



Modernising Patient Pathways Programme:

# National Headache Pathway



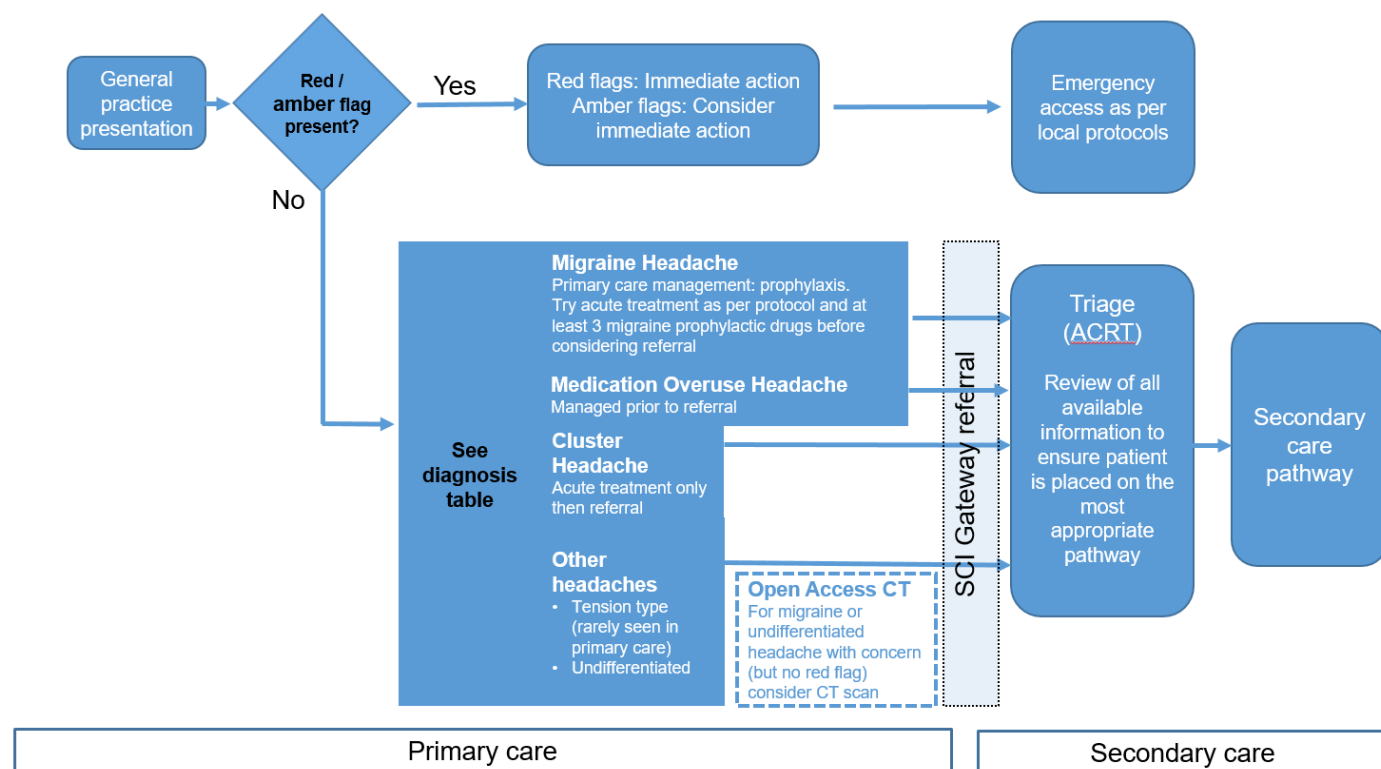
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## Background

The following diagram gives an overview of the primary care pathway (through to the interface with secondary care) based on presentation at General Practice.



ACRT: Active Clinical Referral Triage

## Pathway recommendations

Most patients presenting to health services with headaches have primary headache (up to 95% presenting to primary care and over 50% presenting to A&E). The most common primary headache is migraine, making up the majority of these patients.

The following diagram lists the important red, amber and green flags:

## Red Flags

- Thunderclap headache
- New focal neurological deficit on examination (e.g. hemiparesis)
- Systemic features (considering GCA, infection)
- New progressive headache in a patient over 50

Headache suggesting the possibility of a brain tumour

1. New headache plus sub-acute progressive focal neurology
2. New headache plus seizures
3. New headache with personality or cognitive change not suggestive of dementia, with no psychiatric history and confirmed by witness

## Amber Flags

- Changes in headache intensity with changes of posture
- Worsening/Triggering headache with Valsalva
- Atypical aura (duration >1 hour or including motor weakness)
- Progressive headache (worsening over weeks or longer)
- Head trauma within the last month
- Previous history of cancer or HIV
- Re-attendance to A&E or GP surgery with progressively worsening headache severity or frequency

## Green Flags

- Recurrent episodic headache, particularly with features of migraine
- Long history of daily headache

## RED FLAGS

Most patients do not have serious secondary headache. Red flags indicate the need for urgent assessment to exclude a secondary cause. The most consistent indicators for serious secondary causes for headache are:

- 1) Thunderclap (sudden onset) headache (consider SAH and its differential)
- 2) New focal neurological deficit on examination (e.g. hemiparesis)
- 3) Systemic features (considering GCA, infection such as meningitis or encephalitis, etc)
- 4) New progressive headache in a patient over 50 (most headaches presenting in patients over 50 are benign, but there is an increased risk of secondary pathology with increasing age)

Thunderclap headache is usually occipital or global. It is defined as a severe abrupt onset headache, usually reaching its peak instantaneously, but headache can progress over up to 5 minutes. The main consideration is subarachnoid haemorrhage, but other causes include cervical artery dissection, intracranial haemorrhage, posterior circulation stroke, cerebral venous sinus thrombosis and spontaneous intracranial hypotension. Anyone presenting with a thunderclap headache should have a same day referral (which may be through A&E), even in delayed presentations.

A new focal neurological symptom (eg seizure) or sign (eg hemiparesis) in a patient with a new progressive headache indicates the possibility of an intracranial pathology and this should prompt an urgent referral for assessment and appropriate imaging. The referring clinician should decide whether this merits attendance at A&E, a call to the appropriate specialist service or an urgent referral. Specific syndromes that may indicate the possibility of a brain tumour are listed below, but extra dural / sub dural haematomas, cerebral venous sinus thrombosis, viral encephalitis and other intracranial pathology can present similarly.

### Headache suggesting the possibility of a brain tumour

- 1) New headache plus sub-acute progressive focal neurology
- 2) New headache plus seizures
- 3) New headache with personality or cognitive change not suggestive of dementia, with no psychiatric history and confirmed by witness

Fever, neck stiffness and rash should raise the consideration of infection such as meningitis and constitutional symptoms and scalp tenderness should raise the consideration of Giant Cell Arteritis (GCA).

Most headache in older patients will have a benign cause (mainly migraine), but the clinician should have a lower threshold for considering a secondary cause in an older patient with a new persisting or worsening headache. Anyone over 50 with a new headache should have a CRP +/- plasma viscosity +/- ESR + FBC as per local protocol to consider GCA. Anyone where this is a serious consideration should have an urgent referral and consideration of steroids as per local protocol.

## AMBER FLAGS

Features that may indicate a secondary cause but may also be seen in primary headaches:

- 1) Changes in headache intensity with changes of posture (upright consider low pressure / headache when lying flat consider high pressure)
- 2) Worsening/Triggering headache with Valsalva (e.g. coughing, straining)
- 3) Atypical aura (duration >1 hour or including motor weakness)
- 4) Progressive headache (worsening over weeks or longer)
- 5) Head trauma within the last month
- 6) Previous history of cancer or HIV
- 7) Re-attendance to A&E or GP surgery with progressively worsening headache severity or frequency

Consider a secondary cause if any of these are present.

Orthostatic headache should have a consistent onset / worsening on assuming an upright posture and offset / significant improvement on lying flat. This should be differentiated from headache which improves on lying still, which is a feature of migraine. Early assessment and treatment of Spontaneous Intracranial Hypotension (SIH) improves outcomes and patients with orthostatic headache should be referred urgently. Further information is available in the consensus guidelines on SIH ([insert link](#)).

Headache wakening the patient, headache present on wakening which then improves after assuming an upright posture and Valsalva headache (headache triggered by coughing or other Valsalva manoeuvres) raises the possibility of raised intracranial pressure. Headache present on wakening which improves after assuming an upright posture may also be due to cervicogenic headache and obstructive sleep apnoea or other causes of nocturnal hypoventilation. Migraine starting in sleep is the commonest cause for wakening with a headache (especially if the headache is intermittent). It is also important to consider Medication Overuse Headache as “wearing off” of the overused medication during sleep can result in wakening with a headache which then improves with taking the overused medication. These patients are likely to have migraine.

Normal imaging does not exclude raised intracranial pressure and it is important to examine the patient for papilloedema. An urgent optician assessment should be considered where the clinician is not confident undertaking ophthalmoscopy. More detail on the assessment and management of Intracranial Hypertension can be found on ([insert link](#)). Due to risk to vision, patients should be referred same day as per local protocol, usually to ophthalmology in the first instance.

A history of cancer, immunosuppression (including HIV) and recent head trauma in a patient with new progressive headache should raise the consideration of secondary brain tumour, infection or intracranial haemorrhage. These patients usually have other features in addition to headache.

Features that do not help to differentiate primary from secondary headaches are:

- 1) Severity
- 2) Treatment response

## **GREEN FLAGS**

Features that are supportive of a diagnosis of primary headache:

- 1) Recurrent episodic headache, particularly with features of migraine
- 2) Long history of daily headache

If there are no concerning features then it is appropriate to manage these patients for migraine. Other features that are pointers to migraine include a previous migraine history and a family history of migraine.

## Diagnosis of primary headache syndromes

Migraine is the commonest primary headache presenting to both primary and secondary care. It is however important to consider other primary headache disorders as per the following table.

Headache feature	Migraine (with or without aura)	Cluster headache	Tension-type headache
<b>Frequency</b>	Majority of patients presenting to both primary and secondary care (94% of people presenting in primary care with episodic headache will have migraine)	Rare - 1 in 1,000	Very common, but not often seen in primary or secondary care as usually mild and self-managed
<b>Duration of headache</b>	4 – 72 hours in adults 1 – 72 hours in young people	15 minutes to 3 hours	30 minutes – continuous
<b>Pain location</b>	Unilateral or bilateral (head, face or neck)	Unilateral (around the eye, above the eye and along the side of the head/face)	Bilateral (head, face or neck)
<b>Pain quality</b>	Pulsating (throbbing or banging in young people)	Variable (can be sharp, boring, burning, throbbing or tightening)	Pressing/tightening (non-pulsating)
<b>Pain intensity</b>	Moderate or severe	Severe or very severe	Mild or moderate
<b>Effect of activities</b>	Aggravated by, or causes avoidance of, routine activities of daily living (e.g. prefer to stay still or go to bed)	Restlessness or agitation	Not aggravated by routine activities of daily living
<b>Other symptoms</b>	<ul style="list-style-type: none"> <li>• Photophobia (sensitivity to light)</li> <li>• Phonophobia (sensitivity to sound)</li> <li>• Nausea and/or vomiting</li> <li>• Allodynia (sensitivity to touch)</li> <li>• Cranial autonomic symptoms</li> <li>• Aura (lasts 5 – 60 minutes) can include: <ul style="list-style-type: none"> <li>○ Flickering lights, spots or lines and/or partial loss of vision</li> <li>○ Sensory symptoms such as numbness and/or pins and needles</li> <li>○ Speech disturbance</li> </ul> </li> </ul>	Cranial autonomic symptoms on the same side as the headache: <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> Patients with cluster can get migrainous symptoms and aura	None

Migraine is differentiated into episodic and chronic migraine

Patients with episodic migraine have migraine on 14 or less days per month (high frequency episodic migraine 10-14 days per month).

Patients with chronic migraine have 15 or more days of headache per month 8 of which should meet criteria for migraine. Chronic migraine therefore usually presents with a mixture of milder background headache and migraine.

### **Information to help with diagnosis of headache:**

- Patients with migraines often underplay their symptoms
- Recurrent 'sinus headache' and/or dizziness is usually migraine
- In patients with chronic migraine, there is usually background headache with superimposed migraine days
- In patients taking acute treatment on >10 days/month, consider medication overuse headache
- Most patients waking with headache have migraine or medication overuse headache (withdrawal of overused analgesia overnight)
- Menstrual headache is almost always migraine and migraine usually improves in pregnancy
- Most patients with migraine are sensitive to head movement during a migraine so bending, coughing or sneezing during a migraine may make headache worse (motion sensitivity)
- most patients with migraine don't have aura
- 40% of migraine is bilateral

### **Referral to secondary care (migraine)**

Migraine is the most likely diagnosis for a patient attending primary care with headache. Many of these patients will be successfully managed in primary care. If there is a clear diagnosis of migraine we recommend acute +/- preventative treatment (as detailed in the acute and preventative treatment sections).

Where preventative treatment is not successful after three preventative medications, consider referral to relevant secondary care services as per local arrangements.

If there is diagnostic uncertainty or concern about a secondary cause, consider open access CT as an alternative to secondary care referral.



## Patient lifestyle advice for migraine

Patients should be directed to the resources available on NHS Inform for lifestyle advice. Where consultation time allows the following key points should be made in relation to lifestyle.

1. Regular sleep pattern.
2. Regular eating pattern / don't skip meals (more frequent small meals may help).
3. Regular fluid intake but limit alcohol, and limit caffeine from tea, coffee and some soft drinks.
4. Regular physical activity/exercise
5. Regular breaks from computers/phone screens
6. Relaxation activities such as mindfulness, yoga or meditation

Manage potential triggers as needed; e.g. avoid perfumes, certain food triggers if applicable, bright, flashing or flickering lights (consider wearing sunglasses when outside or in bright, flashing or flickering light)

Further advice is available from the Migraine Trust on 0808 802 0066 or <https://migrainetrust.org/what-we-do/our-information-and-support-service/>

## References and further resources



SIGN 155 Clinician Guidance:

[SIGN 155 Pharmacological management of migraine 2023 update](#)

SIGN 155 patient guidance:

[SIGN Migraine patient booklet PAT155 \(revised 2022\)](#)

Heads up podcasts from the National Migraine Centre:

[Heads Up podcast - National Migraine Centre](#)

British Association for the Study of Headache - Headache management system

[Headache UK](#)

Optimal clinical pathway for adults with headache and facial pain. NNAG (National Neurosciences Advisory Group). 2023. [Optimal clinical pathway for adults with headache and facial pain — National Neurosciences Advisory Group \(nnag.org.uk\)](#)

Mollan S. et al. Evaluation and Management of adult idiopathic intracranial hypertension. Practical Neurology. 2018. [Evaluation and management of adult idiopathic intracranial hypertension \(bmj.com\)](#)

Cheema S. et al. Multidisciplinary consensus guideline for the diagnosis and management of spontaneous intracranial hypotension. JNNP. 2023. <https://jnnp.bmj.com/content/early/2023/05/04/jnnp-2023-331166>



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