Psoriatic Arthritis

**Synonyms:** psoriatic arthropathy, arthropathia psoriatica, arthritis mutilans, seronegative arthritis associated with psoriasis

See also the separate Psoriasis of Hands and Feet (including Palmoplantar Pustulosis), Chronic Plaque Psoriasis, Erythrodermic Psoriasis and PUVA articles.

Psoriatic arthritis is an inflammatory arthritis affecting the joints and connective tissue and is associated with psoriasis of the skin or nails. Occasionally psoriatic arthritis may occur in the absence of skin disease, or there may only be an insignificant rash which may not be noticed.

Psoriatic arthritis may involve not only the joints in the sense of arthritis but also the tendons surrounding the joints, leading to swelling of whole digits (dactylitis), or it may lead to inflammation of the entheses (enthesitis).\(^1\)

Psoriatic arthritis is a progressive disorder ranging from mild synovitis to severe progressive erosive arthropathy. 40-60% of patients with psoriatic arthritis develop erosive and deforming joint complications.\(^2\)

**Epidemiology\(^{[3, 4]}\)**

The diverse clinical manifestations of this condition have impaired meaningful research on epidemiology. The diagnosis can easily be missed or overlooked.\(^5\)

- Psoriatic arthritis is a chronic inflammatory arthritis that affects about 5-25% of patients with psoriasis.
- The prevalence varies from 20-420 per 100,000 population across the world, except in Japan where it is 1 per 100,000.
- In about 80% of cases the presence of psoriasis precedes the onset of psoriatic arthritis.
- There is not a strong correlation between the severity of psoriasis and the development of arthritis, although psoriatic arthritis may be present more frequently in patients with psoriasis attending dermatology clinics, compared to primary care.
- The prevalence of psoriasis in the general population is estimated at 2-3%. Psoriasis is associated with joint disease in a significant proportion of patients (reported in one study to be 13.8%).
- The disease is autoimmune-mediated with defined HLA associations (HLA-B27, -B17, -CW6, -DR4, -DR7 and others).

**Risk factors**

- Psoriatic arthropathy is much more common in the western white population than in other races.
- Men are more commonly affected by the spondylitic subtype, with higher incidence of the 'rheumatoid' pattern of disease among women.
- It is most common in middle age (35-55) but may be seen in patients of any age.

**Presentation**

An annual assessment for psoriatic arthritis should be offered to people with any type of psoriasis. Assessment is especially important within the first ten years of onset of psoriasis (psoriatic arthritis usually develops within ten years of a diagnosis of psoriasis).\(^3\)

A validated tool to assess adults for psoriatic arthritis should be used in primary care and specialist settings - eg, the Psoriasis Epidemiological Screening Tool (PEST). However, PEST does not detect axial arthritis or inflammatory back pain.\(^{[3, 6]}\)
The characteristics of psoriatic arthritis include joint stiffness, pain and swelling, and tenderness of the joints and surrounding ligaments and tendons. Symptoms can range from mild to very severe. The arthritis tends to be relapsing and remitting.\[6\]

- Usually the rash precedes the arthritis by a few years but the opposite is occasionally true.
- The condition can present in those with minimal or no obvious rash. Occult rash should be looked for on the scalp, on extensor aspects of the forearms/elbows and in the umbilicus and natal cleft.
- Some patients will only have nail changes rather than rash. Nails may show pitting, yellowing, transverse ridges or destruction (onycholysis). See also the separate Psoriatic Nail Disease article.
- Cases where the arthritis initially affects the toes can appear very similar to gout.
- Enthesopathy affecting the Achilles tendon and plantar fascia is frequently seen. Tenosynovitis tends to affect the flexor rather than extensor tendons (both commonly affected in rheumatoid arthritis).
- Ocular involvement may be seen with conjunctivitis (20-30% of cases) and anterior uveitis (5% or so). Saccroiliitis and HLA-B27 positivity are commonly associated with ocular disease.
- Rarely aortitis, similar to that seen in ankylosing spondylitis or reactive arthritis, and secondary amyloidosis are features of the disease.
- The presence of classical extra-articular manifestations of rheumatoid arthritis with psoriatic rash (eg, nodules or scleritis/sicca syndrome) suggests the coincidental presence of psoriasis and rheumatoid arthritis.

Patterns of presentation

- Symmetrical polyarthritis ('rheumatoid' pattern). This is more common in women. Wrists, hands, feet and ankles are usually affected. Distal interphalangeal (DIP) joints are involved rather than metacarpophalangeal (MCP) joints, helping to distinguish it from rheumatoid arthritis, along with absence of skin nodules and a negative rheumatoid factor (RF) test.
- Asymmetric oligoarticular/pauciarticular arthritis. Hands and feet are affected initially with enthesopathy causing dactylitis ('sausage fingers'). Usually up to five joints are involved.
- Lone DIP disease. The nail and paronychial tissues can also be involved, along with the terminal phalanx, looking like an infection or traumatic 'hammer blow' appearance. This is usually seen in men.
- Arthritis mutilans. This is a relatively rare variation of DIP disease. Resorption of the terminal phalanx, giving a 'telescopic digit' appearance. It gives the classical 'pencil in cup' radiographic appearance. 'Opera-glass hand' (flexion deformity of the DIP joints), seen mainly in men with early-onset arthritis.
- Spondylitic pattern ± saccroiliitis. This is more common in men. There is morning stiffness and limitation of back movement. There may not be much in the way of symptoms and it may be noted radiologically. Unlike ankylosing spondylitis, the vertebrae are usually affected asymmetrically and there are sometimes bizarre radiological appearances such as syndesmophytes, paravertebral ossification and fusion of vertebral bodies with calcified intervertebral discs. The atlanto-axial joint may be involved, with destruction of odontoid peg and danger of subluxation.
- Juvenile onset. This accounts for up to a fifth of childhood arthritis and usually starts as a monoarthritis, but DIP pattern may be seen. Tenosynovitis affects up to a third and nail changes are present in about two thirds. Epiphyseal involvement can affect growth. Sacroiliitis may occur. Simultaneous onset of rash and arthritis is more common than in adults. See also the separate Juvenile Idiopathic Arthritis article.

Differential diagnosis

Features that distinguish psoriatic arthritis from other forms of inflammatory joint disease include the pattern of joint involvement (eg, DIP joint involvement), the swelling of an entire digit (dactylitis), the presence of enthesitis and the absence of RF (or anti-citrullinated antibodies).\[3\]

An important subgroup of patients with psoriatic arthritis has inflammatory spinal disease (spondylitis), which looks similar but is not identical to ankylosing spondylitis. Other forms of arthritis that may be difficult to distinguish from psoriatic arthritis include osteoarthritis and gout.\[3\]

See also the separate Acute Polyarthritis and Acute Monoarthritis articles.
**Septic arthritis.**

**Juvenile idiopathic arthritis** and other causes of childhood arthritis.

**Investigations**

There are no 'clinching' confirmatory tests. Clinical and radiographic impressions are often sufficient to make the diagnosis in the presence of a classical rash.

- ESR and/or CRP will often be elevated.
- RF is usually negative but 5-10% of the general population have positive RF so its presence should not be used to rule out psoriatic arthropathy.
- Other autoimmune markers such as antinuclear factor (ANF) do not have any discriminatory value.
- It is not unusual for serum urate to be elevated in the acute phase and gout may co-exist with psoriatic arthritis.
- Synovial fluid aspirate should not show evidence of any crystals; however, the white cell count (predominantly neutrophils) is often significantly high.
- Serum immunoglobulin A (IgA) is elevated in about two thirds of sufferers but must be interpreted against a background elevation affecting about one third of those with uncomplicated psoriasis.
- HLA status may aid in diagnosis but needs to be interpreted with care, usually in a secondary care setting.
- X-ray changes classically associated with psoriatic arthritis include:
  - Mild bony erosion at the edge of cartilage.
  - Asymmetric erosive changes in the small joints of the hands and feet.
  - DIP or proximal interphalangeal (PIP) involvement - more common than metatarsophalangeal (MTP) or MCP changes.
  - DIP cases may have erosion and deformity with bony ankylosis of the joint and subluxation.
  - Erosion of the distal tuft of the distal phalanx.
- MRI/CT scanning may be more specific and sensitive in picking up subtle signs, particularly in the hands and feet, which indicate psoriatic arthropathy but need expert interpretation. MRI is useful for imaging the sacroiliac joint to detect inflammation/deformity.

**Management**[^7]

Any person with suspected psoriatic arthritis should be referred to a rheumatologist for assessment and advice about planning their care.[^3]

**Drug**[^8]

In patients with psoriasis and psoriatic arthritis, monotherapy that addresses both skin and joint disease should be used in preference to multiple therapies. Methotrexate, retinoids and psoralen combined with ultraviolet A (PUVA) treatment appear to be most effective at treating skin and joints together.

- In patients with psoriatic arthritis, non-steroidal anti-inflammatory drugs (NSAIDs) may be used to relieve musculoskeletal symptoms.
- Local injections of corticosteroids should be considered as adjunctive therapy in psoriatic arthritis; systemic steroids at the lowest effective dose may be used but with caution. Oral corticosteroids may cause a rebound exacerbation of skin psoriasis when withdrawn.
- **Disease-modifying antirheumatic drugs (DMARDs):**
  - In patients with active disease (particularly those with many swollen joints, structural damage in the presence of inflammation, high ESR or CRP and/or clinically relevant extra-articular manifestations), treatment with disease-modifying drugs (such as methotrexate, sulfasalazine or leflunomide) should be considered at an early stage.
  - Leflunomide is recommended for the treatment of active peripheral psoriatic arthritis.[^9]
  - Sulfasalazine may be considered as an alternative in the treatment of peripheral psoriatic arthritis.[^9]
  - Methotrexate may be considered in the treatment of psoriatic arthritis, especially when associated with significant cutaneous psoriasis.[^9]
  - Antimalarial derived DMARDs such as hydroxychloroquine are usually avoided, as they may cause exfoliative dermatitis, worsening psoriasis.
Tumour necrosis factor (TNF) inhibitors:

- TNF inhibitors (adalimumab, etanercept, golimumab and infliximab) should be considered:
  - In patients with active arthritis and an inadequate response to at least one synthetic DMARD, such as methotrexate.
  - In patients with active enthesitis and/or dactylitis and insufficient response to NSAIDs or local steroid injections.
  - In patients with predominantly axial disease that is active and has insufficient response to NSAIDs.
  - TNF inhibitor therapy may exceptionally be considered for a very active patient who has not been treated with a disease-modifying drug (particularly those with many swollen joints, structural damage in the presence of inflammation, and/or clinically relevant extra-articular manifestations, especially extensive skin involvement).

- Etanercept, infliximab, adalimumab or golimumab:\[^{[10, 11]}\]
  - Should be offered as an option for treating adults with psoriatic arthritis when:
    - The person has arthritis with three or more tender joints and three or more swollen joints.
    - At least two other DMARDs, given on their own or together, haven't worked.
  - If the person's psoriatic arthritis has not shown a measured response at 12 weeks, then treatment should be stopped.
  - In patients who fail to respond adequately to one TNF inhibitor, switching to another TNF inhibitor agent should be considered.

- Ustekinumab (a cytokine modulator):\[^{[12]}\]
  - Ustekinumab is recommended by the National Institute for Health and Care Excellence (NICE) as an option, alone or in combination with methotrexate, for treating active psoriatic arthritis in adults only when treatment with TNF alpha inhibitors is contra-indicated but would otherwise be considered or the person has had treatment with one or more TNF alpha inhibitors.
  - Ustekinumab treatment should be stopped if the person's psoriatic arthritis has not shown an adequate response at 24 weeks.

Non-drug

Various surgical approaches are used to treat deformed joints for functional improvement. Chronic monoarticular synovitis can be improved by synovectomy, in combination with physiotherapy. Physical exercise helps to maintain mobility and reduce stiffness. Heat treatment aids stiffness.

Complications

- These include joint destruction, finger destruction, disability, extra-articular complications such as eye disease and, rarely, aortitis (causes aortic insufficiency).
- Psoriatic arthritis can affect people's ability to work and carry out daily activities, which can have a substantial impact on quality of life.
- Atlanto-axial subluxation with attendant neurological complications can occur.
- Psoriatic arthritis is associated with an increased risk of cardiovascular disease.\[^{[13]}\]

Prognosis

- Until recently, psoriatic arthritis was thought to be a mild disease. Figures suggested that severe joint deformity and destruction usually affecting the small joints of the hands and feet (called arthritis mutilans) occurred in only 5% of patients. However, more recent reports now suggest that arthritis mutilans occurs in 16% of patients. The course of psoriatic arthritis is comparable to rheumatoid arthritis, with about half of patients showing a progressive disease, eventually developing erosions and loss of function in affected joints.\[^{[14]}\]
- People with psoriatic arthritis have a higher self-rated disease severity than those with psoriasis only.
• One study in the UK found that the mortality in a cohort of patients with psoriatic arthritis was not significantly different from the general UK population.¹⁵
• Despite clinical improvement with current DMARD treatment, joint damage has been shown radiologically in up to 47% of people with psoriatic arthritis at a median interval of two years. Over time there is clinically active arthritis such that, by the time patients have been followed for more than ten years, 55% have five or more deformed joints.⁵
• The condition can be disabling and cause marked joint destruction in a significant proportion of those affected. Up to 10% may require some form of surgery for destructive deformity.
• Aggressive treatment of early-stage progressive psoriatic arthritis can help to improve prognosis.¹⁰

Further reading & references

- The Psoriasis Association

3. Psoriasis: The assessment and management of psoriasis; NICE Clinical Guideline (October 2012)
5. Gladman D D et al; Psoriatic arthritis: epidemiology, clinical features, course, and outcome. Annals of the Rheumatic Diseases, 2005
9. Diagnosis and management of psoriasis and psoriatic arthritis in adults; Scottish Intercollegiate Guidelines Network - SIGN (October 2010)
10. Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis; NICE Technology Appraisal Guidance, August 2010
11. Golimumab for the treatment of psoriatic arthritis; NICE Technology Appraisal Guidance, April 2011
12. Ustekinumab for treating active psoriatic arthritis (rapid review of technology appraisal guidance 313); NICE Technology Appraisal Guidance, June 2015

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