



PRACTICE TOOL Diagnosing gout in primary care

Gout is usually diagnosed clinically with supporting evidence provided by elevated serum urate levels

An initial gout flare often involves monoarticular swelling, redness, and pain located in the lower limbs (generally at the first MTP joint)

 Joints in other locations can still be affected, and patients may experience polyarticular flares (particularly with repeat flares)

 **Scoring criteria**¹ can be useful to assess the likelihood of gout. For example:

Risk factor for gout	Points
Serum urate \geq 0.36 mmol/L	3.5
MTP joint involvement	2.5
Male sex	2
Previous patient-reported gout flare	2
Hypertension or \geq 1 cardiovascular disease*	1.5
Joint erythema (redness)	1
Onset within one day	0.5
Score (0–13)	

* Angina, myocardial infarction, heart failure, cerebrovascular event, transient ischaemic attack or peripheral vascular disease

What do these scores mean?	Probability of urate crystals
\leq 4 Gout is very unlikely – consider diagnoses for alternative forms of arthritis	2.8%
$>$ 4 – $<$ 8 Gout is possible – a provisional diagnosis can be made for the purpose of clinical management, but alternative conditions should still be considered	27.0%
\geq 8 Gout is likely – diagnose gout and initiate treatment promptly	80.4%

Measure serum urate levels in all suspected cases



Test urate levels immediately, but repeat testing may be necessary once the flare has subsided; up to 40% of patients have levels within a “normal” range during flares



Do not “screen” for elevated serum urate in the absence of symptoms




Assess renal function at the same time to guide the future use of urate-lowering medicines

Considering an alternative diagnosis

Examples of conditions that present in a similar way to gout include:

Septic arthritis	Risk factors	<ul style="list-style-type: none"> Older age, rheumatoid arthritis, skin infection, joint prosthesis, immunosuppression
	Clinical features	<ul style="list-style-type: none"> Joint pain with erythema, warmth, immobility The knee is most often affected, followed by the hip, shoulder, ankle and wrist Elevated serum white blood cell count and CRP levels are often raised
CPPD disease	Risk factors	<ul style="list-style-type: none"> Older age, previous joint damage or surgery, family history of the condition, history of an endocrine or metabolic condition
	Clinical features	<ul style="list-style-type: none"> Localised joint inflammation, pain, swelling, stiffness, erythema; most often at the knee, but also affects the wrist, ankle, elbow, toe, shoulder, fingers, hands and hip Polyarticular in around two-thirds of patients; occurs in an asymmetric pattern Systemic symptoms, including fever, chills and pain (particularly in the neck) Elevated inflammatory markers, e.g. CRP, neutrophils

 See our previous article on CPPD disease, available at: <https://bpac.org.nz/bpj/2013/october/cppd.aspx>



Still unsure? – consider joint aspiration

The presence of urate crystals can be used to definitively diagnose gout and microbiological analysis can confirm or exclude infection

Abbreviations: MTP, metatarsophalangeal; CPPD, calcium pyrophosphate deposition; CRP, C-reactive protein.

References: 1. Janssens HJEM, Franssen J, van de Lisdonk EH, et al. Arch Intern Med. 2010;170:1120–6; 2. Dalbeth N, Winnard D, Gow PJ, et al. N Z Med J. 2015;128:65–8.