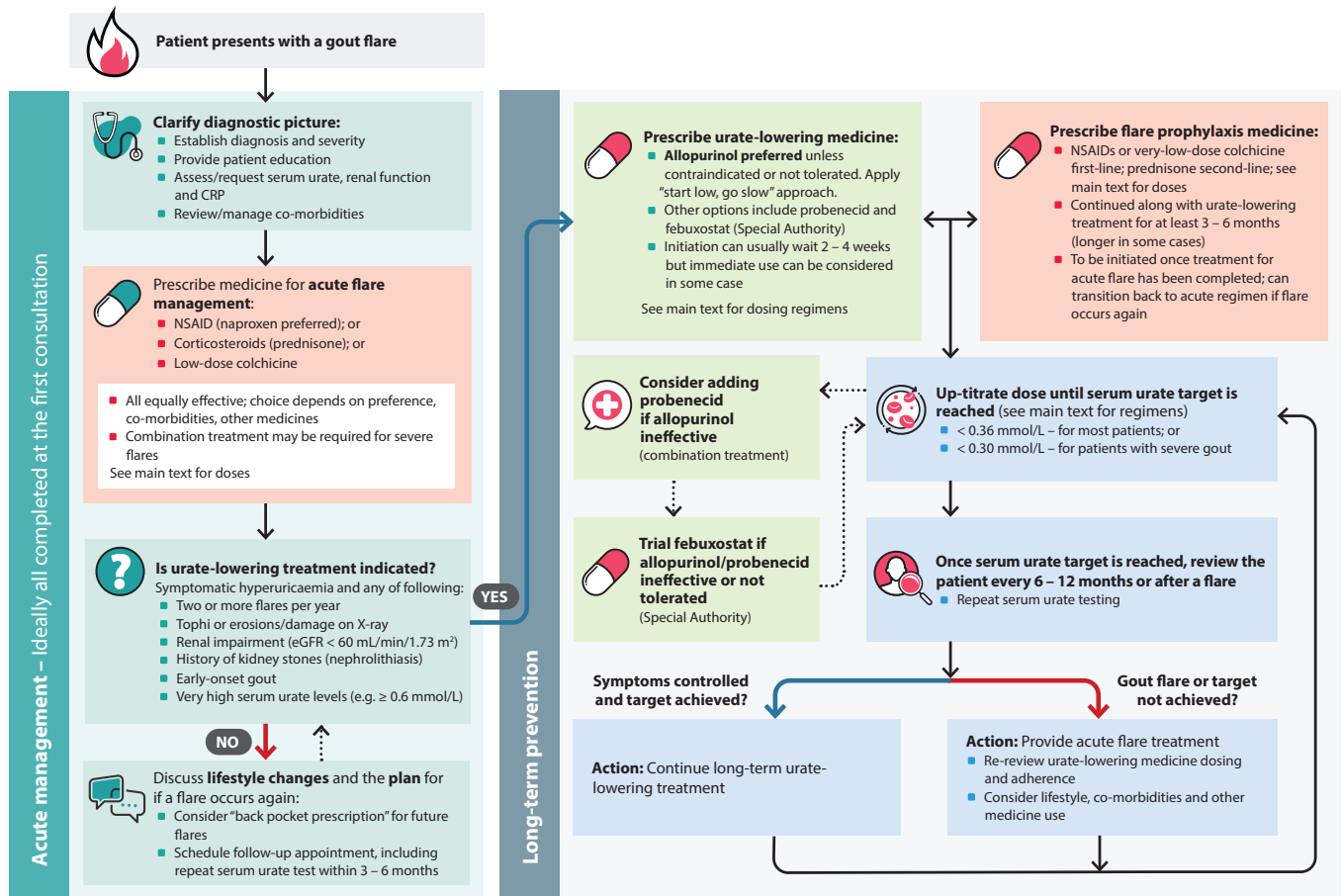


B-QuiCK: Gout

Diagnosis


- Gout can be diagnosed based on:
 - Clinical presentation, e.g. joint involvement with characteristic pain/swelling/erythema, presence of tophi or systemic symptoms
 - History, e.g. onset, previous potential flares or elevated serum urate
 - Elevated serum urate levels
 - Levels during a flare are within the normal range in up to 40% of cases. If levels are normal, repeat testing once the flare has subsided.
 - Hyperuricaemia in an asymptomatic person is not diagnostic of gout, but may inform lifestyle changes and subsequent monitoring
- Differential diagnoses to consider include septic arthritis and calcium pyrophosphate deposition (CPPD) disease (formerly known as pseudogout)
- In addition to **serum urate**, request **CRP** to detect inflammation and assist in interpreting the validity of the urate level and a **renal function test** to allow for prompt urate-lowering treatment initiation, if gout is confirmed
- Assess for relevant co-morbidities as this may influence medicine selection and the approach to long-term management

An overview of gout management in primary care



Acute management of gout flares

- NSAIDs, corticosteroids or colchicine are equally effective at treating gout flares, so choice is based on individual factors
- Encourage rest and elevation of the affected joint (an ice pack may provide relief), and adequate hydration
- Discuss urate-lowering treatment with all patients at their first presentation (even if it is not prescribed)

 **Community pharmacists:** be alert for persistent over-the-counter NSAID use. Refer patients to their primary care clinician for a discussion regarding urate-lowering treatments.

Treatment options for an acute gout flare:

| Medicine | Dose | Notes |
|---|---|---|
| NSAIDs – Naproxen preferred | <ul style="list-style-type: none"> ■ 750 mg initially, followed by 500 mg eight hours later, then 250 mg every eight hours until the flare has settled | <ul style="list-style-type: none"> ■ Avoid if eGFR < 30 mL/min/1.73 m² ■ Consider adding a proton pump inhibitor ■ Consider celecoxib if intolerant to naproxen (unapproved indication) |
| Prednisone | <ul style="list-style-type: none"> ■ 20 – 40 mg, once daily, for five days or until the flare has settled | <ul style="list-style-type: none"> ■ Tapering the dose over 10 – 14 days can reduce the likelihood of a rebound flare, but is not always necessary with a short course |
| Colchicine | <ul style="list-style-type: none"> ■ Low-dose regimen*: 1 mg immediately, followed by 500 micrograms after one hour; maximum dose 1.5 mg per course ■ If eGFR 10 – 50 mL/min/1.73 m², reduce the initial dose by half (i.e. 500 micrograms); do not exceed 1.5 mg over three days | <ul style="list-style-type: none"> ■ Do not repeat acute course within three days ■ Do not commence prophylaxis (very-low-dose colchicine) until 12 hours or more after the acute dose is taken ■ Ideally avoid, or use with caution, in frail patients, those who weigh < 50 kg, or patients with hepatic or renal impairment (eGFR 10 – 50 mL/min/1.73 m²) ■ Contraindicated in patients with an eGFR < 10 mL/min/1.73 m² |
| Corticosteroid (triamcinolone acetonide) | <ul style="list-style-type: none"> ■ Intra-articular injection, 2.5 – 40 mg | <ul style="list-style-type: none"> ■ May be considered in patients where the oral route is problematic and if only one or two joints are affected ■ Dose determined by the size of the affected joint |

* This regimen is based on a trial in which patients received treatment within 12 hours of onset of the flare; efficacy may therefore be reduced if started later

Long-term management with urate-lowering treatment

Start urate-lowering treatment in patients with symptomatic hyperuricaemia and any of the following:

- Two or more flares per year (including if self-managed)
- Tophi or erosions/damage on X-ray
- Renal impairment (eGFR < 60 mL/min/1.73 m²)
- History of kidney stones (nephrolithiasis)
- Early-onset gout, e.g. aged < 40 years (higher risk in Māori and Pacific peoples)
- Very high serum urate levels, e.g. ≥ 0.6 mmol/L

Test serum urate levels:

- Prior to dose adjustment while up-titrating urate-lowering treatment, e.g. initially every four weeks
- Every 6 – 12 months for monitoring once targets have been achieved
- Avoid testing serum urate levels during a flare

Recommended target:

- < 0.36 mmol/L – for most patients; or
- < 0.30 mmol/L – for patients with severe gout, e.g. those with tophi, chronic gouty arthritis or frequent flares

Prescribe flare prophylaxis for the first 3 – 6 months of urate-lowering treatment (doses are lower than acute treatment; Table 3)

- Can be stopped at three-month review if symptom-free and there is a substantial drop in serum urate levels
- May be required for longer than six months if frequent ongoing flares or tophi; weigh the risks (i.e. adverse effects of NSAIDs or colchicine) against the potential benefits

Table 3. Treatment options for gout flare prophylaxis.

| Medicine | Dose | Additional notes |
|--|--|--|
| Naproxen | 250 mg, twice daily | <ul style="list-style-type: none"> ■ Consider adding a proton pump inhibitor ■ Avoid if eGFR < 30 mL/min/1.73 m² |
| Colchicine (unapproved indication) | Very-low-dose regimen: 500 micrograms, twice daily Reduce dose if required (see notes) | <ul style="list-style-type: none"> ■ Reduce dose to 500 micrograms, once daily, or on alternate days, if not tolerated, e.g. diarrhoea develops, chronic kidney disease or concurrent use of CYP3A4/P-glycoprotein inhibitors (such as erythromycin, verapamil) ■ Ideally avoid, or use with caution, in frail patients, those who weigh < 50 kg, or patients with hepatic or renal impairment (eGFR 10 – 50 mL/min/1.73 m²) ■ Contraindicated in patients with an eGFR < 10 mL/min/1.73 m² |
| Prednisone | 5 mg, once daily | <ul style="list-style-type: none"> ■ Second-line option if contraindications to NSAIDs or colchicine ■ Taper slowly on withdrawal ■ Monitor for corticosteroid-related adverse effects |

✓ Allopurinol (fully funded) – first line

- Start at a low dose (renal function dependent) and slowly up-titrate until target serum urate level is reached (Table 4)
 - Dose reductions are not routinely required in patients with declining renal function already established on allopurinol
- Discuss possible adverse effects, most commonly gastrointestinal symptoms, and very rarely, hypersensitivity reactions (see [NZF](#))
- Consider checking patients of Han Chinese, Korean or Thai ancestry for the *HLA-B*5801* allele before prescribing allopurinol

👤 Before modifying the medicines regimen, assess adherence to treatment if the patient cannot meet the serum urate target

Table 4. Allopurinol starting doses and dose titration determined by renal function.

| Estimated glomerular filtration rate (eGFR) mL/min/1.73 m ² | Initial dose of allopurinol | Dose increase |
|--|-----------------------------|---|
| > 60 | 100 mg, daily | Increase by 100 mg, every four weeks*, if tolerated, until the serum urate target is reached, or to a maximum of 900 mg, daily. Usual maintenance dose is 100 – 600 mg/day. |
| 30 – 60 | 50 mg, daily | Increase by 50 mg, every four weeks, if tolerated, until the serum urate target is reached, or to a maximum of 900 mg, daily† |
| < 30 | 50 mg, every second day | Increase by 50 mg, every four weeks, if tolerated, until the serum urate target is reached, or to a maximum of 900 mg, daily† |

* Some prescribers prefer a more rapid titration (e.g. every two weeks), but this needs to be balanced against the increased risk of adverse effects

† Many patients with renal dysfunction will be unable to tolerate the maximum dose of allopurinol; consider referral to, or discussion with, a rheumatologist if serum urate targets are unable to be achieved and an increase in dose is not tolerated, e.g. over 300 mg allopurinol daily

Probenecid (fully funded)

- Add if serum urate target not achieved with relatively high dose of allopurinol, e.g. 600 mg, daily
 - Or monotherapy if intolerance or resistance to allopurinol
- Titrate dose according to serum urate level
 - Initially, 250 mg, twice daily, for one week, then 500 mg, twice daily, increased by 500 mg every four weeks, to 1 g, twice daily (i.e. 2 g total per day), if required
- Efficacy reduces with declining renal function; avoid if eGFR < 30 mL/min/1.73 m² or nephrolithiasis
- Advise patients to drink adequate fluids (e.g. ≥2 L per day) to prevent uric acid stones and to take the medicine with, or just after, a meal
- For adverse effects, see [NZF](#)

Febuxostat (Special Authority required)

- Alternative if allopurinol and/or probenecid are ineffective or not tolerated
- Can be prescribed in combination with probenecid if target serum urate level is not achieved with febuxostat alone
 - Results in a more rapid decline in serum urate which can trigger flares
 - Prescribe prophylactic NSAIDs or colchicine for at least the first six months of combination treatment
- Arrange baseline liver function testing; repeat periodically thereafter based on clinical judgement
- Recommended dose is 80 mg, once daily, increased to 120 mg, once daily, after two to four weeks if the serum urate is > 0.36 mmol/L
 - Maximum daily dose 80 mg if mild hepatic impairment (no dose information available for moderate to severe impairment)
- Use with caution in patients with renal dysfunction or a history of CVD (particularly heart failure and coronary artery disease)
- For adverse effects, see [NZF](#)

Supporting patients in the long term

- Acknowledge challenges and discuss concerns or barriers to regularly taking medicines; suggest strategies to make it easier, e.g. blister packaging, reminders on their phone
- Explain the importance of continuing urate-lowering treatment; urate levels return to previous levels within one week of stopping a urate-lowering medicine
- Reiterate that although biological factors (e.g. CKD, genetics) are the main causes of gout, other modifiable factors such as diet can still trigger flares. Discussion points include:
 - Eat regular meals – periods of fasting/starvation may trigger flares
 - Avoid/limit foods if they trigger flares, e.g. red meat, seafood (kaimoana); some [purine-rich foods](#) may be more likely to trigger flares
 - Increase vegetable intake and switch to low-fat dairy products
 - Limit alcohol and high fructose/sucrose drinks
 - Keep hydrated
 - Be aware that continuous, vigorous exercise can trigger flares
 - Vitamin C supplementation is unnecessary (no evidence it reduces serum urate)

Prescribing cardiovascular medicines to people with gout

- Losartan is the preferred choice for patients with gout and hypertension
- If possible, avoid diuretics, especially high-dose thiazides (increases risk of DRESS)
- If indicated, the benefits of low-dose aspirin outweigh the risks

When to consider rheumatology referral

Discussion with, or referral to, a rheumatologist is recommended for patients who despite optimal pharmacological treatment and lifestyle management, have:

- A serum urate level consistently ≥ 0.36 mmol/L and the presence of tophi; in patients without tophi, a higher threshold for referral may be considered, e.g. > 0.42 mmol/L
- Persistent flares or progressive joint damage despite a serum urate level that is consistently < 0.36 mmol/L
- Significant renal dysfunction and concerns about increasing the dose of urate-lowering treatment

It is strongly recommended to review the original resource at your convenience for full details of recommendations and evidence. See full article here: bpac.org.nz/2025/gout.aspx