

# Headaches

## Diagnosis and management of headaches in young people and adults

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**NICE clinical guideline 150**

[guidance.nice.org.uk/cg150](http://guidance.nice.org.uk/cg150)

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## Introduction

Headaches are one of the most common neurological problems presented to GPs and neurologists. They are painful and debilitating for individuals, an important cause of absence from work or school and a substantial burden on society.

Headache disorders are classified as primary or secondary. The aetiology of primary headaches is not well understood and they are classified according to their clinical pattern. The most common primary headache disorders are tension-type headache, migraine and cluster headache. Secondary headaches are attributed to underlying disorders and include, for example, headaches associated with medication overuse, [giant cell arteritis](#), raised intracranial pressure and infection. Medication overuse headache most commonly occurs in those taking medication for a primary headache disorder. The major health and social burden of headaches is caused by primary headache disorders and medication overuse headache.

This guideline makes recommendations on the diagnosis and management of the most common primary headache disorders in young people (aged 12 years and older) and adults. Many people with headache do not have an accurate diagnosis of headache type. Healthcare professionals can find the diagnosis of headache difficult, and both people with headache and their healthcare professionals can be concerned about possible underlying causes. Improved recognition of primary headaches will help the generalist clinician to manage headaches more effectively, allow better targeting of treatment and potentially improve quality of life and reduce unnecessary investigations for people with headache.

The guideline assumes that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

Drug dosages are specified in recommendations where the dosage for that indication is not included in the 'British national formulary'.

This guideline recommends some drugs for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on

Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information. Where recommendations have been made for the use of drugs outside their licensed indications ('off-label use'), these drugs are marked with a footnote in the recommendations.

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## Person-centred care

This guideline offers best practice advice on the care of young people (aged 12 years and older) and adults with headaches.

Treatment and care should take into account people's needs and preferences. People with headaches should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If people do not have the capacity to make decisions, healthcare professionals should follow the [Department of Health's advice on consent](#) and the [code of practice that accompanies the Mental Capacity Act](#). In Wales, healthcare professionals should follow [advice on consent from the Welsh Government](#).

If the person is under 16, healthcare professionals should follow the guidelines in [Seeking consent: working with children](#)

Good communication between healthcare professionals and people with headaches is essential. It should be supported by evidence-based written information tailored to the person's needs. Treatment and care, and the information people are given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.

If the person agrees, families and carers should have the opportunity to be involved in decisions about treatment and care.

Families and carers should also be given the information and support they need.

Care of young people in transition between paediatric and adult services should be planned and managed according to the best practice guidance described in the Department of Health's ['Transition: getting it right for young people'](#).

Adult and paediatric healthcare teams should work jointly to provide assessment and services to young people with headaches. Diagnosis and management should be reviewed throughout the transition process, and there should be clarity about who is the lead clinician to ensure continuity of care.

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## Terms used in this guideline

**Acute narrow-angle glaucoma** An uncommon eye condition that results from blockage of the drainage of fluid from the eye. Symptoms of acute glaucoma may include headache with a painful red eye and misty vision or haloes, and in some cases nausea. Acute glaucoma may be differentiated from cluster headache by the presence of a semi-dilated pupil compared with the presence of a constricted pupil in cluster headache.

**Cluster headache bout** The duration over which recurrent cluster headaches occur, usually lasting weeks or months. Headaches occur from 1 every other day to 8 times per day.

**Giant cell arteritis** Also known as temporal arteritis, giant cell arteritis is characterised by the inflammation of the walls of medium and large arteries. Branches of the carotid artery and the ophthalmic artery are preferentially involved, giving rise to symptoms of headache, visual disturbances and jaw claudication.

**NSAID** Non-steroidal anti-inflammatory drug.

**Positive diagnosis** A diagnosis based on the typical clinical picture that does not require any further investigations to exclude alternative explanations for a patient's symptoms.

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## Key priorities for implementation

The following recommendations have been identified as priorities for implementation.

### *Diagnosis*

#### Tension-type headache, migraine and cluster headache

- Diagnose tension-type headache, migraine or cluster headache according to the headache features in the [table](#).

#### Medication overuse headache

- Be alert to the possibility of medication overuse headache in people whose headache developed or worsened while they were taking the following drugs for 3 months or more:
  - triptans, opioids, ergots or combination analgesic medications on 10 days per month or more **or**
  - paracetamol, aspirin or an [NSAID](#), either alone or any combination, on 15 days per month or more.

### *Management*

#### All headache disorders

- Do not refer people diagnosed with tension-type headache, migraine, cluster headache or medication overuse headache for neuroimaging solely for reassurance.

#### Information and support for people with headache disorders

- Include the following in discussions with the person with a headache disorder:
  - a [positive diagnosis](#), including an explanation of the diagnosis and reassurance that other pathology has been excluded **and**
  - the options for management **and**

- recognition that headache is a valid medical disorder that can have a significant impact on the person and their family or carers.

## Migraine with or without aura

### Acute treatment

- Offer combination therapy with an oral triptan<sup>[1]</sup> and an NSAID, or an oral triptan<sup>1</sup> and paracetamol, for the acute treatment of migraine, taking into account the person's preference, comorbidities and risk of adverse events. For young people aged 12–17 years consider a nasal triptan in preference to an oral triptan<sup>1</sup>.
- For people in whom oral preparations (or nasal preparations in young people aged 12–17 years) for the acute treatment of migraine are ineffective or not tolerated:
  - offer a non-oral preparation of metoclopramide or prochlorperazine<sup>[2]</sup> **and**
  - consider adding a non-oral NSAID or triptan<sup>1</sup> if these have not been tried.

### Prophylactic treatment

- Offer topiramate<sup>[3]</sup> or propranolol for the prophylactic treatment of migraine according to the person's preference, comorbidities and risk of adverse events. Advise women and girls of childbearing potential that topiramate is associated with a risk of fetal malformations and can impair the effectiveness of hormonal contraceptives. Ensure they are offered suitable contraception.

## Cluster headache

### Acute treatment

- Offer oxygen and/or a subcutaneous<sup>[4]</sup> or nasal triptan<sup>[5]</sup> for the acute treatment of cluster headache.
- When using oxygen for the acute treatment of cluster headache:
  - use 100% oxygen at a flow rate of at least 12 litres per minute with a non-rebreathing mask and a reservoir bag **and**
  - arrange provision of home and ambulatory oxygen.

- When using a subcutaneous<sup>[4]</sup> or nasal triptan<sup>[5]</sup>, ensure the person is offered an adequate supply of triptans calculated according to their history of cluster bouts, based on the manufacturer's maximum daily dose.

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<sup>[1]</sup> At the time of publication (September 2012), triptans (except nasal sumatriptan) did not have a UK marketing authorisation for this indication in people aged under 18 years. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[2]</sup> At the time of publication (September 2012), prochlorperazine did not have a UK marketing authorisation for this indication (except the relief of nausea and vomiting). The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[3]</sup> At the time of publication (September 2012), topiramate did not have a UK marketing authorisation for this indication in people aged under 18 years. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[4]</sup> At the time of publication (September 2012), subcutaneous triptans did not have a UK marketing authorisation for this indication in people aged under 18 years. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the

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[prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[5]</sup> At the time of publication (September 2012), nasal triptans did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

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# 1 Guidance

The following guidance is based on the best available evidence. The [full guideline](#) gives details of the methods and the evidence used to develop the guidance.

All recommendations apply to adults and young people aged 12 years and over unless specifically stated otherwise in the recommendation.

## 1.1 Assessment

1.1.1 Evaluate people who present with headache and any of the following features, and consider the need for further investigations and/or referral<sup>[6]</sup>:

- worsening headache with fever
- sudden-onset headache reaching maximum intensity within 5 minutes
- new-onset neurological deficit
- new-onset cognitive dysfunction
- change in personality
- impaired level of consciousness
- recent (typically within the past 3 months) head trauma
- headache triggered by cough, valsalva (trying to breathe out with nose and mouth blocked) or sneeze
- headache triggered by exercise
- orthostatic headache (headache that changes with posture)
- symptoms suggestive of [giant cell arteritis](#)
- symptoms and signs of [acute narrow-angle glaucoma](#)
- a substantial change in the characteristics of their headache.

- 1.1.2 Consider further investigations and/or referral for people who present with new-onset headache and any of the following:
- compromised immunity, caused, for example, by HIV or immunosuppressive drugs
  - age under 20 years and a history of malignancy
  - a history of malignancy known to metastasise to the brain
  - vomiting without other obvious cause.
- 1.1.3 Consider using a headache diary to aid the diagnosis of primary headaches.
- 1.1.4 If a headache diary is used, ask the person to record the following for a minimum of 8 weeks:
- frequency, duration and severity of headaches
  - any associated symptoms
  - all prescribed and over the counter medications taken to relieve headaches
  - possible precipitants
  - relationship of headaches to menstruation.

## 1.2 Diagnosis

### Tension-type headache, migraine (with or without aura) and cluster headache

- 1.2.1 Diagnose tension-type headache, migraine or cluster headache according to the headache features in the table.

**Table Diagnosis of tension-type headache, migraine and cluster headache**

Headache feature	Tension-type headache	Migraine (with or without aura)	Cluster headache

Pain location <sup>1</sup>	Bilateral	Unilateral or bilateral	Unilateral (around the eye, above the eye and along the side of the head/face)
Pain quality	Pressing/tightening (non-pulsating)	Pulsating (throbbing or banging in young people aged 12–17 years)	Variable (can be sharp, boring, burning, throbbing or tightening)
Pain intensity	Mild or moderate	Moderate or severe	Severe or very severe
Effect on activities	Not aggravated by routine activities of daily living	Aggravated by, or causes avoidance of, routine activities of daily living	Restlessness or agitation
Other symptoms	None	<p>Unusual sensitivity to light and/or sound or nausea and/or vomiting</p> <p><b>Aura</b><sup>2</sup></p> <p>Symptoms can occur with or without headache and:</p> <ul style="list-style-type: none"> <li>• are fully reversible</li> <li>• develop over at least 5 minutes</li> <li>• last 5–60 minutes.</li> </ul> <p>Typical aura symptoms include visual symptoms such as flickering lights, spots or lines and/or partial loss of vision; sensory symptoms such as numbness and/or pins and needles; and/or speech disturbance.</p>	<p>On the same side as the headache:</p> <ul style="list-style-type: none"> <li>• red and/or watery eye</li> <li>• nasal congestion and/or runny nose</li> <li>• swollen eyelid</li> <li>• forehead and facial sweating</li> <li>• constricted pupil and/or drooping eyelid</li> </ul>

Duration of headache	30 minutes–continuous		4–72 hours in adults 1–72 hours in young people aged 12–17 years		15–180 minutes	
Frequency of headache	< 15 days per month	≥ 15 days per month for more than 3 months	< 15 days per month	≥ 15 days per month for more than 3 months	1 every other day to 8 per day <sup>3</sup> , with remission <sup>4</sup> > 1 month	1 every other day to 8 per day <sup>3</sup> , with a continuous remission <sup>4</sup> <1 month in a 12-month period
Diagnosis	<b>Episodic tension-type headache</b>	<b>Chronic tension-type headache</b> <sup>5</sup>	<b>Episodic migraine (with or without aura)</b>	<b>Chronic migraine</b> <sup>6</sup> (with or without aura)	<b>Episodic cluster headache</b>	<b>Chronic cluster headache</b>

<sup>1</sup> Headache pain can be felt in the head, face or neck.

<sup>2</sup> See recommendations 1.2.2, 1.2.3 and 1.2.4 for further information on diagnosis of migraine with aura.

<sup>3</sup> The frequency of recurrent headaches during a cluster headache bout.

<sup>4</sup> The pain-free period between cluster headache bouts.

<sup>5</sup> Chronic migraine and chronic tension-type headache commonly overlap. If there are any features of migraine, diagnose chronic migraine.

<sup>6</sup> NICE has developed technology appraisal guidance on [Botulinum toxin type A for the prevention of headaches in adults with chronic migraine](#) (headaches on at least 15 days per month of which at least 8 days are with migraine).

## Migraine with aura

1.2.2 Suspect aura in people who present with or without headache and with neurological symptoms that:

- are fully reversible **and**
- develop gradually, either alone or in succession, over at least 5 minutes **and**
- last for 5–60 minutes.

1.2.3 Diagnose migraine with aura in people who present with or without headache and with one or more of the following typical aura symptoms that meet the criteria in recommendation 1.2.2:

- visual symptoms that may be positive (for example, flickering lights, spots or lines) and/or negative (for example, partial loss of vision)
- sensory symptoms that may be positive (for example, pins and needles) and/or negative (for example, numbness)
- speech disturbance.

1.2.4 Consider further investigations and/or referral for people who present with or without migraine headache and with any of the following atypical aura symptoms that meet the criteria in recommendation 1.2.2:

- motor weakness **or**
- double vision **or**
- visual symptoms affecting only one eye **or**
- poor balance **or**
- decreased level of consciousness.

## Menstrual-related migraine

1.2.5 Suspect menstrual-related migraine in women and girls whose migraine occurs predominantly between 2 days before and 3 days after the start of menstruation in at least 2 out of 3 consecutive menstrual cycles.

1.2.6 Diagnose menstrual-related migraine using a headache diary (see [recommendation 1.1.4](#)) for at least 2 menstrual cycles.

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## Medication overuse headache

1.2.7 Be alert to the possibility of medication overuse headache in people whose headache developed or worsened while they were taking the following drugs for 3 months or more:

- triptans, opioids, ergots or combination analgesic medications on 10 days per month or more **or**
- paracetamol, aspirin or an NSAID, either alone or in any combination, on 15 days per month or more.

## 1.3 Management

### All headache disorders

1.3.1 Consider using a headache diary:

- to record the frequency, duration and severity of headaches
- to monitor the effectiveness of headache interventions
- as a basis for discussion with the person about their headache disorder and its impact.

1.3.2 Consider further investigations and/or referral if a person diagnosed with a headache disorder develops any of the features listed in recommendation 1.1.1.

1.3.3 Do not refer people diagnosed with tension-type headache, migraine, cluster headache or medication overuse headache for neuroimaging solely for reassurance.

### Information and support for people with headache disorders

1.3.4 Include the following in discussions with the person with a headache disorder:

- a positive diagnosis, including an explanation of the diagnosis and reassurance that other pathology has been excluded **and**

- the options for management **and**
  - recognition that headache is a valid medical disorder that can have a significant impact on the person and their family or carers.
- 1.3.5 Give the person written and oral information about headache disorders, including information about support organisations.
- 1.3.6 Explain the risk of medication overuse headache to people who are using acute treatments for their headache disorder.

## Tension-type headache

### Acute treatment

- 1.3.7 Consider aspirin<sup>[7]</sup>, paracetamol or an NSAID for the acute treatment of tension-type headache, taking into account the person's preference, comorbidities and risk of adverse events.
- 1.3.8 Do not offer opioids for the acute treatment of tension-type headache.

### Prophylactic treatment

- 1.3.9 Consider a course of up to 10 sessions of acupuncture over 5–8 weeks for the prophylactic treatment of chronic tension-type headache.

## Migraine with or without aura

### Acute treatment

- 1.3.10 Offer combination therapy with an oral triptan<sup>[1]</sup> and an NSAID, or an oral triptan<sup>[1]</sup> and paracetamol, for the acute treatment of migraine, taking into account the person's preference, comorbidities and risk of adverse events. For young people aged 12–17 years consider a nasal triptan in preference to an oral triptan<sup>1</sup>.
- 1.3.11 For people who prefer to take only one drug, consider monotherapy with an oral triptan<sup>[1]</sup>, NSAID, aspirin<sup>[7]</sup> (900 mg) or paracetamol for the acute treatment

of migraine, taking into account the person's preference, comorbidities and risk of adverse events.

- 1.3.12 When prescribing a triptan<sup>[1]</sup> start with the one that has the lowest acquisition cost; if this is consistently ineffective, try one or more alternative triptans.
- 1.3.13 Consider an anti-emetic in addition to other acute treatment for migraine even in the absence of nausea and vomiting.
- 1.3.14 Do not offer ergots or opioids for the acute treatment of migraine.
- 1.3.15 For people in whom oral preparations (or nasal preparations in young people aged 12–17 years) for the acute treatment of migraine are ineffective or not tolerated:
- offer a non-oral preparation of metoclopramide or prochlorperazine<sup>[2]</sup> **and**
  - consider adding a non-oral NSAID or triptan<sup>[1]</sup> if these have not been tried.

### Prophylactic treatment

- 1.3.16 Discuss the benefits and risks of prophylactic treatment for migraine with the person, taking into account the person's preference, comorbidities, risk of adverse events and the impact of the headache on their quality of life.
- 1.3.17 Offer topiramate<sup>[3]</sup> or propranolol for the prophylactic treatment of migraine according to the person's preference, comorbidities and risk of adverse events. Advise women and girls of childbearing potential that topiramate is associated with a risk of fetal malformations and can impair the effectiveness of hormonal contraceptives. Ensure they are offered suitable contraception.
- 1.3.18 If both topiramate<sup>[3]</sup> and propranolol are unsuitable or ineffective, consider a course of up to 10 sessions of acupuncture over 5–8 weeks or gabapentin<sup>[8]</sup> (up to 1200 mg per day) according to the person's preference, comorbidities and risk of adverse events.

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- 1.3.19 For people who are already having treatment with another form of prophylaxis such as amitriptyline<sup>[9]</sup>, and whose migraine is well controlled, continue the current treatment as required.
- 1.3.20 Review the need for continuing migraine prophylaxis 6 months after the start of prophylactic treatment.
- 1.3.21 Advise people with migraine that riboflavin (400 mg<sup>[10]</sup> once a day) may be effective in reducing migraine frequency and intensity for some people.

### **Combined hormonal contraceptive use by women and girls with migraine**

- 1.3.22 Do not routinely offer combined hormonal contraceptives for contraception to women and girls who have migraine with aura.

### **Menstrual-related migraine**

- 1.3.23 For women and girls with predictable menstrual-related migraine that does not respond adequately to standard acute treatment, consider treatment with frovatriptan<sup>[11]</sup> (2.5 mg twice a day) or zolmitriptan<sup>[12]</sup> (2.5 mg twice or three times a day) on the days migraine is expected.

### **Treatment of migraine during pregnancy**

- 1.3.24 Offer pregnant women paracetamol for the acute treatment of migraine. Consider the use of a triptan<sup>[1]</sup> or an NSAID after discussing the woman's need for treatment and the risks associated with the use of each medication during pregnancy.
- 1.3.25 Seek specialist advice if prophylactic treatment for migraine is needed during pregnancy.

### **Cluster headache**

#### **Acute treatment**

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- 1.3.26 Discuss the need for neuroimaging for people with a first bout of cluster headache with a GP with a special interest in headache or a neurologist.
- 1.3.27 Offer oxygen and/or a subcutaneous<sup>[4]</sup> or nasal triptan<sup>[5]</sup> for the acute treatment of cluster headache.
- 1.3.28 When using oxygen for the acute treatment of cluster headache:
- use 100% oxygen at a flow rate of at least 12 litres per minute with a non-rebreathing mask and a reservoir bag **and**
  - arrange provision of home and ambulatory oxygen.
- 1.3.29 When using a subcutaneous<sup>[4]</sup> or nasal triptan<sup>[5]</sup>, ensure the person is offered an adequate supply of triptans calculated according to their history of cluster bouts, based on the manufacturer's maximum daily dose.
- 1.3.30 Do not offer paracetamol, NSAIDS, opioids, ergots or oral triptans for the acute treatment of cluster headache.

### Prophylactic treatment

- 1.3.31 Consider verapamil<sup>[13]</sup> for prophylactic treatment during a bout of cluster headache. If unfamiliar with its use for cluster headache, seek specialist advice before starting verapamil, including advice on electrocardiogram monitoring.
- 1.3.32 Seek specialist advice for cluster headache that does not respond to verapamil<sup>[13]</sup>.
- 1.3.33 Seek specialist advice if treatment for cluster headache is needed during pregnancy.

### Medication overuse headache

- 1.3.34 Explain to people with medication overuse headache that it is treated by withdrawing overused medication.

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- 1.3.35 Advise people to stop taking all overused acute headache medications for at least 1 month and to stop abruptly rather than gradually.
- 1.3.36 Advise people that headache symptoms are likely to get worse in the short term before they improve and that there may be associated withdrawal symptoms, and provide them with close follow-up and support according to their needs.
- 1.3.37 Consider prophylactic treatment for the underlying primary headache disorder in addition to withdrawal of overused medication for people with medication overuse headache.
- 1.3.38 Do not routinely offer inpatient withdrawal for medication overuse headache.
- 1.3.39 Consider specialist referral and/or inpatient withdrawal of overused medication for people who are using strong opioids, or have relevant comorbidities, or in whom previous repeated attempts at withdrawal of overused medication have been unsuccessful.
- 1.3.40 Review the diagnosis of medication overuse headache and further management 4–8 weeks after the start of withdrawal of overused medication.

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<sup>[6]</sup> For information on referral for suspected tumours of the brain or central nervous system see [Referral guidelines for suspected cancer](#) (NICE clinical guideline 27); update under development (publication date to be confirmed).

<sup>[7]</sup> Because of an association with Reye's syndrome, preparations containing aspirin should not be offered to people aged under 16 years.

<sup>[8]</sup> At the time of publication (September 2012), gabapentin did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of

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Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[9]</sup> At the time of publication (September 2012), amitriptyline did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[10]</sup> At the time of publication (September 2012), riboflavin did not have a UK marketing authorisation for this indication but is available as a food supplement. When advising this option, the prescriber should take relevant professional guidance into account. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[11]</sup> At the time of publication (September 2012), frovatriptan did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[12]</sup> At the time of publication (September 2012), zolmitriptan did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of

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Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

<sup>[13]</sup> At the time of publication (September 2012), verapamil did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) and the [prescribing advice](#) provided by the Joint Standing Committee on Medicines (a joint committee of the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

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## 2 Notes on the scope of the guidance

NICE guidelines are developed in accordance with a [scope](#) that defines what the guideline will and will not cover.

The guideline covers diagnosis and management of primary headache and medication overuse headache in young people and adults aged 12 or over. Particular consideration is given to women and girls of reproductive age.

### **How this guideline was developed**

NICE commissioned the National Clinical Guideline Centre to develop this guideline. The Centre established a Guideline Development Group (see [appendix A](#)) which reviewed the evidence and developed the recommendations

There is more information about [how NICE clinical guidelines are developed](#) on the NICE website. A booklet, [How NICE clinical guidelines are developed: an overview for stakeholders, the public and the NHS](#), is available.

## 3 Implementation

NICE has developed [tools](#) to help organisations implement this guidance.

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## 4 Research recommendations

The Guideline Development Group has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future.

### ***4.1 Amitriptyline to prevent recurrent migraine***

Is amitriptyline a clinically and cost effective prophylactic treatment for recurrent migraine?

#### **Why this is important**

Effective prevention has the potential to make a major impact on the burden of disability caused by recurrent migraine. There are few pharmacological agents that have been proven to prevent recurrent migraine.

Amitriptyline is widely used, off-label, to treat chronic painful disorders, including migraine. Inadequate evidence was found in the review for this guideline for the effectiveness of amitriptyline in the prophylaxis of migraine. A double-blind randomised controlled trial (RCT) is needed to assess the clinical and cost effectiveness of amitriptyline compared with placebo. The definition of migraine used should be that in the [International classification of headache disorders II](#) or this guideline. Outcomes should include change in patient-reported headache days, responder rate and incidence of serious adverse events. If amitriptyline is shown to be effective, it will widen the range of therapeutic options, in particular for people in whom recommended medications are ineffective or not tolerated.

### ***4.2 Pizotifen to prevent recurrent migraine***

Is pizotifen a clinically and cost effective prophylactic treatment for recurrent migraine?

#### **Why this is important**

There are few data to inform guidance on the prevention of migraine in children and young people.

Pizotifen is a popular treatment for migraine prevention in the UK, especially in children and young people. It has been in use since the 1970s and appears to be well tolerated. Inadequate

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evidence was found in the review for this guideline for the effectiveness of pizotifen in the prophylaxis of migraine. A double-blind RCT either head-to-head with best available treatment, or placebo controlled, is needed to assess the clinical and cost effectiveness of pizotifen in young people aged under 18 and adults. The trial should enrol people aged under 18 and adults. The definition of migraine used should be that in the [International classification of headache disorders II](#) or this guideline. Outcomes should include change in patient-reported migraine days, responder rate and incidence of serious adverse events. If pizotifen is shown to be effective, it will widen the range of therapeutic options, in particular for young people in whom recommended medications are ineffective or not tolerated.

### ***4.3 Topiramate to prevent recurrent cluster headache***

Is topiramate a clinically and cost effective prophylactic treatment for recurrent cluster headache?

#### **Why this is important**

Cluster headache is an excruciatingly painful and highly disabling disorder. The management of cluster headache includes the use of preventive treatments to stop the attacks as quickly and safely as possible. There is a significant unmet clinical need for effective preventive treatments in cluster headache and few data to inform guidance on prophylaxis of cluster headache. Although numerous agents including verapamil, topiramate, lithium, methysergide and gabapentin are used in routine clinical practice, this is largely based on clinical experience as very few RCTs have been performed.

Several open-label studies have reported on the efficacy of topiramate in the preventive treatment of cluster headache. There is therefore a need for a high-quality RCT of topiramate in the prevention of cluster headaches.

### ***4.4 Psychological interventions to manage chronic headache disorders***

Does a psychological intervention such as cognitive behavioural therapy (CBT) improve headache outcomes and quality of life for people with chronic headache disorders?

#### **Why this is important**

Psychological interventions such as CBT are widely recommended for people with chronic painful disorders. An effective psychological intervention based on cognitive behavioural principles for people with chronic headache disorders has the potential to substantially improve their quality of life. There are few data to support the use of these interventions to manage chronic headache disorders.

A pragmatic RCT is needed to assess the impact of a psychological intervention compared with an active control. Mood disorders are commonly comorbid with headache disorders, but the trial needs to address the impact of a psychological intervention on headache alone, using appropriate headache outcomes such as change in patient-reported headache days and headache-specific quality of life.

#### ***4.5 Pharmacological treatments for headache prophylaxis to aid withdrawal treatment in medication overuse headache***

Does a course of steroid treatment or pharmacological treatments used for headache prophylaxis help people with medication overuse headaches withdraw from medication?

##### **Why this is important**

Medication overuse headache is a common disorder. Current best advice is for abrupt withdrawal without any supportive pharmacological treatment. Many people with medication overuse headache find it difficult to withdraw abruptly because in the short term their headaches can become much worse. The use of steroids may aid withdrawal and for those who have an underlying headache disorder such as migraine or tension-type headache, appropriate prophylaxis may assist in treating the headache.

Double-blind RCTs are needed in people with suspected medication overuse headache who have an identifiable primary headache disorder. There should be two separate trials, one to investigate withdrawal of medication with placebo versus withdrawal of medication with steroid treatment, and the other to investigate withdrawal of medication with placebo versus withdrawal of medication with appropriate pharmacological prophylaxis. Outcomes should include change in acute medication use, proportion of patients who no longer have suspected medication overuse headache, change in patient-reported headache days and headache-specific quality of life.

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## 5 Other versions of this guideline

### 5.1 Full guideline

The full guideline [Headaches: diagnosis and management of headaches in young people and adults](#) contains details of the methods and evidence used to develop the guideline. It is published by the National Clinical Guideline Centre.

### 5.2 NICE pathway

The recommendations from this guideline have been incorporated into a [NICE pathway](#).

### 5.3 Information for the public

NICE produces information for the public that summarises, in plain English, the recommendations that NICE makes to healthcare and other professionals.

NICE has written [information for the public](#) explaining this guidance.

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## 6 Related NICE guidance

### Published

- [Botulinum toxin type A for the prevention of headaches in adults with chronic migraine](#). NICE technology appraisal guidance 260 (2012).
- [Patient experience in adult NHS services](#). NICE clinical guideline 138 (2012).
- [The epilepsies](#). NICE clinical guideline 137 (2012).
- [Hypertension](#). NICE clinical guideline 127 (2011).
- [Generalised anxiety disorder and panic disorder \(with or without agoraphobia\) in adults](#). NICE clinical guideline 113 (2011).
- [Percutaneous closure of patent foramen ovale for recurrent migraine](#). NICE interventional procedure guidance 370 (2010).
- [Depression in adults](#). NICE clinical guideline 90 (2009).
- [Glaucoma](#). NICE clinical guideline 85 (2009).
- [Medicines adherence](#). NICE clinical guideline 76 (2009).
- [Stroke](#). NICE clinical guideline 68 (2008).
- [Head injury](#). NICE clinical guideline 56 (2007).
- [Referral guidelines for suspected cancer](#). NICE clinical guideline 27 (2005).

### Under development

NICE is developing the following guidance (details available from [www.nice.org.uk](http://www.nice.org.uk)):

- Suspected cancer. NICE clinical guideline. Publication date to be confirmed.

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## Appendix A: The Guideline Development Group, National Collaborating Centre and NICE project team

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## About this guideline

NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

The guideline was developed by the National Clinical Guideline Centre, which is based at the Royal College of Physicians. The Collaborating Centre worked with a group of healthcare professionals (including consultants, GPs and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

The methods and processes for developing NICE clinical guidelines are described in [The guidelines manual](#).

The recommendations from this guideline have been incorporated into a [NICE pathway](#). We have produced [information for the public](#) explaining this guidance. Tools to help you put the guideline into practice and information about the evidence it is based on are also [available](#).

### Your responsibility

This guidance represents the view of NICE, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

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