HEADACHE: A VISUAL GUIDE

Headache is among the most common neurological reasons for A&E attendance, but most cases can be treated in primary care. This infographic provides a visual overview of the main types of headache.

BY DAWN CONNELLY

MIGRAINE HEADACHES

Global age-standardised prevalence **14%**

Affects twice as many women as men.

Impact
- Severe reduction in function.

Duration/frequency
- 4–72 hours, 1–2 attacks per month;
- Classed as chronic if headache is present ≥15 days per month for >3 months, of which ≥8 days have features of migraine.

Triggers
- Sleep disruption, skipped meals, hormone fluctuations, stress and relaxation from stress, thundery weather.

Associated symptoms
- Sensitivity to light and sound, nausea and vomiting, visual disturbances (flashing lights, shimmering lights, zigzag lines, stars, blind spots), tingling on one side of the face or one arm.

Recommended treatments

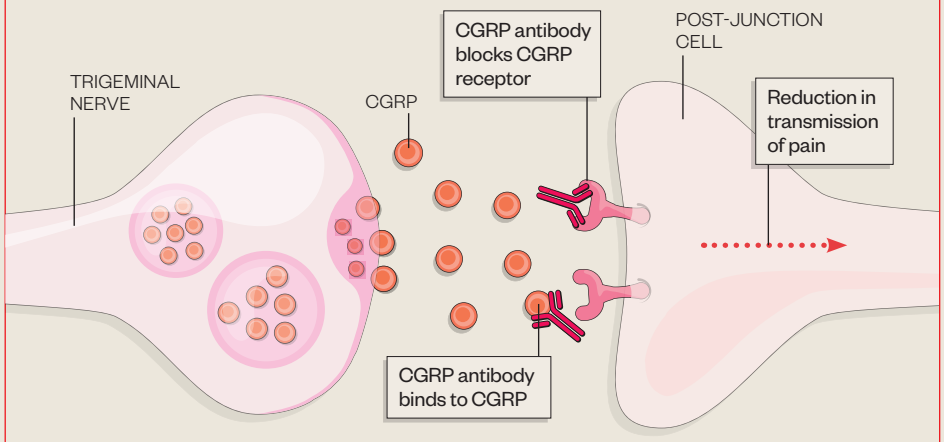
Acute: simple analgesics (aspirin, diclofenac, ibuprofen, naproxen, paracetamol), which may be combined with a triptan (almotriptan, eletriptan, frovatriptan, naratriptan, rizatriptan, sumatriptan, zolmitriptan) and/or an antiemetic (domperidone, prochlorperazine, metoclopramide).

Prevention: for patients with four or more migraine days per month, amitriptyline, candesartan, propranolol, topiramate, onabotulinumtoxin A (chronic migraine only). If at least three preventive drugs have failed, try erenumab, galcanezumab (chronic or episodic migraine), fremanezumab (chronic migraine only).

TREATMENT FOCUS:

Calcitonin gene-related peptide inhibitors

Calcitonin gene-related peptide (CRGP) inhibitors are the first treatment specifically developed for migraine prevention. Two CRGP inhibitors (galcanezumab and fremanezumab) were approved in 2020 by the National Institute for Health and Care Excellence (NICE), and guidance was expected on erenumab in January 2021.



NICE advises that these new medicines can be prescribed for migraine that has not responded to at least three preventive treatments. They should be stopped if the frequency of chronic migraine does not reduce by 30%, or if the frequency of episodic migraine does not reduce by 50% after 12 weeks.

Medication overuse headaches
Occurs mainly in those who suffer from migraine or tension-type headaches and has the same symptoms.

Migraine headaches
Moderate-to-severe, throbbing pain on one or both sides of the head.

Tension headaches
Mild-to-moderate, dull ache on both sides of the head, like a tight band.

Pain pathways
The pain associated with headache comes from the activation of pain pathways in the brain affecting the body in and around the head and neck, including nerves, such as the trigeminal nerve, which provides sensations to the face, and C2, which affects the back of the head and neck. This activation tends to occur in individuals with a genetic predisposition.

MEDICATION OVERUSE HEADACHES

Prevalence unknown, estimated **0.5–7.2%**

Affects 1.5–2 times as many women as men.

Medication overuse headaches (MOH) affect up to 20–50% of the chronic headache population.

Impact
- Moderate-to-severe reduction in function.

Duration/frequency
- Present ≥15 days a month for >3 months.

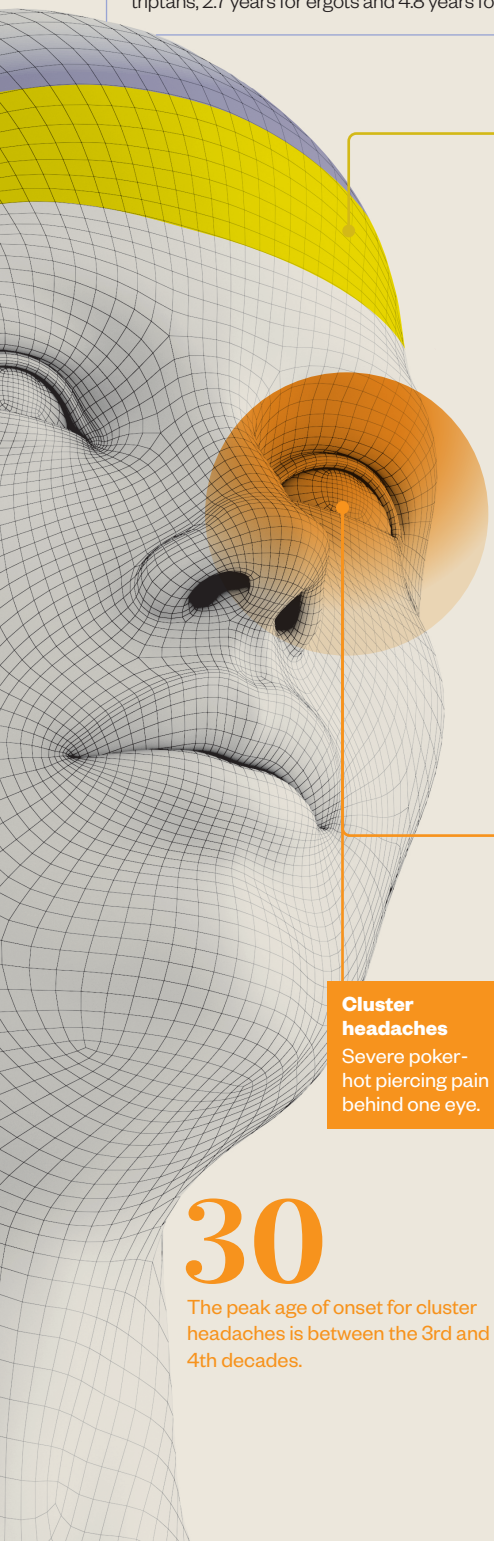
Triggers
- Taking ergotamine, triptans or opioids ≥10 days per month, or simple analgesics ≥15 days, for >3 months; however, MOH is reported with all for use >8 days per month. The average interval between the first intake and daily MOH is 1.7 years for triptans, 2.7 years for ergots and 4.8 years for analgesics.

Associated symptoms
- None, but features of migraine or tension type headache can be seen.

Recommended treatments

Acute: completely withdraw acute headache treatment for at least 8 weeks.

Prevention: preventive treatment may be started, if experiencing >4 headache days per month. Overused medicines may be reintroduced after 2 months but restricted to 8 days per month.



TENSION HEADACHES

Global age-standardised prevalence **26%**

Affects 1.5 times as many women as men.

Impact
- Mild-to-moderate reduction in function.

Duration/frequency
- 30 minutes to several days.
- Classed as chronic if present on ≥15 days per month for >3 months.

Triggers
- Stress, physical exhaustion.

Associated symptoms
- Tight neck and shoulder muscles.

Recommended treatments

Acute: paracetamol, aspirin or ibuprofen.

Prevention: if symptoms are causing significant disability, amitriptyline.

Chronic tension headaches affect 0.5% to 4.8% of the global population.

CLUSTER HEADACHES

Global age-standardised prevalence **<1%**

Affects 2 to 3 times as many men as women.

Impact
- Unable to function, rocking or pacing.

Duration/frequency
- 15 minutes to three hours, repeated 1–8 times a day, every day for 4–12 weeks, followed by a period of remission.

Triggers
- Alcohol and some chemicals.

Associated symptoms
- Restlessness, agitation, nasal congestion, eye tearing, swelling or redness, sweaty face, smaller pupils, nausea and vomiting, sensitivity to light and sound.

Recommended treatments

Acute: sumatriptan injection, sumatriptan or zolmitriptan nasal spray, oxygen therapy (oral therapies are not effective in acute treatment).

Prevention: verapamil, lithium, corticosteroids.

Cluster headaches
Severe poker-hot piercing pain behind one eye.

30

The peak age of onset for cluster headaches is between the 3rd and 4th decades.

RED FLAG SYMPTOMS

The following symptoms require referral to a GP for further investigation:

- Thunderclap headache: rapid time to peak headache intensity (seconds to five minutes) — same-day specialist assessment needed;
- New onset headache associated with new systemic or neurological features;
- Headache if regularly using analgesics on >4–5 days per month (to discuss preventive treatment so as to avoid medication overuse headache);
- Headache that becomes worse on immediate upright posture (spinal fluid leak);
- New onset of, or change in, headache in patients who are aged over 50 years;
- Headache in patients who are aged under five years;
- Headache precipitated by coughing, laughing or straining;
- Headache after head injury, or within 90 days of head injury;
- New-onset headache in a patient with a history of cancer that can metastasise to the brain, or aged under 20 years with history of malignancy.

Sources: The Migraine Trust, British Association for the Study of Headache (BASH), National Institute for Health and Care Excellence (NICE), Scottish Intercollegiate Guidelines Network, NHS Rightcare, *Lancet Neurol* 2018;17:954, *Cephalalgia* 2014;34:409. Editorial advisers: Anish Bahra, a consultant neurologist, who runs tertiary headache services at the National Hospital for Neurology and Neurosurgery and Barts Health; Stuart Weatherby, a consultant neurologist, who runs a secondary care headache service at University Hospitals Plymouth NHS Trust; both were authors on the BASH guidelines; Kay Kennis, a GP with a special interest in headache, who sat on the NICE headache guidelines development group.