cardiac, or renal disease.

Contraindications:

- *Gastrointestinal (GI) ulcers*
- *Renal impairment*
- *Other nephrotoxic medications*
- *Bleeding risk*
- *Aspirin-sensitive asthma*
- *Warfarin is a relative contraindication*

Dosage:

- *Ibuprofen 200 mg to 400 mg every 6 to 8 hours*
- *Naproxen 250 mg to 500 mg every 12 hours*
- *Celecoxib 200 mg daily*

Maximum dosage:

- *Ibuprofen maximum 1600 mg per day*
- *Naproxen maximum 1000 mg per day*
- *Celecoxib maximum 400 mg per day*

- If very severe or refractory symptoms for which prednisolone is considered necessary, consult with a rheumatologist, as this implies more severe disease. If possible and the patient consents, provide photographs of the affected joints.
 - Prednisolone use complicates starting [disease-modifying drugs \(DMARDs\)](#).
 - Typical starting dose is 5 to 10 mg daily prednisolone. Advise the patient to remain on that dose until assessed.
 - Do not use higher doses due to increased risk of toxicity and the risk of creating unrealistic expectations in the patient. High doses can result in rapid, complete pain relief and euphoria, which in a chronic condition is unnecessary, unwise and not sustainable in the long term.
- Additional analgesia may be required.
- Be aware that using NSAIDs, analgesics, and steroids is not sufficient treatment for inflammatory arthritis, and their use should not delay initial referral to rheumatologist for confirmation of diagnosis and treatment with a DMARD:
 - Early intervention with DMARDS is essential to maintain function and prevent disability.
 - DMARDS are usually prescribed by rheumatologists but can be initiated in general practice in consultation with a rheumatologist while waiting for assessment.

5. Refer for [urgent or routine rheumatology referral](#) if:

- suspected inflammatory arthritis.
- persistent joint inflammation at 6 weeks.
- symptoms of inflammatory arthritis with positive anti-cyclic citrullinated peptide (anti-CCP).
- known inflammatory arthritis, and not under the care of a rheumatologist, for review of management plan and monitoring or management of toxicity associated with treatment.
- patient with known inflammatory arthritis is pregnant or is planning pregnancy.

Rheumatologists treat inflammatory arthritis as a priority. Mark e-referrals as urgent and follow-up with a phone call.

6. Arrange referral to allied health services for:

- [Occupational therapy](#) assessment.
- [Physiotherapy assessment](#).
- [Exercise physiology](#) for stamina and strength work – important for pain management.

7. Consider referral for low impact aerobic activities such as t'ai chi. See [Exercise and Lifestyle Modification Programs](#).

Referral

- Refer for [immediate rheumatology assessment](#) if:
 - fever and acutely painful, hot, swollen joint for suspected septic arthritis. If needed, provide resuscitation and arrange ambulance transfer.
 - known inflammatory arthritis when taking biologic or immunosuppressant, presents with unexplained illness or fever.
 - If suspected vasculitis, seek urgent [rheumatology](#) or [nephrology](#) advice.
 - Seek [rheumatology advice](#) if:
 - very severe or refractory symptoms for which prednisolone is considered necessary.
 - significant systemic inflammation.
 - considering initiating a DMARD before rheumatologist assessment.
 - Refer for [urgent or routine rheumatology referral](#) if:
 - suspected inflammatory arthritis.
 - persistent joint inflammation at 6 weeks.
 - symptoms of inflammatory arthritis with positive anti-cyclic citrullinated peptide (anti-CCP).
 - known inflammatory arthritis and not currently under the care of a rheumatologist, for review of management plan and monitoring or management of toxicity associated with treatment.
 - patient with known inflammatory arthritis is pregnant or is planning pregnancy. Rheumatologists treat inflammatory arthritis as a priority. Mark e-referrals as urgent and follow-up with a phone call.
 - Arrange referral to allied health services for:
 - [Occupational therapy](#) assessment.
 - [Physiotherapy assessment](#).
 - [Exercise physiology](#) for stamina and strength work.
8. Consider referral for low-impact aerobic activities such as t'ai chi. [Exercise and Lifestyle Modification Programs](#).

Information

For health professionals

Further information

- [Arthritis Australia](#)
- Australian Rheumatology Association – [Position Statements and Other Clinical Recommendations](#)
- RACGP – [Clinical Guideline for the Diagnosis and Management of Early Rheumatoid Arthritis](#)

For patients

- Arthritis Australia:
 - [Information Sheets](#)
 - [Patient Information on Prednisolone and Prednisone](#)
- Australian Rheumatology Association – [Medication information](#)
- Patient:
 - [Arthritis](#)
 - [Psoriatic Arthritis](#)
 - [Rheumatoid Arthritis](#)

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Last updated: June 2020