B-QuiCK: Migraine

Diagnosis

Migraine is characterised by recurrent episodes of moderate-to-severe headache (typically lasting four hours or longer) along with other symptoms, e.g. nausea, vomiting, photophobia, phonophobia, aggravation by physical activity

- Take a symptom history – ask about:
  - Pain characteristics, e.g. location, pattern and severity
  - Frequency and duration
  - Associated symptoms
  - Aggravating factors
  - Impact on activities

  See: "Take a focused symptom history" in the main article for differentiating features between migraine and other primary headaches
- Exclude serious secondary causes of headache; see: "Red flags requiring further action". Conduct detailed physical examination and request other investigations as required.
- Ask the patient to complete a headache diary: record triggers, frequency and severity, analgesic use and impact on daily activities over time
  - This supports a diagnosis of migraine and provides a baseline for monitoring treatment response

Migraine is formally diagnosed according to ICHD-3 criteria – patients must have experienced at least five headache episodes in their lifetime with the following characteristics:

At least two of: ■ Unilateral ■ Throbbing or pulsating ■ Moderate-to-severe pain ■ Aggravated by, or causing avoidance of, routine physical activity	***AND***	**One or both of:** ■ Light sensitivity and sound sensitivity ■ Nausea and/or vomiting	***AND***	Duration lasting 4 – 72 hours

"Migraine with aura" can be diagnosed if there have been at least two episodes of fully reversible visual, sensory, speech/language, motor, brainstem and/or retinal aura symptoms, with multiple specific aura symptom characteristics.

Management

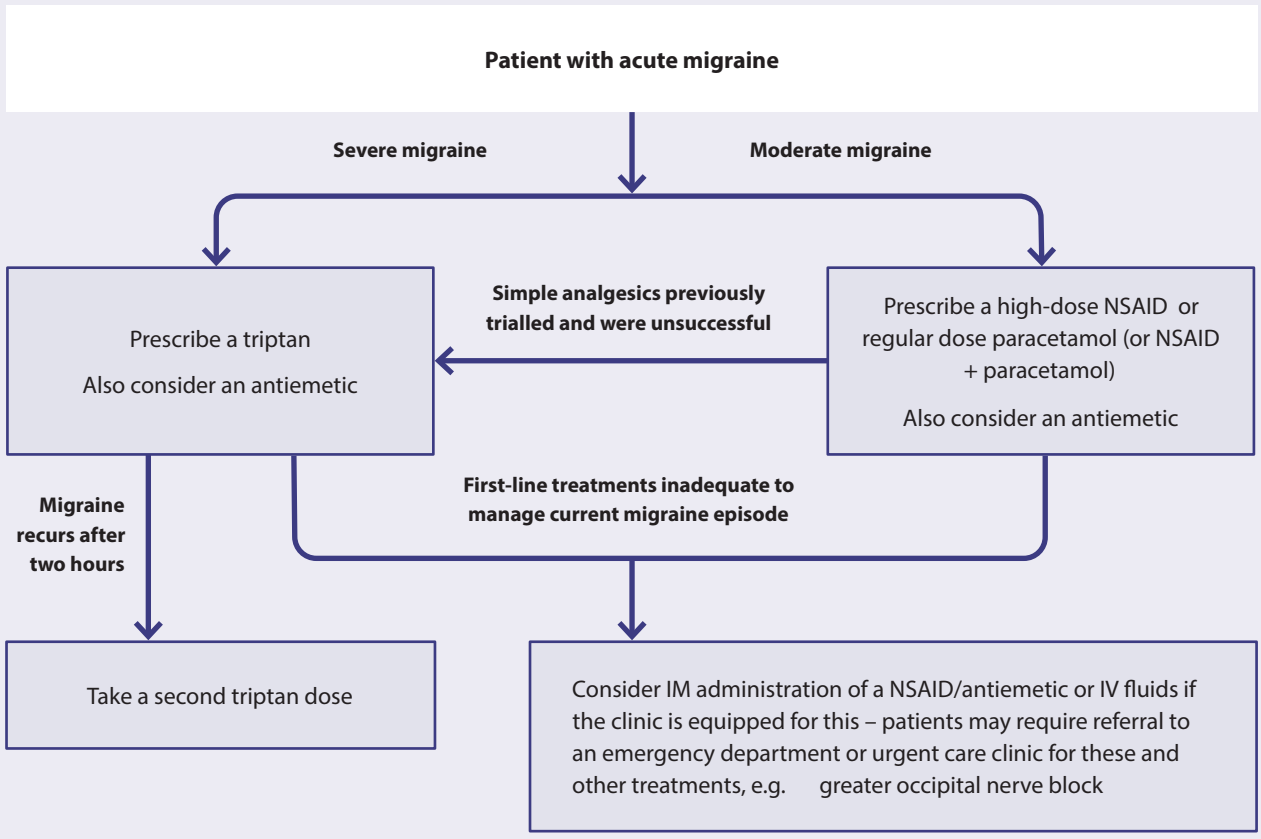
Goal: reduce migraine frequency and severity to improve quality of life

Validated tools, e.g. Migraine Disability Assessment (MIDAS), help quantify impact on quality of life

- Set realistic treatment expectations early; migraine is a neurological condition that cannot be cured, but can be managed to be tolerable
- Encourage positive lifestyle changes, e.g. getting adequate rest, regular meals, avoiding known triggers, regular exercise

- Trial non-pharmacological strategies, e.g. relaxation and coping techniques, CBT
  - Some evidence for complementary treatments, e.g. greater occipital nerve blocks, acupuncture, neuromodulation devices
  - Supplements not routinely recommended but some evidence for magnesium, riboflavin (vitamin B2), coenzyme Q10 and feverfew extract
  - No compelling evidence for other interventions such as tinted glasses, daith or tragus piercings, but support patients in trialling if theoretical benefit and unlikely to harm
- Consider referral to other primary care team members (e.g. health improvement practitioner) or healthcare professionals (e.g. physiotherapist) as needed

Acute migraine treatment



For the next migraine episode?

- If inadequate response to NSAIDs, start with a triptan (alone or with a NSAID) next time
- If inadequate response to a triptan, check timing of dose (i.e. needs to be taken at headache onset) and consider formulation
- Switch to a different triptan if the same triptan has been used without effect in two episodes

See Table 1 for dosing of medicines for acute migraine

- Start acute migraine treatment as soon as possible after headache onset; goal is to be pain free within two hours
- Limit analgesics to < 15 days/month and triptans to < 10 days/month to reduce medicine overuse headache risk

Migraine prophylaxis

Migraine prophylaxis is indicated if:

- ≥ 4 migraine episodes or ≥ 8 headache days per month (use clinical judgement, e.g. patient with fewer but severe episodes may benefit from prophylaxis)
- Acute treatments are ineffective, not tolerated/contraindicated or overused

No single approach to migraine prevention is effective for every patient. Select a medicine based on co-morbidities, risk factors, medicine interactions, prior treatment history, patient preference and cost.

Main funded options: beta blockers (e.g. propranolol, metoprolol), antidepressants (e.g. amitriptyline), candesartan, sodium valproate and topiramate. See Table 2 for an overview of funded medicines for migraine prophylaxis.

- Generally less effective than CGRP-targeted treatments (see below), but many patients can still achieve satisfactory control with these options

Non-funded options: CGRP monoclonal antibodies (SC injection), e.g. fremanezumab, galcanezumab, erenumab, small-molecule CGRP receptor antagonists, e.g. atogepant (oral), and Botox (injection; chronic migraine)

- CGRP-targeted treatments are generally more effective and better tolerated than conventional migraine preventatives. Base selection on patient preference for route of administration, dosing frequency and cost.

Trial preventative medicines for two to three months at the maximum tolerated dose (or three to six months for CGRP-targeted treatments) before assessing response; improvement may be gradual

- 30 – 50% reduction in migraine frequency and severity is an adequate response, or less if patients experience other benefits, e.g. improved quality of life, functional ability

Assess treatment response and review ongoing need for prophylaxis

- Follow up regularly while the dose is up-titrated, and then can reduce frequency of follow-up over time
- Assess adherence, adverse effects, change in migraine frequency and severity and quality of life (based on headache diary), and reinforce lifestyle measures
- Consider switching to an alternative medicine or trialling combination treatment if inadequate response after three to six months
  - Consider co-morbidities, medicines mechanism of action and interactions when prescribing combination treatment
- Discuss with, or refer to, a neurologist if inadequate response to multiple migraine preventatives
- Review need for ongoing use after 6 – 12 months of effective treatment; use clinical judgement and consider patient's goals of treatment and preferences when determining optimal time to withdraw
  - Gradually withdraw treatment in a step-wise manner
- Migraine frequency may worsen during withdrawal (particularly with CGRP-targeted treatments); temporarily increase dose or re-start medicine (if threshold for prophylaxis is met again)
  - Ensure acute treatments are available to bridge any episodes

Red flags requiring further action

The SNOOP4 mnemonic is commonly used to guide clinicians in identifying red flags associated with headache:[2, 11, 23]

- **S**ystemic symptoms (e.g. fever, chills, myalgia, night sweats) or condition (e.g. history of malignancy, HIV infection, immunosuppression)
- **N**eurological symptoms or signs, e.g. confusion, diplopia, neurological deficit
- **O**nset – sudden onset headache reaching maximum intensity within minutes (thunderclap headache)
- **O**lder age – onset after age 50 years
- **P**rogressive headache – change in headache features, pattern or severity over days or weeks
- **P**recipitated by Valsalva, cough or sneeze
- **P**ostural or exertional aggravation, e.g. headache worsened or triggered by standing, lying down or exercise
- **P**apilloedema

Table 1. Medicines for acute migraine.[2, 9, 30]

Medicine	Usual dose for migraine	Maximum dose per day
Simple analgesics		
Ibuprofen	400 – 600 mg	2,400 mg
Naproxen	250 – 500 mg	1,000 mg
Diclofenac	50 – 100 mg	150 mg
Aspirin	900 – 1,000 mg	4,000 mg
Paracetamol*	1,000 mg	4,000 mg
Triptans		
Rizatriptan	10 mg	30 mg
Sumatriptan	50 – 100 mg (oral) 6 mg (subcutaneous)	300 mg (oral) 12 mg (subcutaneous)
Antiemetics		
Metoclopramide	10 mg	30 mg
Prochlorperazine	10 mg (oral) 3 mg (buccal)	30 – 40 mg (oral) 12 mg (buccal)
Domperidone	10 mg	40 mg

* N.B. Paracetamol (500 mg) + caffeine (250 mg) may also be effective for some people (available over the counter).[18, 25]

B-QuiCK provides short clinical summaries from some of the full articles available on our website. Relevant sections from these resources have been condensed into "notepad pages" or algorithms designed to offer rapid access to practical clinical advice and knowledge. 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/2026/migraine.aspx

www.bpac.org.nz/b-quick

Table 2. Funded medicines commonly used for migraine prophylaxis.[2, 9, 29, 35, 38]

Medicine	Dosing	**Considerations** (N.B. Check NZF for a full list of contraindications, cautions and adverse effects prior to prescribing.)
Cardiovascular		
Propranolol	Initially, 40 mg, once or twice daily.[30] Up-titrate as needed by the same amount per week to 80 – 160 mg, daily, in divided doses.[30]	■ Propranolol is recommended as a first-line medicine for migraine prophylaxis in some guidelines.[9] Propranolol can increase the plasma concentration of rizatriptan, therefore, rizatriptan should no longer be used for acute migraine treatment; sumatriptan or a NSAID may be prescribed instead.[30] ■ Propranolol or metoprolol may be preferred for patients with co-morbid hypertension, arrhythmias or angina.[30, 35] Propranolol may also be useful for patients with co-morbid anxiety.[30, 35] ■ Propranolol and metoprolol are not usually suitable for patients with asthma, uncontrolled heart failure, hypotension or marked bradycardia.[30] Some specialists advise caution with the use of beta blockers in patients with hemiplegic migraine due to historical case reports suggesting increased stroke risk. However, this relationship has not been fully established and is not included as a caution in the medicine data sheets. ■ Propranolol and metoprolol can cause postural symptoms, drowsiness and bradycardia[1, 30] N.B. Nadolol is also indicated for migraine prophylaxis; however, propranolol and metoprolol are more widely recommended likely in part due to stronger evidence of efficacy. See NZF for nadolol dosing information and other considerations.
Metoprolol succinate	Initially, 47.5 mg, once daily.[30] Up-titrate as needed to 95 – 190 mg, daily.[30] See NZF for dosing information on metoprolol tartrate.	
Candesartan (unapproved indication)	Dosing depends on baseline blood pressure. Initially 4 – 6 mg, once daily.[24] Up-titrate as needed by 4 mg per week to 16 mg (up to 32 mg if concurrent hypertension), once daily.[24, 35]	■ May be preferred for patients with co-morbid hypertension or heart failure[29, 35] ■ Can cause hypotension and dizziness[30, 35]
Antidepressants		
Amitriptyline (unapproved indication)	Initially, 10 mg, once daily at night.[30] Up-titrate as needed to 50 – 75 mg, once daily (maximum 150 mg, daily).[30]	■ Amitriptyline may be preferred for patients with co-morbid depression, neuropathic pain or sleep disturbances[10, 29, 35] ■ In practice, venlafaxine should only be considered for migraine prophylaxis in patients with a co-morbid mood disorder. If migraine is not adequately controlled with venlafaxine but the patient's mood is, continue the medicine for the purpose of mood management and consider trialling an alternative for migraine prophylaxis. ■ Amitriptyline and venlafaxine are not suitable for patients with arrhythmias or conditions associated with a high risk of cardiac arrhythmias.[30] Venlafaxine is also not suitable for patients with uncontrolled hypertension.[30] ■ Adverse effects of amitriptyline may limit use, e.g. weight gain, constipation, drowsiness.[1, 15, 30] Venlafaxine may be better tolerated (if the patient has a co-morbid mood disorder), or a less sedating tricyclic antidepressant, e.g. nortriptyline (unapproved indication).[9, 16, 29]
Venlafaxine (unapproved indication)	Dose according to the co-morbid mood disorder. Up-titrate the dose until the mood disorder is adequately controlled. See NZF for specific dosing information.	
Anti-seizure		
Topiramate	Initially, 25 mg, once daily at night for one week.[30] Up-titrate as needed in 25 mg increments per week to 50 – 100 mg, daily, in two divided doses (maximum 200 mg, daily).[30]	■ Sodium valproate and topiramate are not suitable for females of childbearing potential unless a highly effective contraceptive method is used, e.g. intrauterine device.[30] Males should also use effective contraception when taking sodium valproate.[30] ■ Use topiramate and sodium valproate with caution in patients with a history of psychiatric disorders: monitor for changes in mood, including depression and suicidal ideation[30] ■ Topiramate can cause weight loss, paraesthesia, cognitive impairment and nephrolithiasis[1, 30, 35] ■ Sodium valproate can cause weight gain, drowsiness, tremor, hair loss and abnormal laboratory findings, e.g. abnormal liver function tests[1, 30, 35]
Sodium valproate (unapproved indication)	Initially, 200 mg, twice daily.[30] Up-titrate as needed to 1.2 – 1.5 g, daily, in divided doses.[30]	

N.B. Clonidine and pizotifen are also indicated for migraine prophylaxis, however, they are no longer routinely prescribed for this purpose in New Zealand as clonidine can aggravate depression and cause insomnia, and there is limited evidence supporting benefit with pizotifen compared to other options.[30, 35]