

# *Lifting The Burden*

## **The Global Campaign to Reduce the Burden of Headache Worldwide**

A partnership in action between the World Health Organization, World Headache Alliance, International Headache Society and European Headache Federation

## **Headache disorders in primary care**

### ***Key messages***

- **Headache disorders are common and ubiquitous.**
- **They have a neurological basis, but headache rarely signals serious underlying illness. The huge public-health importance of headache arises from its causal association with personal and societal burdens of pain, disability, damaged quality of life and financial cost.**
- **Headache disorders have many types and sub-types, but a very small number of them impose almost all of these burdens.**
- **Most of these headache disorders can be effectively treated. They are diagnosed clinically, requiring no special investigations. Their management belongs in primary care.**
- **Mismanagement, and overuse of medications to treat acute headache, are major risk factors for disease aggravation.**

### ***Overview of headache***

Headache is a painful feature of a relatively small number of primary headache disorders that in many cases are life-long conditions. Headache also occurs as a characteristic symptom of many other conditions; these are termed secondary headache disorders.

Although there are regional variations, headache disorders are highly prevalent throughout the world. Collectively, they are among the most common disorders of the nervous system. They affect people of all ages, races, income levels and geographical areas.

Headache disorders cause substantial disability in all populations and impose a very considerable socioeconomic burden. Despite this, headache is underestimated in scope and scale, and headache disorders remain under-recognized and under-treated everywhere.

## Migraine

Migraine is a primary headache disorder, probably with a genetic basis. Activation of a mechanism deep in the brain causes release of pain-producing inflammatory substances around the nerves and blood vessels of the head. Why this happens periodically, and what brings the process to an end in spontaneous resolution of attacks, are uncertain.

Usually starting at puberty, migraine is recurrent throughout life in many cases. Adults with migraine describe episodic attacks with specific features (table I), of which headache and nausea are the most characteristic. In children, attacks tend to be shorter-lasting and abdominal symptoms more prominent. Attack frequency is typically once or twice a month but can be anywhere between once a year and once a week, often subject to lifestyle and environmental factors.

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**Table I. Typical features of adult migraine headache**

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Headache	moderate or severe in intensity; one-sided and/or pulsating; aggravated by routine physical activity
Duration	hours to 2-3 days
Accompanying symptoms	nausea and sometimes vomiting and/or dislike or intolerance of normal levels of light and sound

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Migraine is most disabling to those aged 35-45 years, but it can trouble much younger people, including children. In Europe and America, migraine affects 6-8% of men and 15-18% of women. The higher rates in women are hormonally-driven. Similar patterns probably exist in Central and South America, with prevalences only slightly lower. A survey in Turkey suggested higher levels: 9% in men and 29% in women. In India also, anecdotal evidence suggests migraine is very common (high temperatures and light levels for more than eight months of the year, the heavy noise pollution and the Indian habits of omitting breakfast, frequent fasting and eating rich, spicy and fermented food are thought to be common triggers). Migraine appears less prevalent, but still common, elsewhere in Asia (around 8%) and in Africa (3-7%). In these areas, major epidemiological studies have yet to be performed.

## Tension-type headache

The mechanism of tension-type headache is poorly understood although it has long been regarded as a headache with muscular origins. It may be stress-related or associated with musculoskeletal problems in the neck.

Tension-type headache has distinct sub-types. *Episodic tension-type headache* occurs, like migraine, in attack-like episodes. These usually last no more than a few hours but can persist for several days. *Chronic tension-type headache*, one of the chronic daily headache syndromes, is present most of the time and can be unremitting over long periods. It is less common, but much more disabling to those affected.

Headache in either case is usually mild or moderate and generalized, though it can be one-sided. It is described as pressure or tightness, like a band around the head,

sometimes spreading into or from the neck. It lacks the specific features and associated symptoms of migraine.

Tension-type headache pursues a highly variable course, often beginning during the teenage years and reaching peak levels in the 30s. It affects three women to every two men. Episodic tension-type headache is the most common headache disorder, reported by over 70% of some populations although its prevalence appears to vary greatly worldwide. In Japan, for example, 22% of the population report this disorder, whilst a prevalence of only 3% has been recorded in a rural population of Saudi Arabia. Lack of reporting and under-diagnosis are likely factors here, and cultural attitudes to reporting a relatively minor complaint may explain at least part of the variation elsewhere. Chronic tension-type headache affects 1-3% of adults.

## Cluster headache

Cluster headache is one of a group of primary headache disorders (*trigeminal autonomic cephalalgias*) of uncertain mechanism that are characterized by frequently-recurring, short-lasting but extremely severe headache.

Cluster headache also has episodic and chronic forms. *Episodic cluster headache* occurs in bouts (clusters), typically of 6-12 weeks' duration once a year or two years and at the same time of year. Strictly one-sided intense pain develops around the eye once or more times daily, mostly at night. Unable to stay in bed, the affected person agitatedly paces the room, even going outdoors, until the pain diminishes after 30-60 minutes. The eye is red and waters, the nose runs or is blocked on the affected side and the eyelid may droop. In the less common *chronic cluster headache* there are no remissions between clusters. The episodic form can become chronic, and *vice versa*.

Though relatively uncommon, affecting no more than 3 per 1,000 adults, cluster headache is highly recognizable. It is unusual among primary headache disorders in affecting six men to each woman. Most people developing cluster headache are in their 20s or older. Once present, the condition may persist intermittently for 40 years or more.

## Medication-overuse headache

Chronic excessive use of medication to *treat* headache is the cause of medication-overuse headache, another of the chronic daily headache syndromes.

Medication-overuse headache is oppressive, persistent and often at its worst on awakening in the morning. A typical history begins with episodic headache – migraine or tension-type headache – treated with an analgesic or other medication for each attack. Over time, headache episodes become more frequent, as does medication intake. In the end-stage, which not all patients reach, headache persists all day, fluctuating with medication use repeated every few hours. This evolution occurs over a few weeks or much, much longer. A common and probably key factor at some stage in the development of medication-overuse headache is a switch to pre-emptive use of medication, in anticipation of the headache.

All medications for the acute or symptomatic treatment of headache, in overuse, are associated with this problem, but what constitutes overuse is not clear in individual cases. Suggested limits are the regular intake of simple analgesics on 15 or more days per month or of codeine- or barbiturate-containing combination analgesics, ergotamine or triptans, or any combination of these, on more than 10 days a month. Frequency of use is important: even when the total quantities are similar, low daily doses carry greater risk than larger weekly doses.

In terms of prevalence, medication-overuse headache far outweighs all other secondary headaches. It affects more than 1% of some populations, women more than men, and children also.

## Serious secondary headaches (headaches to worry about)

Some headaches signal serious underlying disorders. These may demand immediate intervention. Although relatively uncommon, they worry non-specialists because they are in the differential diagnosis of primary headache disorders. The reality is that intracranial lesions give rise to histories and physical signs that should bring them to mind.

A history indicative of raised intracranial pressure should first suggest **intracranial neoplasm**. Intracranial tumours rarely produce headache until quite large, when raised intracranial pressure is apparent in the history and, in all likelihood, focal neurological signs are present. Because of their infrequency, brain scanning is not justified as a routine investigation in patients with headache.

**Meningitis** and its associated headache occur in an obviously ill patient. The signs of fever and neck stiffness, later accompanied by nausea and disturbed consciousness, reveal the cause.

**Subarachnoid haemorrhage** is by far the most common cause of incapacitating headache of abrupt onset, often described as the worst headache ever. It is usually unilateral at onset and accompanied by nausea, vomiting and impaired consciousness, but may be less severe and without associated signs. Neck stiffness may take some hours to develop. Subarachnoid haemorrhage is very serious (50% of patients die, often before arriving at hospital, and 50% of survivors are left disabled). Unless there is a clear history of similar uncomplicated episodes, headache with these characteristics demands urgent investigation.

New headache in any patient over 50 years of age should raise the suspicion of **giant cell (temporal) arteritis**. This condition is conspicuously associated with headache, which can be severe. The patient, who does not feel entirely well, may also complain of marked scalp tenderness. Jaw claudication is highly suggestive. This disorder must be recognized: there is major risk of blindness, preventable by immediate steroid treatment.

**Primary angle-closure glaucoma**, rare before middle age, may present dramatically with acute ocular hypertension, a painful red eye with the pupil mid-dilated and fixed, and, essentially, impaired vision. In other cases headache or eye pain may be episodic and mild.

**Idiopathic intracranial hypertension** is a rare cause of headache not readily diagnosed on the history alone. Papilloedema indicates the diagnosis in adults, but is not seen invariably in children with the condition.

More commonly encountered in the tropics are the acute infections, **viral encephalitis**, **malaria** and **Dengue fever**, all of which can present with sudden severe headache with or without a neurological deficit. These conditions should be kept in mind wherever they are likely to occur.

Other disorders seen more in the tropics that may present with subacute or chronic headache are **tuberculosis**, **neurocysticercosis**, **neurosarcoidosis** and **HIV-related infections**. These are often diagnosed only on imaging.

## Other headaches common in primary care

Only a small number of other headache disorders are likely to be seen in primary care. Guidance on their diagnosis is given in the companion leaflet *Diagnostic criteria for headache disorders in primary care*.

**Chronic post-traumatic headache**, usually secondary to moderate or severe head injury, has no specific features but often occurs as part of the post-traumatic syndrome. This includes symptoms such as equilibrium disturbance, poor concentration, decreased work ability, irritability, depressive mood and sleep disturbances.

**Headache attributed to low cerebrospinal fluid (CSF) pressure** has three subtypes, presenting similarly but distinguished by aetiology. This headache may develop up to five days after lumbar puncture (often resolving spontaneously within a week). Persistent CSF leakage may be caused by another clinical procedure, or by trauma. Low CSF pressure may also develop spontaneously, often with a history of trivial increase in intracranial pressure, such as occurs on vigorous coughing, or after a sudden drop in atmospheric pressure.

**Classical trigeminal neuralgia** is characterized by unilateral brief electric shock-like pains, abrupt in onset and termination, limited to the distribution of one or more divisions of the trigeminal nerve (usually the second or third). These occur spontaneously, or are evoked by trivial stimuli such as washing, shaving, brushing the teeth, smoking or talking. They commonly cause facial muscle spasm on the affected side (*tic douloureux*). Between paroxysms there may be no symptoms, or a dull background pain may persist.

**Persistent idiopathic facial pain** (formerly known as atypical facial pain) is deep and poorly localized, confined at onset to a limited area on one side of the face, and present daily for all or most of the day. It lacks the characteristics of a cranial neuralgia and is not attributable to another disorder (pain may be initiated by surgery or injury to the face, teeth or gums, but persists without any demonstrable local cause).

## Over-diagnosed headaches

Headache should not be attributed to sinus disease in the absence of other symptoms indicative of it. Errors of refraction are overestimated as a cause of headache. Dental problems may cause jaw or facial pain but rarely headache.

## Management and prevention of headache disorders

### Health-care policy

The volume of headache referrals to neurologists seen in developed countries is difficult to justify, and should not be repeated in countries where headache-related health services are being developed. The common headache disorders require no special investigation: they are diagnosed and managed with skills generally available to physicians. Management of headache therefore belongs in primary care for all but a very small minority of patients. Models of health care vary but, in most countries, primary care has an acknowledged and important role. It is a role founded on recognition that decisions in primary care take account of important patient-related factors such as family medical history and patients' individual expectations and values. The continuity and long-term relationships of primary care generate awareness of these, whilst promoting trust and satisfaction amongst patients.

Even in primary care, however, the needs of the headache patient are not met in the time usually allocated to a consultation in many health systems. Nurses and pharmacists can complement the delivery of health care by primary-care physicians.

Successful management of headache disorders follows five essential steps:

- the affected person must seek medical treatment;
- a correct diagnosis should be made;
- the treatment offered must be appropriate to the diagnosis;

- the treatment should be taken as directed;
- the patient should be followed up to assess the outcome of treatment, which should be changed if necessary.

## Headache diagnosis

The key to getting the diagnosis right is sufficient time committed to a systematic history. This must highlight or elicit description of the characteristic features of the important headache disorders described above (table II). Different headache types are not mutually exclusive: patients are often aware of more than one headache type, and a separate history should be taken for each.

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**Table II. An approach to the headache history**

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**1. How many different headache types does the patient experience?**

Separate histories are necessary for each. It is reasonable to concentrate on the most bothersome to the patient but others should always attract some enquiry in case they are clinically important.

<b>2. Time questions</b>	<ul style="list-style-type: none"> <li>a) Why consulting now?</li> <li>b) How recent in onset?</li> <li>c) How frequent, and what temporal pattern (especially distinguishing between episodic and daily or unremitting)?</li> <li>d) How long lasting?</li> </ul>
<b>3. Character questions</b>	<ul style="list-style-type: none"> <li>a) Intensity of pain</li> <li>b) Nature and quality of pain</li> <li>c) Site and spread of pain</li> <li>d) Associated symptoms</li> </ul>
<b>4. Cause questions</b>	<ul style="list-style-type: none"> <li>a) Predisposing and/or trigger factors</li> <li>b) Aggravating and/or relieving factors</li> <li>c) Family history of similar headache</li> </ul>
<b>5. Response questions</b>	<ul style="list-style-type: none"> <li>a) What does the patient do during the headache?</li> <li>b) How much is activity (function) limited or prevented?</li> <li>c) What medication has been and is used, and in what manner?</li> </ul>
<b>6. State of health between attacks</b>	<ul style="list-style-type: none"> <li>a) Completely well, or residual or persisting symptoms?</li> <li>b) Concerns, anxieties, fears about recurrent attacks, and/or their cause</li> </ul>

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The correct diagnosis is not always evident initially, especially when more than one headache disorder is present, but the history should awaken suspicion of the important secondary headaches. Once it is established that there is no serious underlying disorder, a diary kept for a few weeks to record the pattern of attacks, symptoms and medication use will usually clarify the diagnosis.

Physical examination rarely reveals unexpected signs after an adequately-taken history, but should include blood pressure measurement and a brief but comprehensive neurological examination including the optic fundi: more is not required unless the history is suggestive. Examination of the head and neck may find muscle tenderness, limited range of movement or crepitation, which suggest a need for physical forms of treatment but not necessarily headache causation.

Investigations, including neuroimaging, rarely contribute to the diagnosis of headache when the history and examination have not suggested an underlying cause.

## Realistic objectives

There are few patients troubled by headache whose lives cannot be improved by the right management, with the objective of minimizing impairment of life and lifestyle (table III). Cure is rarely a realistic aim in primary headache disorders, but people disabled by headache should not have unduly low expectations of what is achievable through optimum management. Medication-overuse headache and other secondary headaches are, at least in theory, resolved through treatment of the underlying cause.

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**Table III. Seven elements of good headache management**

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1. evident interest and investment of time to inform, explain, reassure and educate
  2. correct and timely diagnosis
  3. agreed high but realistic objectives
  4. identification of predisposing and/or trigger factors and their avoidance through appropriate lifestyle modifications
  5. intervention (optimal management of most primary headaches combines adequate but not excessive use of effective and cost-effective pharmaceutical remedies with non-pharmacological approaches; secondary headaches generally require treatment of the underlying cause)
  6. follow-up to ensure optimum treatment has been established
  7. referral to specialist care when these measures fail
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## Predisposing and trigger factors

Migraine in particular is subject to certain physiological and external environmental factors. Whilst predisposing factors increase susceptibility to attacks, trigger factors may initiate them. The two may combine.

Attempts to control migraine by managing these factors are often disappointing. A few predisposing factors (stress, depression, anxiety, menopause, head or neck trauma) are well recognized but not always avoidable or treatable. Trigger factors (table IV) are important and their influence real in some patients, although dietary sensitivities affect, at most, 20% of people with migraine. Other lifestyle and environmental trigger factors suggest people with migraine react adversely to change in routine. Many attacks have no obvious trigger and, again, those that are identified are not always avoidable. Diaries may be useful in detecting triggers but the process is complicated as triggers appear to be cumulative, jointly overflowing the "threshold" above which attacks are initiated. Too much effort in seeking triggers causes introspection and can be counter-productive. Enforced lifestyle change to avoid triggers can itself adversely affect quality of life.

**Table IV. Migraine trigger factors**

<b><i>Change in habit</i></b>	relaxation after stress (especially at weekends or on holiday); missed or delayed meals; missed sleep; lying in late; long distance travel and/or crossing time zones
<b><i>Excesses</i></b>	bright lights, loud noise, strong odours, marked weather changes, strenuous unaccustomed exercise
<b><i>Diet</i></b>	certain alcoholic drinks, ripened cheeses, monosodium glutamate, probably not chocolate, caffeine withdrawal, dehydration
<b><i>Hormone fluctuations</i></b>	falls in oestrogen levels occurring at menstruation, or with interruption of exogenous oestrogen therapy, can trigger migraine in some women

In tension-type headache, stress may be obvious and likely to be aetiologically implicated. Musculoskeletal involvement may be evident in the history or on examination. Sometimes, neither of these is apparent. In the Muslim world, a marked rise in tension-type headache incidence on the first day of fasting is observed in people ordinarily susceptible to headache.

Cluster headache is usually but not always a disease of smokers, many of them heavy. However, patients with cluster headache who still smoke cannot be promised that giving up will end or even improve their headaches. Alcohol potently triggers cluster headache and most patients have learnt to avoid it during clusters.

## **Therapeutic intervention**

The purpose of pharmacotherapy of primary headache, once non-drug measures have been fully exploited, is to control symptoms so that the impact of the disorder on each individual patient's life and life-style is minimized. This requires a therapeutic plan tailored for each patient, and patients with two or more co-existing headache disorders are likely to require separate plans for each disorder.

Use of drugs for headache should, where possible, follow local guidelines that take account of local resources. The following are general guidelines.

### ***Migraine***

Most people with migraine require drugs for the acute attack. These may be symptomatic or specific. The goal of acute therapy – resolution of symptoms and full return of function within 2 hours – is not attainable by everyone with drugs currently available. When symptom control with best acute therapy is inadequate, it can be supplemented with prophylactic medication, usually for 4-6 months, aiming to reduce the number of attacks.

Large numbers of people with migraine manage themselves, with no more than symptomatic over-the-counter remedies, and for many this appears adequate. Simple oral analgesia – acetylsalicylic acid 600-1000mg or ibuprofen 400-800mg – is used to best advantage in soluble formulations taken early because gastric stasis develops as the migraine attack progresses and this impedes absorption. A prokinetic antiemetic – metoclopramide 10mg or domperidone 20mg – enhances the analgesic effect by promoting gastric emptying and is most suitable for nausea and vomiting. When oral



symptomatic therapy fails, it is logical to bypass the gut: rectal diclofenac 100mg, and domperidone 30mg if needed, are available in many countries.

Specific drugs – triptans and, in certain circumstances, ergotamine tartrate – should not be withheld from those who need them. There are specific contraindications to these drugs – particularly coronary disease (and multiple risk factors thereof) and uncontrolled hypertension – but triptans as a class show higher efficacy rates than symptomatic treatments. Which triptan is best is an individual matter: one may work even if another has not. In countries where more than one are available, patients may reasonably try each in turn to discover which suits them best. Relapse (return of headache within 6-48 hours) in 20-50% of patients who have initially responded is a troublesome limitation of triptans. A second dose is usually effective for relapse but, occasionally in some patients and often in a few, induces further relapse.

Drugs in a range of pharmacological classes have limited but often useful prophylactic efficacy against migraine (table V). The choice of agent is guided by local availability, but otherwise by comorbidities and contraindications. Because poor compliance is a major factor impairing effectiveness, drugs given once daily are preferable, all else being equal. In some women, hormonal influences are important in driving attack frequency, and a special approach may be taken to menstrually-related migraine (table VI).

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**Table V. Prophylactic drugs with some efficacy in migraine**

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<i>Beta-blockers</i> without partial agonism: atenolol 50-200mg, metoprolol 100-200mg or propranolol LA 80-320mg daily	cardioselectivity and hydrophilicity both improve the side-effect profile, suggesting atenolol as first-line
<i>Divalproex</i> or <i>sodium valproate</i> 0.6-2.5g daily	the dose should be up-titrated carefully to avoid adverse events; avoid in pregnancy
<i>Topiramate</i> 50mg twice daily	the dose should be up-titrated carefully from 25mg daily to avoid adverse events
<i>Amitriptyline</i> 25-150mg at night	the dose should be up-titrated carefully to avoid adverse events; lower doses are often sufficient
<i>Flunarizine</i> 5-10mg daily	
<i>Methysergide</i> 1-2mg three times daily	specialist supervision recommended; restrict continuous use to <6 months

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**Table VI. Prophylactic approaches to menstrually-related migraine**

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<i>Mefenamic acid</i> 500mg three to four times daily or <i>naproxen</i> 500 mg twice daily	from first to last days of menstruation
<i>Transdermal oestrogen</i> 100µg patches (50µg if not well tolerated) twice-weekly or <i>oestradiol</i> 1.5mg in 2.5g gel daily	from 3 days before expected period for 7 days
<i>Combined oral contraceptives</i> taken continuously, or for 12 weeks rather than 3 before a week's break	avoid in migraine with aura

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### *Tension-type headache*

Reassurance and over-the-counter analgesics (acetylsalicylic acid or ibuprofen are more effective than paracetamol) are usually sufficient for infrequent episodic tension-type headache. Most people with this condition manage themselves: it is self-limiting and, although it may be temporarily disabling, it rarely raises anxieties. If medication is taken on fewer than two days per week there is little risk of escalating consumption.

People consult doctors because of episodic tension-type headache when it is becoming frequent and, in all likelihood, no longer responding to painkillers. Long-term remission is then the objective of management, as it is for chronic tension-type headache.

Symptomatic medication is contraindicated for tension-type headache occurring on more than 2 days per week: where it is already being taken at high frequency a diagnosis of chronic tension-type headache rather than medication-overuse headache cannot be made with confidence. Whichever condition is present (and it can be both), frequently-taken symptomatic medication must be withdrawn as the first step (*see below*).

Physiotherapy is the treatment of choice for musculoskeletal symptoms accompanying frequent episodic or chronic tension-type headache. In stress-related illness, lifestyle changes to reduce stress and relaxation and/or cognitive therapy to develop stress-coping strategies are the treatment mainstays. Prophylactic medication has a limited role. Amitriptyline (10mg at night, incremented to 50-150mg as needed and as side-effects permit) is first-line in most cases, withdrawn after improvement has been maintained for 4-6 months. Long-term remission is not always achievable, especially in long-standing chronic tension-type headache. A pain-management clinic may be the final option.

### *Cluster headache*

Because of its relative rarity, cluster headache has a tendency to be misdiagnosed, sometimes for years. It is the one primary headache that may not be best managed in primary care, but the primary-care physician has an important role not only in recognizing it at once but also in discouraging inappropriate "treatments" (tooth extraction is not infrequent).

Analgesics have no place in the management of cluster headache. Sumatriptan 6mg subcutaneously is the only proven acute treatment: it is highly-effective, but not available everywhere. Oxygen helps some people but must be taken at 100% with a flow-rate of at least 7 litres/minute, requiring a special mask and regulator.

For most patients, prophylaxis, initiated as early as possible in the onset of each cluster, is the mainstay of cluster headache management. However, prophylactic methods are highly empirical: drugs used by specialists (table VII) are supported by clinical experience more than by published trials. Most of these drugs should show benefit within one week of achieving the maximum tolerated dose, and otherwise should be discontinued and replaced, or supplemented. Failure of one drug does *not* predict failure of others.

With the exception of steroids, effective prophylaxis should be continued in episodic cluster headache until the patient has been headache-free for at least 14 days. This minimizes the risk of relapse. Drugs should be withdrawn by progressive dosage reduction rather than ceased abruptly. If relapse does occur, treatment must be resumed. Prophylaxis sometimes converts chronic cluster headache into the episodic form, and then can be withdrawn after 14 days symptom-free. Otherwise, chronic cluster headache may require medication to be continued indefinitely.

In both episodic and chronic cluster headache, resistance to monotherapy is not rare.

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**Table VII. Drugs used in specialist practice in cluster headache prophylaxis**


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<i>Verapamil</i> 240-960mg/day	ECG should be checked for atrioventricular block before commencing treatment and whenever the dosage is increased; beta-blockers should not be given simultaneously
<i>Prednisolone</i> (prednisone) 60-80 mg/day for 2-4 days, discontinued by dose reduction over 2-3 weeks	short courses do not seriously risk suppression of endogenous steroid production
<i>Lithium</i> (dose dependent upon specific salt used, but may be at higher end of range used in psychiatry)	serum concentrations must be monitored to ensure adequacy of dosing and to guard against over-dosing; renal, cardiac and thyroid functions should be monitored
<i>Ergotamine</i> 2-4mg/day rectally	cluster headache patients appear relatively resistant to the toxic effects of ergotamine that limit its use in migraine, but treatment is usually omitted every 7 <sup>th</sup> day and treatment periods should be limited; it is useful therefore only in episodic cluster headache; beta-blockers or methysergide should not be used concomitantly, nor should sumatriptan as acute therapy
<i>Methysergide</i> 1-2mg three times daily	restrict continuous use to <6 months; ergotamine should not be used concomitantly
<i>Combination therapy</i>	verapamil plus ergotamine, lithium or methysergide

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### *Medication-overuse headache*

Prevention is the ideal management of medication-overuse headache, with education the key factor: many patients with medication-overuse headache are otherwise unaware of it as a medical condition. Once this disorder has developed, early intervention is important since the long-term prognosis depends on the duration of medication overuse.

Treatment is withdrawal of the suspected medication(s). Although this will lead initially to worsening headache and sometimes nausea, vomiting and sleep disturbances, with forewarning and explanation it is probably most successfully done abruptly. Some experts cover the withdrawal period with a non-steroidal anti-inflammatory drug such as naproxen; this usually suppresses withdrawal symptoms but it then has to be withdrawn itself. Short-term cover with amitriptyline or sodium valproate is of uncertain value. Within two weeks, usually, the headache shows signs of improvement which continues for weeks to months; 50-75% of patients revert to their original episodic headache type.

### *Other headaches*

All of the serious secondary headaches described above require specialist referral. In most cases, this should be immediate or urgent.

Headache attributed to low CSF pressure is likely to require specialist intervention whatever its aetiology if it persists beyond a week.

Chronic post-traumatic headache and persistent idiopathic facial pain may be difficult to manage, and generally require specialist care. This is true also of classical trigeminal neuralgia. Many, possibly most, patients with this condition have compression of the trigeminal root by tortuous or aberrant vessels for which surgery may be appropriate. Rarely this disorder occurs bilaterally, in which case a central cause such as multiple sclerosis must be considered.

## **Follow-up, and referral**

Neither the first diagnosis, nor the first-proposed treatment plan, may be correct. Follow-up is essential.

For migraine and episodic tension-type headache, the interval to follow-up is usually determined by attack frequency. Acute treatment may need several trials before its effect can be judged. Prophylaxis generally achieves observable benefit only after 3-4 weeks (although adverse effects may occur sooner).

For chronic tension-type headache, follow-up provides often-needed psychological support whilst recovery is slow.

In medication-overuse headache, early review is essential once withdrawal from medication has begun in order to check that it is being achieved: nothing is less helpful than discovering, three months later, that the patient ran into difficulties and gave up the attempt. During later follow-up the underlying primary headache condition is likely to re-emerge and require re-evaluation and a new therapeutic plan. Most patients with medication-overuse headache require extended support: the relapse rate is around 40% within five years.

Urgent referral for specialist management is recommended at each onset of cluster headache. Weekly review is unlikely to be too frequent and allows dosage incrementation of potentially toxic drugs to be as rapid as possible. Patients commencing lithium therapy, or changing their dose, need levels checked within one week.

In all other cases, specialist referral is appropriate when the diagnosis remains (or becomes) unclear or these standard management options fail.

## **Information sources**

### **Websites**

International Headache Society ([www.i-h-s.org](http://www.i-h-s.org)): includes all published guidelines and recommendations of the IHS, and professional educational pages are planned.

Headache Classification Subcommittee of the International Headache Society ([www.ihs-classification.org](http://www.ihs-classification.org)): the *International classification of headache disorders, 2<sup>nd</sup> edition*, includes explicit diagnostic criteria for all headache disorders.

World Headache Alliance ([www.w-h-a.org](http://www.w-h-a.org)): a source of detailed and quality-controlled information on headache for the general public, with many useful links.

American Medical Association ([www.ama-assn.org/special/migraine/migraine.htm](http://www.ama-assn.org/special/migraine/migraine.htm)): a "migraine information center" that includes information on other headache disorders for physicians and the general public.

American Academy of Neurology ([www.aan.com](http://www.aan.com)): includes a "migraine headache module" with materials for physicians to identify potential areas for change, develop and implement a plan for change, and measure the changes made (with AMA CME credits).