



# GOUT

## Top tips for MURs

- Check patient understands why medication has been prescribed
- Assess whether patient is receiving treatment for acute gout or chronic gout and check that dosages and length of treatment are appropriate
- For acute gout, NSAIDs, oral corticosteroid or colchicine may be prescribed and continued until the attack is terminated (1-2 weeks)<sup>6</sup>. NSAIDs should be continued for 48 hours after attack subsides<sup>4</sup>
- Advise patient not to stop allopurinol or febuxostat during an acute attack if already established on these drugs
- For chronic gout assess compliance and counsel patient on the need to take preventative medication regularly even when gout symptoms are not present. Check that the patient is being monitored regularly (e.g. serum uric acid levels, renal function for allopurinol and febuxostat and LFTs for febuxostat)<sup>4</sup>
- When starting allopurinol low doses of NSAIDs, colchicine and prednisolone can be prescribed to prevent a flare of disease (NSAIDs – up to 6 weeks, 3-6 months of low dose colchicine and up to 12 weeks of low dose prednisolone)<sup>4</sup>
- Check proton-pump inhibitors have been co-prescribed with NSAIDs in patients at high risk of peptic ulceration or bleeding
- Recommend self-care strategies e.g. rest and elevate the limb, keep joint in cool environment by avoiding clothing or bedding and use an ice pack (or a packet of frozen vegetables covered by a tea towel)<sup>5</sup>
- Ensure patients given oral corticosteroids have been given a steroid card (if used >3 weeks)
- Monitor patient for signs and symptoms of other health conditions (gout may be associated with obesity, diabetes, hypertension and cardiovascular disease)<sup>5</sup>
- Advise patients that vitamin C supplementation may be beneficial (500mg daily dose)<sup>4</sup>
- Advise patient to avoid grapefruit juice while taking colchicine<sup>2</sup>
- Consider other medications for example diuretics and aspirin which may exacerbate gout
- Counsel patient on signs / symptoms that need referral and common side effects (see overleaf)
- Report any relevant adverse drug reactions to the Yellow Card Scheme

## Pathophysiology of gout

Gout is a disorder of purine metabolism<sup>4</sup> which results in sudden and severe inflammation of joints, typically in the foot and the big toe. Gout normally occurs due to raised uric acid levels in the body (hyperuricaemia) and the deposition of urate crystals in joints, resulting in red, swollen and extremely painful joints<sup>5</sup>. The patient may be asymptomatic for a long period before experiencing an acute attack of gouty arthritis which may last for 3-10 days. Chronic gout may result in the development of tophi or nodules affecting the joint. Hyperuricaemia, the single most important risk factor for developing gout is influenced by diet, alcohol, stress, injury, co-morbidities e.g. cardiovascular disease, renal impairment, diabetes mellitus, obesity, hypertension and hyperlipidaemia and medicines e.g. diuretics<sup>4</sup>.

## How do drugs used to treat acute attacks of gout work?

NSAIDs	Inhibit the enzyme cyclo-oxygenase, which is involved in the production of prostaglandins; reduces inflammation and has an analgesic effect.
Colchicine	Inhibits migration of granulocytes into inflamed area of gouty arthritis.
Corticosteroids	Reduce inflammation by inhibiting components of the immune system such as macrophages and cytokines.
Paracetamol	Proposed mechanism of action include effects on central prostaglandin inhibition, peripheral bradykinins and serotonergic systems.
Codeine	Mimics the action of the naturally occurring pain reducing chemicals called endorphins. It combines with the mu opioid receptors in the brain and spinal cord to block the transmission of pain.

## How do drugs used to prevent attacks of gout work?

Allopurinol	Inhibits the enzyme xanthine oxidase which is involved in the production of uric acid.
Febuxostat	Inhibits the enzyme xanthine oxidase which is involved in the production of uric acid.
Sulfinpyrazone	Blocks tubular reabsorption of urate increasing renal excretion of uric acid.



## Lifestyle issues<sup>5</sup>

- Counsel patient on reducing alcohol intake to within safe limits (up to 14 units per week, spread over 3 or more days) and to avoid binge drinking and drinking beer
- Counsel patient on gradual weight reduction if overweight (avoid high protein / low carbohydrate diets or crash diets) and to take regular exercise (avoiding trauma to joints)
- Advise patient to restrict foods that are high in purines, such as, offal, game, oily fish, seafood and yeast extract
- Advise patient to limit dairy fat (up to 2 servings daily) and to avoid consuming processed sugary drinks and snacks
- Advise patient to avoid dehydration by drinking water – 8 large glasses per day (2 litres) unless medically contraindicated
- Advise patients who smoke of the benefits of stopping smoking and how to access enhanced smoking cessation services in community pharmacy or Stop Smoking Wales.

## What are the common side effects to look out for?<sup>5</sup>

Drug	Common side effects	Recommendation
<b>NSAIDs</b>	Gastrointestinal intolerance: heartburn, nausea,	Take after food. Consider gastro-protection if persistent.
<b>Codeine (should be prescribed separately to paracetamol)</b>	Gastro-intestinal events including constipation	If regular use of codeine is needed, suggest a laxative as a preventative measure.
<b>Colchicine</b>	Abdominal pain, nausea, vomiting and diarrhoea	Stop tablets and let symptoms settle. If symptoms severe e.g. bloody diarrhoea contact prescriber.
<b>Corticosteroid</b>	Short term: insomnia	Take as a single dose in the morning.
	Long term: osteoporosis, peptic ulceration, diabetes, hypertension	Refer to prescriber for monitoring.
<b>Allopurinol / Febuxostat</b>	Rash	Stop immediately and refer to prescriber.
	Somnolence, vertigo and ataxia	Advise these medications may affect the performance of skilled tasks (e.g. driving).
	Diarrhoea, headache, nausea	Refer to prescriber.
<b>Sulfapyrazone</b>	Nausea, vomiting, diarrhoea	Usually mild and transient – Take after food.

## Potential serious drug interactions?

Medicines used for gout treatment or prevention can interact with many other medications - **See BNF Appendix1: Interactions for more details**

## Red flags that need urgent referral

- Symptoms of septic arthritis (i.e patient is systemically unwell with acutely painful, hot, swollen joint)
- Symptoms of colchicine toxicity (may be delayed onset up to a week). Symptoms include burning of the mouth and throat, difficulty in swallowing, profuse or bloody diarrhoea, followed by confusion, cardiac arrhythmias and respiratory distress
- Any symptoms of a rash with allopurinol / febuxostat

## Where can you find more information? (references)

1. Safe use of NSAIDs; e-learning module. WCPPE website (<http://www.wcppe.org.uk>)
2. BNF sub-section 10.1.4 ([www.bnf.org](http://www.bnf.org))
3. NICE website TA164, ([www.nice.org.uk](http://www.nice.org.uk))
4. Clinical Knowledge Summary – gout (<http://www.cks.nice.org.uk>)
5. UK Gout Society ([www.ukgoutsociety.org](http://www.ukgoutsociety.org))
6. British Society for Rheumatology and British Health Professionals in Rheumatology Guideline for the Management of Gout 2007
7. Summary of Product Characteristics (SPC) for allopurinol, colchicine and sulfapyrazone

