Guideline for Treatment and Prevention of Migraine / Tension-Type Headache in Adults

Treatment of Acute Migraine / Tension-Type Headache

In general a triple drug combination taken together works best for the acute treatment of migraine [1]:

- a $5HT_1$ Receptor agonists (known as a 'Triptan') eg. Sumatriptan or Zolmitriptan
- a Non Steriodal Anti-inflammatory Drug (NSAID) eg. Ibuprofen or Naproxen
  or Aspirin (this should be avoid in children under 16 years of age) *or* Paracetamol
- an Anti-Emetic eg. Metoclopramide, Prochlorperazine or Domperidone

Acute treatment can be taken on up to 6 days per month, and not exceeding 10 days per month.

A typical regimen may be: Sumatriptan 50 – 100mg as a single dose, Naproxen 500 mg as a single dose, Domperidone 10 mg as a single dose

Some patients achieve sustained headache relief with a single pain-relieving agent [1] eg. Aspirin 900 mg stat (which should be avoided in children under 16 years of age) or Paracetamol 500mg - 1g stat

Treatment for Prevention of Migraine / Tension-Type Headache

- Drugs to prevent migraine need to be taken daily to be effective. They are not the same as conventional pain killers. They are pain-modulators which are derived from different drug groups originally designed to treat other diseases.

- In practice they are unlikely to abolish headaches, but may reduce the severity and / or frequency of headache. They should be used with lifestyle modifications that can improve headaches including:
  - Getting regular sleep
  - Eating regular meals
  - Taking moderate amounts of exercise
  - Drinking plenty of water
  - Limiting caffeine and alcohol intake
  - Reducing stress

- Failure to address lifestyle issues can result in a poor response to preventive drugs

- **'Medication Overuse Headache' can interfere with treatment using preventive or prophylactic drugs:** prophylactic drugs are unlikely to work if any combination of acute pain killers are taken regularly on more than 10 days per month.

- All acute analgesia (e.g. paracetamol, co-codamol or tramadol), anti-inflammatory drugs (e.g. ibuprofen, naproxen or diclofenac) or triptans, should be abruptly discontinued for at least 3 weeks to address medication-overuse headache (including triptan-overuse headache). Typically, after 3 weeks the pain is either the same as it was before analgesic use was stopped, or slightly better.

- Prophylactic drugs are not to be used as acute migraine treatments; they should be taken singly rather than in combination [2]

- Each drug should be started at the lowest possible dose and increased in the smallest dosage steps at weekly / fortnightly intervals, depending on response and tolerability

- Treatment at the maximum tolerated dose for 3 months is the best way to assess efficacy

- If treatment is effective it should be continued for about 6 months before attempting to wean medication.

- A minimum of three drugs should be trialled appropriately in the event of treatment failure with one or more agents.

The following prophylactic agents are listed in no particular order. In the absence of any clinical contra-indication, those being used for their licensed indication and those on the hospital formulary should be considered initially. Further advice will be provided to GPs by the Consultant Neurologist following consultation with individual patients.

You should refer to the patient information leaflet supplied with a medicine for a comprehensive list of potential adverse effects. All of these drugs are best avoided in pregnancy.

1. **Propranolol (Licensed Indication) (Formulary traffic light status – Green)**

- Starting dose: 10 mg daily; Ceiling dose: 80 mg twice daily
- Switch to a long-acting formulation, as desired, once a maintenance dose is achieved
- Possible Side effects: dizziness, fatigue, cold extremities, vivid dreams, lowers blood pressure
- Contraindications: asthma, peripheral vascular disease

2. **Amitriptyline (Off Label Indication) (Formulary traffic light status – Green)**

Note: Independent of their anti-depressant effect these drugs also have anti-migraine properties - the doctor is not recommending this drug because they believe the patient is depressed.

- Starting dose : 10 mg at night; Ceiling dose: 100 mg at night
- Possible Side effects: dry mouth, sedation, blurred vision, constipation and urinary retention
- Contraindications: heart disease
- Nortryptiline may be considered for individual patients as it is less sedating than Amitryptiline

3. **Candesartan (Off Label Indication) (Formulary traffic light status – Green)**

- Starting dose: 4 mg daily; Ceiling dose: 24 mg daily (usually 16 mg daily or less is effective)
- Possible side-effects: bodily pain, tiredness, tingling, low heart rate; lowers blood pressure

4. **Duloxetine (Off Label Indication) (Formulary traffic light status – Amber 1)**

- Starting dose: 30 mg daily, increased every 2 weeks; Ceiling dose: 90 mg daily
- Possible side-effects: nausea, vomiting, constipation/diarrhoea, abdominal pain, dry mouth, insomnia, dizziness, fatigue, dreams, weight changes

5. **Gabapentin (Off Label Indication) (Formulary traffic light status – Amber 1)**

- Starting dose: 100 mg at night, titrated every 2 weeks; Ceiling dose: 1200 mg daily in two or three divided doses
- Potential Side effects: somnolence, weight gain
- Contraindications: Patients with compromised respiratory function, respiratory or neurological disease, renal impairment, concomitant use of central nervous system (CNS) depressants, and the elderly may be at higher risk of experiencing severe respiratory depression and dose adjustments may be necessary in these patients.
https://www.gov.uk/drug-safety-update/gabapentin-neurontin-risk-of-severe-respiratory-depression

6. **Sodium Valproate (Off Label Indication) (Formulary traffic light status – Amber 2)**

- Recommended for use in male patients only (see contraindications below)
- Starting dose: 200 mg at night, titrated every 2 weeks; Ceiling dose: 1500 mg daily in two or three divided doses
- Side effects: weight gain, somnolence, tremor, foetal malformations

- Contraindications: Valproate medicines must not be used in women or girls of childbearing potential unless a Pregnancy Prevention Programme is in place. https://www.gov.uk/drug-safety-update/valproate-medicines-epilim-depakote-contraindicated-in-women-and-girls-of-childbearing-potential-unless-conditions-of-pregnancy-prevention-programme-are-met#new-contraindication-in-pregnancy
- Monitoring: FBC and LFTs at baseline and during treatment

7. Topiramate (Licensed Indication) (Formulary traffic light status – Amber 1)

- Recommended for use in male patients only (see cautions below)
- Starting dose: 25 mg at night titrated in 25 mg steps every 2 weeks; Maintenance dose: 100 mg daily in two divided doses (offers best trade-off between tolerability and efficacy); Ceiling dose: 200 mg daily in two divided doses
- Possible Side effects: somnolence, angle-closure glaucoma, loss of verbal fluency, tingling/numbness in extremities, weight loss, renal stones (ensure adequate fluid intake), foetal malformations
- Cautions: Topiramate reduces the effectiveness of oral contraceptives; the manufacturer recommends a highly effective method of contraception in women of child bearing age because of the risk to the foetus and does not recommend use for migraine prophylaxis in women of child bearing age.

8. Pizotifen (Licensed Indication) (Formulary traffic light status – Green)

- Starting dose: 0.5 mg at night; ceiling dose: 4.5 mg daily in two divided doses
- Possible side-effects: weight gain, dry mouth
- Evidence for use is limited and weight gain and sedation are often unacceptable side effects of this drug.

9. Riboflavin (Nutritional Product) – Self-care product

- Dose: 400 mg OD
- UK Guidelines advise that riboflavin may be useful in preventing migraines [4]; patients should be advised to self-purchase as there is no licensed riboflavin product available in the UK, nor any cost effectiveness data to justify its use on NHS prescription.

You should refer to the patient information leaflet supplied with a medicine for a comprehensive list of potential adverse effects. All of these drugs are best avoided in pregnancy.

Where medicines in this guideline are recommended for an off label indication or at doses outside those in the BNF, the recommendations are based on the clinical experience of a Consultant Neurologist.

References

[1] Headaches on over 12s: Diagnosis and Management
https://www.nice.org.uk/guidance/cg150 [accessed 18/08/18]

[2] Headache Management: Pharmacological Approaches
https://pn.bmj.com/content/15/6/411 [accessed 18/08/18]

[3] Items which should not be routinely prescribed in primary care – Guidance for CCGs
https://www.england.nhs.uk/wp-content/uploads/2017/11/items-which-should-not-be-routinely-precscribed-in-pc-ccg-guidance.pdf [accessed 18/08/18]

[4] Can riboflavin reduce the incidence of migraines in adults?
https://www.sps.nhs.uk/articles/can-riboflavin-reduce-the-incidence-of-migraines-in-adults/?UNLID=9851154552018818231016 [accessed 18/08/18]