Headaches in over 12s: diagnosis and management

NICE guideline: short version

Draft for consultation, August 2015

This guideline offers evidence-based advice on the diagnosis and management of tension-type headache, migraine (including migraine with aura and menstrual-related migraine), cluster headache and medication overuse headache in young people (aged 12 years and older) and adults.

Who is it for?

- Young people (12 years and older) and adults with headaches. Particular consideration will be given to the needs of girls and women of reproductive age.
- Healthcare professionals who provide care for young people and adults with headaches.

This version of the guideline contains the recommendations, context and recommendations for research. If you wish to comment on this version of the guideline, be aware that all the supporting information and evidence for the 2015 recommendations is contained in the addendum. Evidence for the 2012 recommendations is in the full version of the 2012 guideline.

Other information about how the guideline was developed is on the project page. This includes details of the Guideline Committee and any declarations

of interest.

This guideline will update NICE guideline CG150 (published September 2012).

We have updated or added new recommendations on the prophylactic treatment of headaches (section 1.3).

You are invited to comment on the new and updated recommendations in this guideline. These are marked as:

- **[new 2015]** if the evidence has been reviewed and the recommendation has been added or updated, or
- **[2015]** if the evidence has been reviewed but no change has been made to the recommended action.
- **[2012, amended 2015**] if the evidence has not been reviewed since the original guideline, but the recommendation has been edited for consistency with the new recommendations, without changing the meaning. We will not be able to accept comments on these recommendations.

We have not updated recommendations shaded in grey, and cannot accept comments on them.

See Update information for a full explanation of what is being updated.

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Key priorities for implementation

The following recommendations were identified as priorities for implementation in the 2012 guideline. In the 2015 update, the evidence was reviewed for the key priority recommendation on prophylactic treatment, but no change was made to the recommended action. No changes were made to the other key priority recommendations.

Tension-type headache, migraine and cluster headache

- Diagnose tension-type headache, migraine or cluster headache according to the headache features in the table. **[1.2.1] [2012]**

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. **[1.2.7] [2012]**

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. **[1.3.3] [2012]**

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. **[1.3.4] [2012]**

Migraine with or without aura

Acute treatment

- Offer combination therapy with an oral triptan[1] and an NSAID, or an oral triptan1 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 triptan1. **[1.3.10] [2012]**
- 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[2] **and**
  - consider adding a non-oral NSAID or triptan1 if these have not been tried. **[1.3.15] [2012]**

Prophylactic treatment

- Offer topiramate or propranolol[3] for the prophylactic treatment of migraine according to the person's preference, comorbidities and risk of adverse

[1] At the time of consultation (August 2015), 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.

[2] At the time of consultation (August 2015), prochlorperazine (except a buccal preparation) did not have a UK marketing authorisation for this indication but was licensed for 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.

[3] At the time of consultation (August 2015), topiramate and propranolol did not have a UK marketing authorisation for use in children and young people for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

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 if needed. **[1.3.17] [2015]**

Cluster headache

Acute treatment

- Offer oxygen and/or a subcutaneous[4] or nasal triptan[5] for the acute treatment of cluster headache. **[1.3.29] [2012]**
- 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. **[1.3.30] [2012]**
- When using a subcutaneous4 or nasal triptan5, 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. **[1.3.31] [2012]**

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in Your care.

Using NICE guidelines to make decisions explains how we use words to show

[4] At the time of consultation (August 2015), 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 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.

[5] At the time of consultation (August 2015), 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.

the strength of our recommendations, and has information about safeguarding, consent and prescribing medicines.

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[6]:

- 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.

[2012]

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

[6] For information on referral for suspected tumours of the brain or central nervous system see the NICE guideline on suspected cancer.

- a history of malignancy known to metastasise to the brain
- vomiting without other obvious cause. **[2012]**

1.1.3 Consider using a headache diary to aid the diagnosis of primary headaches. **[2012]**

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. **[2012]**

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. **[2012]**

Headache feature	Tension-type headache	Migraine (with or without aura)	Cluster headache
Pain location[1]	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	Unusual sensitivity to light and/or sound or nausea and/or vomiting **Aura[2]** Symptoms can occur with or without headache and: • are fully reversible • develop over at least 5 minutes • last 5−60 minutes. 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.	On the same side as the headache: • red and/or watery eye • nasal congestion and/or runny nose • swollen eyelid • forehead and facial sweating • constricted pupil and/or drooping eyelid
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[3], with remission [4] > 1 month	1 every other day to 8 per day[3], with a continuous remission [4] <1 month in a 12-month period
Diagnosis	**Episodic tension-type headache**	**Chronic tension-type headache[5]**	**Episodic migraine (with or without aura)**	**Chronic migraine[6] (with or without aura)**	**Episodic cluster headache**	**Chronic cluster headache**

[1] Headache pain can be felt in the head, face or neck.

[2] See recommendations 1.2.2, 1.2.3 and 1.2.4 for further information on diagnosis of migraine with aura.

[3] The frequency of recurrent headaches during a cluster headache bout.

[4] The pain-free period between cluster headache bouts.

[5] Chronic migraine and chronic tension-type headache commonly overlap. If there are any features of migraine, diagnose chronic migraine.

[6] 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. **[2012]**

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. **[2012]**

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. **[2012]**

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. **[2012]**

1.2.6 Diagnose menstrual-related migraine using a headache diary (see recommendation 1.1.4) for at least 2 menstrual cycles. **[2012]**

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. **[2012]**

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. **[2012]**

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. **[2012]**

1.3.3 Do not refer people diagnosed with tension-type headache, migraine, cluster headache or medication overuse headache for neuroimaging solely for reassurance. **[2012]**

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. **[2012]**

1.3.5 Give the person written and oral information about headache disorders, including information about support organisations. **[2012]**

1.3.6 Explain the risk of medication overuse headache to people who are using acute treatments for their headache disorder. **[2012]**

Tension-type headache

Acute treatment

1.3.7 Consider aspirin[7], 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. **[2012]**

1.3.8 Do not offer opioids for the acute treatment of tension-type headache. **[2012]**

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. **[2012]**

Migraine with or without aura

Acute treatment

1.3.10 Offer combination therapy with an oral triptan[8] and an NSAID, or an oral triptan[8] 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[8]. **[2012]**

1.3.11 For people who prefer to take only one drug, consider monotherapy with an oral triptan[8], NSAID, aspirin[7] (900 mg) or paracetamol for

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

[8] At the time of consultation (August 2015), 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.

the acute treatment of migraine, taking into account the person's preference, comorbidities and risk of adverse events. **[2012]**

1.3.12 When prescribing a triptan[8] start with the one that has the lowest acquisition cost; if this is consistently ineffective, try one or more alternative triptans. **[2012]**

1.3.13 Consider an anti-emetic in addition to other acute treatment for migraine even in the absence of nausea and vomiting. **[2012]**

1.3.14 Do not offer ergots or opioids for the acute treatment of migraine. **[2012]**

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[9] **and**
- consider adding a non-oral NSAID or triptan[8] if these have not been tried. **[2012]**

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. **[2012]**

1.3.17 Offer topiramate or propranolol[10] for the prophylactic treatment of migraine according to the person's preference, comorbidities and risk of adverse events. Advise women and girls of childbearing

[9] At the time of consultation (August 2015), prochlorperazine (except a buccal preparation) did not have a UK marketing authorisation for this indication but was licensed for 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.

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 if needed. **[2015]**

1.3.18 Consider amitriptyline[11] for the prophylactic treatment of migraine according to the person's preference, comorbidities and risk of adverse events. **[new 2015]**

1.3.19 Do not offer gabapentin for the prophylactic treatment of migraine. **[new 2015]**

1.3.20 If both topiramate and propranolol[12] are unsuitable or ineffective, consider a course of up to 10 sessions of acupuncture over 5–8 weeks according to the person's preference, comorbidities and risk of adverse events. **[2012, amended 2015]**

1.3.21 For people who are already having treatment with another form of prophylaxis and whose migraine is well controlled, continue the current treatment as required. **[2012, amended 2015]**

1.3.22 Review the need for continuing migraine prophylaxis 6 months after the start of prophylactic treatment. **[2012]**

[10] At the time of consultation (August 2015), topiramate and propranolol did not have a UK marketing authorisation for use in children and young people for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

[11] At the time of consultation (August 2015), amitriptyline did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

[12] At the time of consultation (August 2015), topiramate and propranolol did not have a UK marketing authorisation for use in children and young people for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

1.3.23 Advise people with migraine that riboflavin (400 mg[13] once a day) may be effective in reducing migraine frequency and intensity for some people. **[2012]**

Combined hormonal contraceptive use by women and girls with migraine

1.3.24 Do not routinely offer combined hormonal contraceptives for contraception to women and girls who have migraine with aura. **[2012]**

Menstrual-related migraine

1.3.25 For women and girls with predictable menstrual-related migraine that does not respond adequately to standard acute treatment, consider treatment with frovatriptan[14] (2.5 mg twice a day) or zolmitriptan[15] (2.5 mg twice or three times a day) on the days migraine is expected. **[2012]**

Treatment of migraine during pregnancy

1.3.26 Offer pregnant women paracetamol for the acute treatment of migraine. Consider the use of a triptan[8] or an NSAID after discussing the woman's need for treatment and the risks

[13] At the time of consultation (August 2015), 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.

[14] At the time of consultation (August 2015), 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.

[15] At the time of consultation (August 2015), 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 Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

associated with the use of each medication during pregnancy. **[2012]**

1.3.27 Seek specialist advice if prophylactic treatment for migraine is needed during pregnancy. **[2012]**

Cluster headache

Acute treatment

1.3.28 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. **[2012]**

1.3.29 Offer oxygen and/or a subcutaneous[16] or nasal triptan[17] for the acute treatment of cluster headache. **[2012]**

1.3.30 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. **[2012]**

1.3.31 When using a subcutaneous[16] or nasal triptan[17], 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. **[2012]**

[16] At the time of consultation (August 2015), 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 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.

[17] At the time of consultation (August 2015), 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.

1.3.32 Do not offer paracetamol, NSAIDS, opioids, ergots or oral triptans for the acute treatment of cluster headache. **[2012]**

Prophylactic treatment

1.3.33 Consider verapamil[18] 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. **[2012]**

1.3.34 Seek specialist advice for cluster headache that does not respond to verapamil[18]. **[2012]**

1.3.35 Seek specialist advice if treatment for cluster headache is needed during pregnancy. **[2012]**

Medication overuse headache

1.3.36 Explain to people with medication overuse headache that it is treated by withdrawing overused medication. **[2012]**

1.3.37 Advise people to stop taking all overused acute headache medications for at least 1 month and to stop abruptly rather than gradually. **[2012]**

1.3.38 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. **[2012]**

1.3.39 Consider prophylactic treatment for the underlying primary headache disorder in addition to withdrawal of overused medication for people with medication overuse headache. **[2012]**

[18]At the time of consultation (August 2015), 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.

1.3.40 Do not routinely offer inpatient withdrawal for medication overuse headache. **[2012]**

1.3.41 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. **[2012]**

1.3.42 Review the diagnosis of medication overuse headache and further management 4–8 weeks after the start of withdrawal of overused medication. **[2012]**

1.4 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.

To find out what NICE has said on topics related to this guideline, see our web page on neurological conditions.

Context

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.

In 2015 we reviewed the evidence on the prophylactic treatment of headaches and updated or added new recommendations.

Recommendations for research

In 2012 the Guideline Committee made the following recommendations for research.

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. The updated evidence review (2015) found evidence comparing amitriptyline with topiramate, but not with placebo, and there was uncertainty about the effectiveness of amitriptyline as a prophylactic treatment. 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.

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 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.

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 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.

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.

Update information

This guidance is an update of NICE guideline CG150 (published September 2012).

Recommendations have been updated and new recommendations have been added for the prophylactic treatment of headaches.

These are marked as:

- **[new 2015]** if the evidence has been reviewed and the recommendation has been added or updated
- **[2015]** if the evidence has been reviewed but no change has been made to the recommended action.

Where recommendations are shaded in grey and end **[2012]**, the evidence has not been reviewed since the original guideline.

Where recommendations are shaded in grey and end **[2012, amended 2015]**, the evidence has not been reviewed but changes have been made to the recommendation wording that change the meaning (for example, because of equalities duties or a change in the availability of medicines, or incorporated guidance has been updated). Explanations of the reasons for the changes are given in 'Recommendations that have been deleted or changed' for information.

See also the original NICE guideline and supporting documents.

1 *Recommendations that have been deleted or changed*

2 Amended recommendation wording (change to meaning)

Recommendation in 2012 guideline	Recommendation in current guideline	Reason for change
1.3.18 If both topiramate[19] and propranolol are unsuitable or ineffective, consider a course of up to 10 sessions of acupuncture over 5–8 weeks or gabapentin[20] (up to 1200 mg per day) according to the person's preference, comorbidities and risk of adverse events.	1.3.18 Consider amitriptyline[21] for the prophylactic treatment of migraine according to the person's preferences, comorbidities and risk of adverse events. 1.3.19 Do not offer gabapentin for the prophylactic treatment of migraine.	The evidence for prophylaxis has been reviewed.
	1.3.20 If both topiramate[22] and propranolol are unsuitable or ineffective, consider a course of up to 10	The update did not look at acupuncture so this part of the recommendation is

[19] At the time of consultation (August 2015), 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.

[20] At the time of consultation (August 2015), 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 Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group) for further information.

[21] At the time of consultation (August 2015), amitriptyline did not have a UK marketing authorisation for use in children and young people for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

[22] At the time of consultation (August 2015), 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.

	sessions of acupuncture over 5–8 weeks according to the person's preference, comorbidities and risk of adverse events.	unchanged and the use of gabapentin has been removed.
1.3.19 For people who are already having treatment with another form of prophylaxis such as amitriptyline, and whose migraine is well controlled, continue the current treatment as required	1.3.21 For people who are already having treatment with another form of prophylaxis and whose migraine is well controlled, continue the current treatment as required.	The words 'such as amitriptyline' have been removed as this is now included in recommendation 1.3.18.

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3 ISBN