

# Evaluation of Hyperuricaemia

Suggested scheme for evaluation of Hyperuricaemia

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## Potentially correctable contributory factors

- Obesity
- Alcohol
- Hypertriglyceridaemia
- Drugs (especially thiazides, but also diuretics, low doses of salicylates, nicotinic acid, pyrazinamide, ethambutol, and cyclosporin)
- Low fluid intake

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## Consider

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### High purine intake

Diet (meats, yeast products)

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### Increased urate production

#### Primary

- Idiopathic
- Enzyme defects

#### Secondary

- Blood dyscrasias
- Infectious mononucleosis
- Malignancy
- Cytotoxic therapy
- Psoriasis
- Alcoholism
- Prolonged exercise

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### Decreased renal excretion

#### Primary

- Syndrome-X (insulin resistance, dyslipidaemia [increased TG, low HDL-cho], obesity, hypertension, hyperuricaemia)
- Idiopathic

#### Secondary

- Renal failure. If renal failure is causing the hyperuricaemia, serum creatinine will be  $> 400 \mu\text{mol/L}$ , serum urate will be  $< 0.65 \text{ mmol/L}$ , and the ratio of urine urate to creatinine will be  $< 0.7$ . If hyperuricaemia is causing the renal failure, then serum urate will be  $> 0.7 \text{ mmol/L}$  and the ratio of urine urate to creatinine will be  $> 0.7$ .
- Dehydration
- Diuretics
- Ketonaemia (starvation, diabetes mellitus)
- Hyperlactataemia (alcohol, toxoemia of pregnancy)
- Drugs
- Hyperparathyroidism

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## If the cause is obscure

Consider 24-hour urinary excretion rate before and after a 5-day low-purine diet:

|                            | <b>Normal diet</b><br>(mmol/24hr) | <b>Low-purine diet</b><br>(mmol/24hr) |
|----------------------------|-----------------------------------|---------------------------------------|
| High purine intake         | $> 6.0$                           | $< 4.0$                               |
| Increased urate production | $> 6.0$                           | $> 4.5$                               |
| Decreased renal excretion  | $< 6.0$                           | $< 4.0$ (often $< 2.0$ )              |