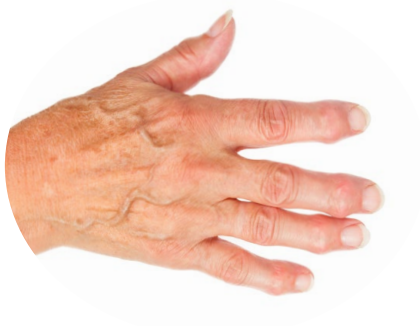
PRACTICE TOOL Identifying RA in patients presenting with painful swollen joints in primary care



Clinical judgement should ultimately guide the decision to refer to/consult with rheumatology, however:

The following **scoring criteria** can be used as a guide for patients who present with one or more swollen joints, and other arthritic diagnoses do not convincingly account for the synovitis (*see later for information on differential diagnoses*)

A score ≥6 indicates a patient likely has rheumatoid arthritis and should be referred to or discussed with a rheumatologist

X-rays are often recommended as part of the diagnostic work-up, and are important to assess damage and progression, but are not required to make a diagnosis in early-stage RA

Domain	Criteria	Score
A	**Joint involvement** (any swollen or tender joint; 0–5 points)	
	1 large joint	0
	2–10 large joints (no small joints)	1
	1–3 small joints (large joints not counted)	2
	4–10 small joints (large joints not counted)	3
	>10 total joints **including** at least one small joint	5
B	**Serology** (0–3 points)*	
	Negative RF **and** negative anti-CCP	0
	Low positive RF **or** low positive anti-CCP	2
	High positive RF **or** high positive anti-CCP	3
C	**Inflammatory markers** (0–1 points)†	
	Normal CRP **and** normal ESR	0
	Abnormal CRP **or** abnormal ESR	1
D	**Duration of symptoms** (0–1 points)	
	<6 weeks	0
	≥6 weeks	1
	Total (0–10)	

* Negative (–) means less than or equal to the upper limit of normal (ULN); low positive (+) means >ULN; high positive (++) means >3x ULN; † Normal/abnormal are determined by local laboratory standards

Small joints: MCP joints, PIP joints, second to fifth MTP joints, thumb IP joints and wrists

Large joints: Shoulders, elbows, hips, knees and ankles

DIP joints, first CMC joints and first MTP joints are excluded from assessment

CMC – carpometacarpal; DIP – distal interphalangeal; PIP – proximal interphalangeal; IP - interphalangeal; MTP – metatarsophalangeal.

Anti-CCP should ideally be requested with RF; it has a similar sensitivity for RA but a higher specificity; **both are best**

Other tests to request: FBC, creatinine, LFTs, ANA, urinalysis

Abbreviations: Anti-CCP, anti-cyclic citrullinated peptide/protein antibody; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; RF, rheumatoid factor.

References: Aletaha D, Neogi T, Silman AJ et al. Arthritis Rheum. 2010;62:2569–81; Aletaha D, Smolen JS. JAMA. 2018;320:1360–72

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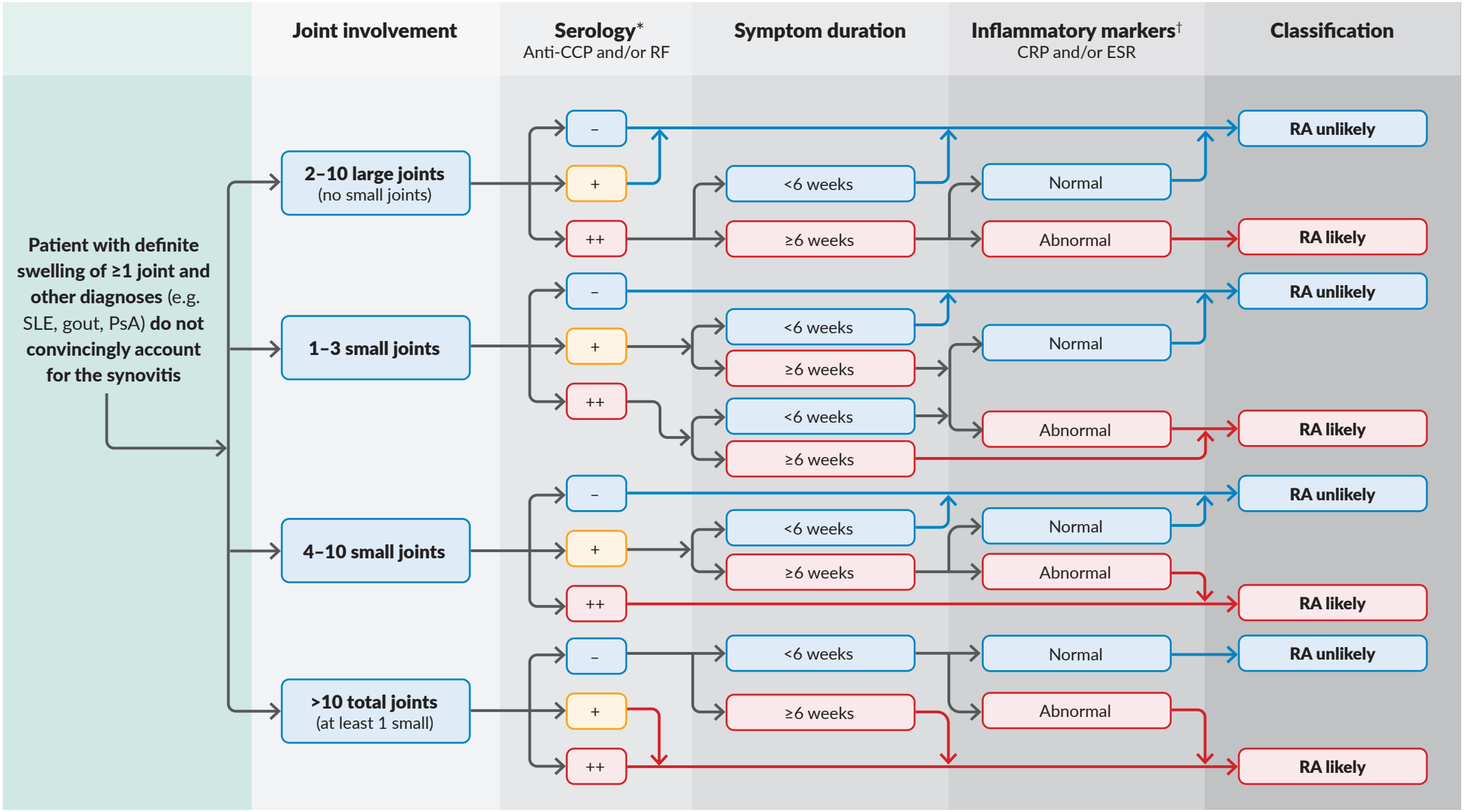
Alternatively, try this diagnostic algorithm



* Serology includes anti-CCP antibody and RF measurements. Negative (–) means both are less than or equal to the upper limit of normal (ULN); low positive (+) means at least one is >ULN; high positive (++) means at least one is >3x ULN; † Inflammatory markers include CRP levels and ESR. Normal/abnormal are determined by local laboratory standards. **Abbreviations:** PsA, psoriatic arthritis; SLE, systemic lupus erythematosus.

References: Aletaha D, Neogi T, Silman AJ et al. Arthritis Rheum. 2010;62:2569–81; Aletaha D, Smolen JS. JAMA. 2018;320:1360–72.

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Other forms of inflammatory polyarthritis can be confused for RA

Unsure it's RA?

Other possibilities*	Features	Investigations
 **Systemic rheumatic disease**	**Examples:** SLE, Sjögren's syndrome, dermatomyositis, mixed connective tissue damage. These conditions are often are associated with other systemic features not seen in RA, e.g. rashes, dry mouth and dry eyes, myositis or nephritis.	• Testing for autoantibodies not seen in RA, e.g. anti-tRNA synthetases and anti-U1 RNP • CRP/ESR may not correlate, e.g. in SLE, CRP is often normal while ESR is elevated • Antinuclear antibody (ANA) is usually positive in SLE
 **Polymyalgia rheumatica**	Patients aged over 50 years with marked myalgia in the shoulders and hips; joint involvement is often more mild and limited	• RF-antibody testing – patients with polymyalgia rheumatica are usually seronegative or have a very low RF-titre • CRP testing – levels are usually high; if CRP is not significantly elevated, ESR may be
 **Psoriatic arthritis**	Psoriasis/skin features; a family history; symmetric polyarthritis seronegative for RF/anti-CCP antibodies (although RA can also be antibody negative); nail changes or enthesitis† are more characteristic of psoriatic arthritis; absence of systemic symptoms	• Family history • Physical examination • Antibody testing
 **Crystalline arthritic conditions**	**Examples:** gout or calcium pyrophosphate deposition disease (CPPD disease). First MTP joint affected with gout, sometimes tophi. Knee or wrist with CPPD disease, often with systemic symptoms. Shorter duration of symptoms.	• "Gouty" erosions on x-rays. CPPD disease can cause chondrocalcinosis (calcified cartilage) which can be detected on x-ray, most often in the knee • Serum urate analysis for gout • Synovial joint fluid analysis with identification of urate crystals (for gout) or calcium pyrophosphate dihydrate crystals (for CPPD)
 **Viral polyarthritis**	Patient has a very short history of symptoms (e.g. <6 weeks), particularly those who are seronegative for anti-CCP and –RF; fever and other flu-like symptoms, e.g. malaise or rash	• PCR or Serologic testing for HPV B19, HBV, and HCV • If the person has been in countries where mosquito-bite transmitted viral diseases are prevalent, suspect an alphavirus (e.g. chikungunya) infection, particularly if the patient presents with fever + arthralgia

* This is not an exhaustive list of alternative inflammatory polyarthritic conditions and there is no particular order; † Inflammation of the entheses, the site where tendons or ligaments insert into bone.

Abbreviations: anti-CCP, anti-cyclic citrullinated peptide; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; HBV, hepatitis B virus; HCV, hepatitis C virus; HPV, human papillomavirus; PsA, psoriatic arthritis; RA, rheumatoid arthritis; RF, rheumatoid factor; RNP, ribonucleoprotein; SLE, systemic lupus erythematosus. **References:** Pujalte GGA, Albano-aluquin SA. Am Fam Physician. 2015;92:35–41.

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