



Diagnosing and managing **headache in adults** in primary care

KEY PRACTICE POINTS:

- **Tension-type headache** is managed by identifying and avoiding causative factors, such as a non-ergonomic work station set-up; referral for physiotherapy may be appropriate if there is musculoskeletal involvement. Naproxen, ibuprofen or aspirin are the first-line pharmacological treatments; paracetamol can also be used. Prophylactic treatment with naproxen or a tricyclic antidepressant may be considered for patients with recurrent tension-type headaches.
- **Migraine headache management** is underpinned by identifying and avoiding triggers, along with relaxation techniques and coping strategies. A pharmacological treatment trial can start with a NSAID or paracetamol, with an anti-emetic added if necessary; if this is ineffective, trial a triptan - naproxen may be used concurrently. Beta-blockers are the first-line option for migraine prophylaxis; amitriptyline is an alternative first-line choice and topiramate and sodium valproate are second-line options.
- **Medicine overuse headache** may occur in patients frequently using analgesics, e.g. more than 10-15 days per month. It is treated by withdrawing the analgesics and using relaxation and coping techniques to manage pain. If medicines are required to manage symptoms during the withdrawal period, a three to four week course of daily naproxen or a short course of prednisone may be considered.

A systematic approach is recommended when assessing patients with headache to rule out serious underlying conditions and to ensure an accurate diagnosis. Self-management and non-pharmacological treatments are often helpful for patients with headaches and these should be explored before prescribing medicines. Non-steroidal anti-inflammatory drugs (NSAIDs) are first-line for patients with tension-type headache or migraine. Triptans are prescribed to patients with migraine if NSAIDs are ineffective or not tolerated. Beta-blockers or amitriptyline may be considered for prophylaxis in patients with frequent migraine, despite optimal acute management.

A systematic approach is recommended to assess patients with headache

Headache is one of the most frequent symptoms reported by patients in primary care. The majority of headaches are benign; however, a systematic approach to the diagnosis of headache reduces the likelihood that a serious secondary cause has been missed and helps to reassure patients who have concerns.

Table 1: The SOCRATES acronym for exploring pain symptoms in patients with headache.¹

Abbreviation	Example	Clinical significance
Site	Unilateral, bilateral or occipital	Tension-type headaches are generally bilateral and migraine is generally unilateral. Occipital pain suggests involvement of the neck.
Onset	Acute or gradual	Tension-type headaches tend to develop over hours, often through the day. Sudden onset of acute pain, e.g. a “thunderclap” headache, is consistent with a subarachnoid haemorrhage.
Character	Throbbing or pressing	Migraines are often throbbing or pulsating while tension-type headaches are pressing.
Radiation	Pain may affect areas other than the head, such as the neck, eye or face	Tension-type headache may radiate from the neck. Trigeminal involvement may cause pain to radiate to the face.
Associated symptoms	Visual disturbances, nausea, fear of light and/or noise, fever, cough, jaw claudication, neurological deficits	Migraine can be associated with visual disturbances. Fever and cough with a headache suggests an infection. Jaw claudication suggests giant cell arteritis. Neurological deficits may be consistent with an intracranial tumour.
Timing	Establish onset, length of time, frequency and if there is there a pattern such as headache in the morning or evening or weekdays only	Headaches that occur on work days are more likely to be stress or muscle-related. A new or different headache may signal a serious secondary cause.
Exacerbating and/or relieving factors	Triggers such as drinking caffeine, stress, poor posture or taking prescribed medicines, and what provides relief, e.g. lying down, sleep, over-the-counter (OTC) medicines	Identification of triggers allows for self-management. Relieving factors may guide treatment. It is important to note the frequency of administration and effectiveness of any OTC products to determine if medicine overuse headache is a possibility (Page 7).
Severity	Assess severity, if the headache is getting worse and what effect on daily life is it having	The need for interventions is guided by severity and a baseline measure allows for assessment of treatment effectiveness. Escalating symptoms suggest a secondary cause.

History is the first step when diagnosing headache

The patient’s history usually provides valuable insights for both the diagnosis and later the management of headache. Open questions will often reveal relevant information, including triggers for headache, such as dehydration, caffeine withdrawal or medicines. More specific questions concerning family history and co-morbidities, e.g. anxiety, depression, can then be tailored to the patient’s circumstance to provide further clues to a cause and possible treatments (Table 1). This process is also likely to uncover any concerns the patient has that can be allayed following assessment, e.g. fear of tumour or stroke.

Rule-out serious secondary causes for a headache


Headache can be associated with a number of serious secondary causes, e.g. subdural haematoma, intracranial


tumour, encephalitis, giant cell arteritis and pre-eclampsia. In patients with a new onset or a different type of headache, consider the possibility of secondary causes and weigh their likelihood based on the clinical characteristics of the patient. If a secondary cause is suspected, a more detailed examination should be conducted. At a minimum, the initial examination should include:^{2,3}


- Fundoscopy
- Visual acuity, which may be decreased in patients with conditions such as acute angle-closure glaucoma and herpes zoster ophthalmicus
- Assessment of the head and neck for general or discrete tenderness, stiffness, limitations in the range of movement and crepitation. Spinal involvement should be suspected if the patient reports a similar type of pain during the examination.

- Inspection of the temporal arteries for prominence, erythema and tenderness
- A focused neurological examination
- Blood pressure, temperature and pulse rate. Elevated blood pressure is rarely a cause of headache, however, a baseline measurement may be useful in the future.

Patients can usually be reassured that a serious cause is unlikely if they have occasional headaches with symptoms that completely resolve in the intervening period or a long history of headaches without neurological symptoms. Time is a useful tool when assessing patients with headache as serious causes tend to result in escalating symptoms; ask patients to return if their condition is not improving, worsens or new symptoms develop, e.g. slurred speech, weakness, visual disturbances.

 A demonstration of a neck examination is available from: www.youtube.com/watch?v=kaQB5hoZCQ4

 A demonstration of a general neurological examination is available from: www.youtube.com/watch?v=5lqSw0XdeQY


 A demonstration of a focused neurological examination to exclude serious pathology in a patient with headache is available from: www.youtube.com/watch?v=fgwN1P5PDaA

Red-flags requiring action

Patients with “red-flag” clinical features require either immediate action or urgent investigation and referral within hours (Table 2). Elevated intracranial pressure and neurological symptoms are consistent with an intracranial tumour, the likelihood of which is increased in older patients, patients with a suppressed immune system or a history of cancer.³

A headache diary is useful for diagnosis and guiding management

Asking the patient to complete a headache diary over several weeks can help to establish a diagnosis where there is uncertainty about the pattern or the nature of their symptoms or when medicine overuse is suspected.² A diary can also help to identify potential triggers, e.g. a poor computer workstation setup, that the patient may be able to remedy and reduce their need for medicines.

 An example of a template for a headache diary is available from: www.healthnavigator.org.nz/media/1007/headache-diary-2015-pdf.pdf

Referral for eyesight testing is not usually necessary when investigating headaches


Referral for eyesight testing solely for the purpose of headache investigation is not recommended.² Although commonly believed to be associated with headache, refractive error, e.g. near or far sightedness, is rarely a cause of headache.⁴ Latent or persistent squinting can occasionally cause headache,⁴ but this may not be detected by visual testing and can often be improved through ergonomic adjustments, e.g. taking regular breaks when working and improving posture.

Table 2: Clinical features requiring immediate action or urgent investigation and referral.³

Emergency red-flags requiring immediate action	Urgent red-flags requiring urgent action within hours to days
<ul style="list-style-type: none"> ■ Headache with fever and neck stiffness suggests meningitis ■ Headache with acute, unilateral red eye, nausea and vomiting suggests acute angle-closure glaucoma* ■ Sudden onset of severe headache with peak intensity within seconds to one minute requires urgent CT to exclude subarachnoid haemorrhage ■ Papilloedema with altered consciousness and/or focal neurological signs is consistent with a space occupying lesion ■ An older patient, with new onset headache and cognitive changes following trauma, may have a subdural haematoma 	<ul style="list-style-type: none"> ■ New type of headache in a patient aged over 50 years with jaw claudication, i.e. jaw pain after chewing or talking, should be treated as giant cell arteritis until proven otherwise† ■ New onset neurological deficit consistent with an intracranial tumour ■ New headache that rapidly changes with posture is consistent with cerebrospinal fluid leak, e.g. following an epidural ■ New onset headache in a patient with a long-term illness, e.g. cancer or HIV, requires investigation to exclude brain metastases or infection

* Further information on diagnosis and management is available from: bpac.org.nz/bpj/2014/march/glaucoma.aspx

† Further information on diagnosis and management is available from: bpac.org.nz/BPJ/2013/June/arteritis.aspx

 Mobile phone headache “apps” are available for patients to record details of their headaches: www.healthnavigator.org.nz/app-library/m/migraine-and-headache-apps

Combine the history and examination to diagnose headache

There are numerous types of headache; the two forms of primary headache that are most frequently encountered in primary care are:²

1. Tension-type headache (see: “Tension-type headache is the most common type of headache”)
2. Migraine, with or without aura (see: “Migraines often follow a pattern”)

Medicine overuse headache (see: “Medicine overuse headache may mask an underlying disorder”) is a secondary form of headache that can develop during the management of primary headache.²

Tension-type headache is the most common type of headache

Tension-type headaches are most often described as a generalised pressure or tightness, like a band around the head, which often originates in the back of the neck.² Consider a diagnosis of tension-type headache in patients with:⁵

- Bilateral pain of mild to moderate intensity
- Pain that is pressing or tightening (as opposed to pulsating) and not aggravated by routine activities
- A duration of 30 minutes to continuous
- No significant additional symptoms, although mild nausea may be present

Stress-related tension-type headaches tend to develop later in the day. Poor postural alignment due to overuse of mobile devices or poorly setup computer workstations can lead to headaches that originate in the neck, often radiating from posterior to anterior.⁴ Acute rhinosinusitis can cause headaches, however, whether or not chronic sinus pathology can cause persistent headaches is uncertain.⁴

Patients may present because tension-type headaches are increasing in frequency and/or they are no longer manageable with over-the-counter (OTC) analgesia or lifestyle modifications, such as ergonomic adjustments to furniture or increasing fluid intake.²

The management of tension-type headache

Patients should be encouraged to self-manage tension-type headaches as the first-line treatment. This includes self-monitoring of symptoms to identify avoidable triggers and adapting their lifestyle to avoid exacerbating symptoms by:^{2,3}

- Maintaining good sleep hygiene
- Exercising regularly

- Maintaining good hydration and eating regularly
- Using relaxation and stress management techniques, e.g. diaphragmatic breathing or mindfulness
- Avoiding situations that can lead to musculoskeletal pain in the neck and shoulders, ensuring good posture while at computer workstations and taking regular breaks away from the screen
- Moderating caffeine intake

Physiotherapy is the first-line treatment for headache caused by musculoskeletal issues

Referral to a physiotherapist should be considered for all patients with headaches with musculoskeletal involvement.² Physiotherapists may use massage, mobilisation, manipulation and advise on home-based exercises.³ Initial exercises aim to teach the patient postural awareness, often to prevent a forward head posture and rounded shoulders, by activating the transverse abdominus muscles and bracing the core muscles.⁶

Patients can often self-manage musculoskeletal problems by:

- Ergonomically adjusting work stations
- Using lumbar support to improve posture while seated
- Taking regular breaks and stretching when seated for long periods
- Using an appropriate head pillow so that the spine is level while sleeping
- Placing a heat pack across the shoulders and neck to reduce pain, muscle spasm and increase movement

The pharmacological management of tension-type headache

Naproxen, ibuprofen or aspirin are often sufficient for the treatment of tension-type headache.² Paracetamol is less effective but may be preferable for some patients,² e.g. those with a history of gastrointestinal bleeding or reduced renal function. The risk of patients developing medicine overuse should be considered in those regularly using analgesics.²

Opioids and triptans are not recommended for the acute management of tension-type headache.³ Muscle relaxants are not routinely used, however, orphenadrine citrate is indicated and occasionally prescribed for patients with tension type headache caused by muscle spasm.

Prophylaxis of recurring tension-type headache

For patients with tension-type headache on 15 days or more a month, i.e. chronic tension-type headache, a three week course of naproxen, 250–500 mg, twice daily, may be considered.² This practice does increase the risk of medicine overuse headache, however, it can be helpful in breaking the cycle of recurring headaches where the patient responds to pain with analgesics.²

If the three week NSAID course does not break the cycle of symptoms it should not be repeated.²

A tricyclic antidepressant (TCA) may also be considered for the prophylaxis of recurrent tension-type headache (unapproved indication). Amitriptyline, initially 5–10 mg, one to two hours before bedtime and titrated slowly upwards if necessary (e.g. every three weeks), usually to a maintenance dose of no more than 50 – 75 mg, is often prescribed for headache prophylaxis, although nortriptyline may be better tolerated.² Withdrawal of the TCA is recommended after an improvement in symptoms has been maintained for three to six months.²

Migraines often follow a pattern

Patients with migraines typically experience recurrent, moderate or severe unilateral headaches, which may be pulsating and associated with nausea, vomiting and gastrointestinal stasis.² A visual aura tends to precede a migraine by 5–60 minutes in approximately one-third of patients.² Typically the aura will be a transient disturbance affecting half the visual field or a spreading scintillating scotoma, i.e. an area of visual disturbance.² Females are three times more likely to experience migraine than males.² Consider a diagnosis of migraine in patients with:⁵

- Unilateral or occasionally bilateral pain of moderate or severe intensity
- Pain that is pulsating and aggravated by, or causes avoidance of, routine activities
- A duration of 4–72 hours
- Unusual sensitivity to light and/or sound often with nausea and vomiting

The causes of migraine are poorly understood, however, genetics, the trigeminal system and environmental triggers are involved. Migraine triggers appear to be cumulative and combine to push a patient over a threshold, thereby instigating a migraine;² trigger avoidance is an important aspect of migraine management (see below). Some patients may experience both migraine and tension-type headaches at varying times which can make diagnosis challenging.²

The management of migraine

Self-management is an important aspect of migraine treatment. A headache diary is helpful for recording potential triggers and devising avoidance strategies. Migraine triggers may include:^{2,3}

- Dehydration
- Missed meals
- Excess caffeine
- Foods containing nitrites or nitrates, e.g. preserved meats, cheese or chocolates
- Alcoholic drinks

- Relaxation following stress, e.g. weekends or holidays
- Lack of sleep or oversleeping
- Long distance travel
- Unaccustomed strenuous exercise
- Bright lights
- Loud noise
- Menstruation or menopause

Dietary triggers are likely to be a causative factor in less than 20% of people with migraine.² Food may be considered a trigger for migraine if an attack occurs within six hours of eating and migraines are not experienced when that food is not eaten.²

The non-pharmacological management of migraine

Lifestyle factors that are likely to reduce the frequency of migraines include:³

- Aerobic exercise
- Sufficient sleep
- Good hydration
- Regular meals
- Limiting caffeine intake, e.g. no more than two cups of coffee a day

Cognitive behavioural therapy, coping strategies and relaxation training are helpful for many patients with migraine and are first-line treatments for those with anxiety or stress.^{2,3}

Acupuncture can significantly reduce the frequency of migraines. The addition of at least six sessions of acupuncture to standard management may result in clinically significant improvements for at least three months for some patients; there are insufficient data to determine if this benefit is longer lasting.⁷

The pharmacological management of acute migraine

The response to medicines varies between patients with migraine, therefore a stepped approach is recommended based on the efficacy and safety of the medicines.² Patients with migraine will often report nausea and/or vomiting and may require dissolvable, rectal or subcutaneous formulations.

Step 1: Simple analgesics are first-line for migraine

Prescribe a NSAID (e.g. ibuprofen, naproxen, diclofenac, celecoxib, aspirin) or paracetamol as a first-line medicine, depending on the patient's co-morbidities and the risk of adverse events.³ Paracetamol is an appropriate treatment option for women who are pregnant or breastfeeding, although it is less effective in the management of acute migraine.^{3,5} Doses may need to be at the higher end of the recommended range due to migraine-related gastrointestinal stasis, e.g. ibuprofen 400–600 mg, naproxen 750 mg, aspirin 600–900 mg.² Diclofenac suppositories can be prescribed for patients

with nausea or vomiting.² Patients may request an opioid, e.g. codeine or tramadol, for the acute management of migraine, however, opioids are not recommended as they may further reduce gastrointestinal motility and limit the absorption of other oral medicines.²

At follow-up, assess the effectiveness of the analgesic by asking the patient:³

- Was there a noticeable reduction in symptoms within two hours of administration?
- Did the medicine cause any adverse effects?
- Was only one dose required?
- Could normal activities be resumed within two hours of administration?

If the patient answers “no” to any of these questions after at least two episodes, consider switching the medicine, e.g. from one NSAID to another or to a triptan from an NSAID.³ This decision should be based on the patient’s response to more than one migraine as medicines may produce a variable response, depending on when they were administered.

Consider an antiemetic for nausea or vomiting at any stage of treatment

An antiemetic, such as metoclopramide or domperidone may be considered for the treatment of migraine-related nausea. These medicines can also improve peristalsis and gastric emptying.² Metoclopramide* should be prescribed for short-term use only, e.g. up to five days, due to the risk of neurological adverse effects[†].⁸ Domperidone should be used cautiously as it is associated with cardiac adverse effects, e.g. QT interval prolongation, the risk of which is higher in patients aged over 60 years and in those taking daily doses greater than 30 mg.⁹ Prochlorperazine is an alternative to metoclopramide or domperidone that is also available in a buccal tablet (partially subsidised) that may be preferred by patients with vomiting.² Prochlorperazine can be associated with both extrapyramidal and cardiovascular adverse effects.⁸ The use of ondansetron for migraine-related nausea is not an approved indication, and is not supported by evidence,³ however, the orodispersible formulation may be helpful in patients who are not susceptible to QT prolongation if other antiemetics are ineffective or tolerated. Injectable antiemetics may be required for patients who are unable to take tablets due to vomiting.

* Paramax, a combination product containing metoclopramide and paracetamol which was often prescribed for migraine, is no longer available in New Zealand

† See NZF for further details: http://nzf.org.nz/nzf_2384

Step 2: Prescribe a triptan if simple analgesics have been previously ineffective

Triptans (5HT₁-receptor agonists) are most likely to be effective

when they are taken at the start of the headache, i.e. when the patient first feels pain; if taken during the aura stage they are unlikely to be effective.² The response to triptans varies between patients; those who have not responded to one triptan may benefit from switching to another, although approximately 30% of patients will not respond to any triptan.² Symptoms will return within 48 hours in 20–50% of patients who initially respond to treatment and a second dose will be required.² The elimination half-life of oral triptans is two to three hours.^{8,10} Patients should ensure there are at least two hours between the two doses and that if they have not responded to the first dose that they do not take a second.⁸ Patients prescribed triptans should be warned that overuse, e.g. ≥ ten occasions a month, is associated with the development of medicine overuse headache and that triptans should not be used for migraine prophylaxis.²


Triptans are contraindicated in patients with ischaemic heart disease, previous myocardial infarction, coronary vasospasm and uncontrolled hypertension due to the risk of serious coronary events.⁸ Triptans should not be prescribed to patients who have migraine with neurological symptoms, e.g. hemiplegic, basilar or ophthalmoplegic migraine.⁸ Caution is recommended when considering triptans in patients aged over 65 years due to the increased cardiovascular risk.⁸ Patients taking triptans may notice sensations of tingling, heat, heaviness, pressure or tightness of any part of their body; if significant around the throat and chest, treatment should be discontinued.⁸

Rizatriptan and sumatriptan are fully subsidised

Rizatriptan is often preferred as the first-choice triptan because the orodispersible formulation is designed to improve absorption. There is some evidence that orodispersible rizatriptan may produce slightly better control of migraine symptoms two hours after onset, compared to triptans in tablet form.¹¹ Rizatriptan is taken at 10 mg initially, with a maximum dose of 30 mg in 24 hours.⁸ Rizatriptan should not be taken with fluid; the tablet is placed on the tongue with dry hands and left to dissolve with saliva.¹⁰

Sumatriptan is taken at 50 mg initially, with a maximum dose of 300 mg in 24 hours.⁸ Subcutaneous sumatriptan (6 mg) was frequently prescribed, however, it is now generally reserved for patients who are unable to take an oral triptan or when rapid onset of action is required, provided the patient has not already taken a triptan in the prior 24 hours.²

Naratriptan tablets and zolmitriptan nasal spray are not subsidised in New Zealand, but these medicines may be prescribed for some patients who do not respond to rizatriptan or sumatriptan.

 Further information on the use of triptans for migraine is available from: bpac.org.nz/BPJ/2014/July/triptans.aspx

Step 3: Combination treatment with a triptan and an NSAID

Naproxen (500 mg) can be added to sumatriptan or rizatriptan to improve treatment effectiveness and if this is unsuccessful the use of aspirin or paracetamol with a triptan can be trialled.²

Ergotamine should not be used to treat acute migraine

Ergotamine* should not be used in the community for the management of acute migraine.⁴ The adverse effects of ergotamine can be severe and include nausea, vomiting, abdominal pain and muscular cramps.³ Ergotamine may cause digital gangrene if taken concurrently with beta-blockers.²

* Ergotamine tablets are available in New Zealand in combination with 100 mg of caffeine as an unapproved medicine

The prophylaxis of migraine

Migraine prophylaxis should be considered for patients when:^{2, 3}

- They find acute treatment to be inadequate
- They have more than three attacks per month, despite optimal management
- They are at risk of medicine overuse headache

In general, prophylaxis treatment is considered effective if the frequency of migraine is reduced by half.³ Prophylactic medicines often need to be titrated to avoid adverse effects and it may take four to eight weeks of daily treatment until the medicine is effective;³ warning patients in advance may improve treatment adherence.

Review the need for migraine prophylaxis

Migraine prophylaxis over very long periods is rarely appropriate as the frequency of migraine attacks often varies with time.² In order to determine if the patient has an ongoing need, the dose of the prophylactic medicine can be titrated downwards over two to three weeks with the patient's symptoms monitored and recorded.² Guidelines recommend considering withdrawal after four to six months of successful treatment,² however, the timing of treatment withdrawal should be discussed on a case-by-case basis with patients.

Beta-blockers are generally first-line for migraine prophylaxis

Beta-blockers are the first-line medicines for migraine prophylaxis in patients without asthma or peripheral vascular disease.² Nadolol and metoprolol (succinate or tartrate) are recommended and approved in New Zealand for this indication.³ Propranolol is also prescribed for migraine prophylaxis as an unapproved indication, however, the concurrent use of rizatriptan may result in elevated plasma concentrations of rizatriptan.^{3, 10}

Amitriptyline is an alternative first-line medicine for migraine prophylaxis

Amitriptyline (unapproved indication) is also a first-line prophylactic medicine for patients with migraine, often for those with co-morbid chronic pain, disturbed sleep or depression.² A low starting dose, e.g. 5–10 mg, one to two hours before bedtime, is initially recommended and this can be titrated slowly upwards to effect if necessary (e.g. every three weeks), usually to a maintenance dose of no more than 50–75 mg.²

Amitriptyline is sometimes used in combination with a beta-blocker for the prophylaxis of migraine, however, there is no evidence to support this practice.²

Nortriptyline and venlafaxine (unapproved indications) are alternatives to amitriptyline for migraine prophylaxis.³

Topiramate and sodium valproate are second-line medicines for migraine prophylaxis

Topiramate and sodium valproate (unapproved indication) are effective in the prophylaxis of migraine,¹² however, they are second-line medicines due to the risk of serious adverse effects.² Sodium valproate and topiramate should be avoided in women of childbearing potential.⁸ The use of sodium valproate during pregnancy is associated with an increased risk of neural tube defects.⁸ Topiramate should not be prescribed to patients with liver disease or angle-closure glaucoma.³

Patients who are prescribed topiramate or sodium valproate should be monitored for psychological and behavioural changes, including depression and suicidal ideation.¹³

Medicine overuse headache may mask an underlying disorder

Headache secondary to the use of medicines used to manage headaches is referred to as medicine overuse headache. The excessive use of medicines is caused by an underlying headache disorder and the medicine overuse will need to be managed effectively before the cause can be addressed.² Patients with a history of migraine are particularly susceptible to medicine overuse headache and females are five times more likely than males to be affected.² A medicine overuse headache is typically present upon awakening and may increase after physical exertion.²

Medicine overuse headache should be suspected in patients who are using:^{2, 3}

- Simple analgesics, e.g. paracetamol, ibuprofen or aspirin, on ≥ 15 days a month
- Opioids, e.g. codeine-containing analgesics or tramadol, or triptans on ≥ 10 days a month

The mechanism causing medicine overuse headache differs between classes of medicine and is poorly understood.

Medicine overuse headache can only be managed by withdrawing medicines

All patients prescribed medicines for the treatment of headache should be educated about the risk of developing medicine overuse headache. If the patient feels that they need to take a NSAID or triptan frequently, i.e. more than two to three times per week, the possibility of medicine overuse headache should be considered and additional emphasis given to lifestyle management of headache. The possibility that co-morbid anxiety or depression is contributing to the patient's symptoms should also be considered.

Where medicine overuse headache is identified, the goals of treatment are:²

1. The withdrawal of the overused medicine
2. Recovery from medicine overuse headache
3. Assessment and treatment of the underlying primary headache disorder
4. Prevention of relapse

From the outset patients need to have a clear understanding that the "treatment" is the cause of their headache.² During the withdrawal period patients should be told to completely avoid responding to headache with analgesics. Motivation is therefore important as patients often experience an initial aggravation of symptoms, which may tempt them to recommence medicine use.² Non-pharmacological management, e.g. relaxation techniques, should be encouraged during this period and it is important that patients stay well-hydrated.²

Most medicines that cause medicine overuse headache can be stopped without the need for dose reductions.² Patients overusing triptans can be expected to show an improvement in symptoms within seven to ten days, while those overusing paracetamol or NSAIDs, or inappropriately taking opioids for headache management, are likely to take two to four weeks before symptoms improve.² There is limited evidence to guide the prevention of withdrawal symptoms; some neurologists recommend a three to four week course of daily naproxen (as opposed to "as needed" use) to break the patient's cycle of responding to pain with medicine.² A short course of prednisone, e.g. 60 mg for five days, then tapered by 20 mg a day, or low-dose amitriptyline, e.g. 10 mg a day, are alternatives to naproxen for the management of withdrawal symptoms.¹⁴

The diagnosis can be reviewed four to eight weeks after withdrawing from the overused medicine.⁵ At this point the underlying tension-type headache, migraine or condition that caused the medicine overuse can be treated.²

Patients with medicine over-use headaches are at high risk of relapse in the first year following withdrawal of medicines and ongoing monitoring of medicine use, particularly OTC medicines, is important.²

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