Clinical Pharmacy

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Headache

The most common types of headache that the community pharmacist is likely to encounter are **tension headache**, **migraine** and **sinusitis** [1] (table-1) [3].
Careful questioning can distinguish causes that are potentially more serious so referral to the doctor can be advised [1].

Table -1: Causes of headache and their relative incidence in community pharmacy [3]	
Incidence	**Cause**
Most likely	Tension-type headache
Likely	Migraine, sinusitis, eye strain
Unlikely	Cluster headache, medication-overuse headache, temporal arteritis, trigeminal neuralgia, depression
Very unlikely	Glaucoma, meningitis, subarachnoid haemorrhage, raised intracranial pressure

Significance of questions and answers

A- Age

Children **under the age of 12 years** required referral [1].
Children with **fever**, **sever pain across the back** of the **head and neck rigidity** (or difficulty in placing the chin on the chest) or **rash** may suggest **meningitis** and **urgent referral** is required [1, 3].

It is unusual for patients to present with their **first migraine episode over the age of 40 years** and such patients should be referred [1].

B-Duration

Any patient with a headache **of long-standing duration** must be referred [3].

C-Nature and site of pain (**Figure-1** and 2).

1-Tension headache:

Tension headaches are the most common form. The pain may be described as like a band around the head. The pain is usually of a dull nature rather than the pounding or throbbing sensation associated with migraine [1].

2- Migraine:

- There are two common types of migraine: **migraine without aura** , which occurs in 75% cases, and **migraine with aura** [1].
- Migraine with aura is often associated with alterations in vision before an attack starts, the so-called prodromal phase. Patients may describe seeing flashing lights or zigzag lines [1].
- Migraine with aura is three times more common in women than in men [1].

●During the prodromal phase, patients may also experience tingling or numbness on one side of the body, in the lips, fingers, face or hands and occasionally have difficulty in speaking (dysphasia) [1].
●The prodromal phase rarely lasts more than an hour and the headache follows [1].
●In migraine without aura, there is no prodromal phase (no aura) [1].
●All types of migraines are commonly associated with nausea and sometimes vomiting [1].
●The headache in migraine is often severe and pulsating in nature. Patients often get relief from lying in a darkened room and say that bright light hurts their eyes during an attack of migraine [1].
●The headache can last for several hours; rarely it lasts for up to 72 h [1].

3-Cluster headaches

1-Cluster headaches involve, as their name suggests, a **number of headaches one after the other** [1]. Symptoms suggestive of **cluster headache** required **referral** [2]. (**Further reading 1**)

4-Sinusitis

Sinusitis may complicate a respiratory viral infection (e.g. cold) or allergy (e.g. hay fever), which causes inflammation and swelling of the mucosal lining of the sinuses. The increased mucus produced within the sinus cannot drain, a secondary bacterial infection develops and the pressure builds up, causing pain.
The pain is felt **behind and around the eye** and **usually only one side is affected**. The headache may be associated with **rhinorrhoea** or **nasal congestion**. The affected sinus often feels **tender** when pressure is applied. It is **typically worse on bending forwards or lying down** [1].

5-Brain hemorrhage:

The main types of brain haemorrhage causing headache are a subarachnoid haemorrhage caused by bleeding blood vessels around the brain and intracranial haemorrhage with bleeding within the brain (hemorrhagic stroke) [1].

This causes severe intense pain located in the **occipital region**. **Nausea**, **vomiting** and **decreased consciousness** is often present, **immediate referral** is required [3].

6-Space-occupying lesions

These lesions may be caused by **tumour**, **haematoma** (a mass of blood**)** or **abscess**. The pain can be localized or diffuse but it is usually **worse in the morning and improves during the day, worsen** by **coughing**, **sneezing**, **bending** or **lying down** [3]. **Refer if suspected** [2].
Symptoms may sometimes be confused with sinusitis, but the latter is usually associated with symptoms of upper respiratory tract infection or allergic rhinitis [2].

7-Temporal arteritis

Temporal arteritis is inflammation of the **temporal artery** running down the side of the head just in front of the ear. It occurs almost exclusively in **elderly people**. There is severe unilateral pain, and the area of the **temple is inflamed and tender to the touch**. **Refer** immediately to a doctor [2]. (**Further reading 2**)

8-Hypertension

Occasionally, headache is caused by hypertension, but contrary to the popular opinion, such **headaches are not common** and **only occur when the BP is extremely high** [1].

9-Eye strain and glaucoma:

1-Eye strain can be responsible for **frontal headaches**. There may be **occupational** pointers, e.g. people using **computers** for long periods. **Refer to an optometrist** [2].

2-Headache may also be a symptom of **glaucoma**; if suspected, **refer** immediately to a doctor [2]. **(**Patients experience a **frontal/orbital** headache with pain **in the eye**. The eye appears red and is painful. Vision is blurred and the **cornea can look cloudy** In addition, the patient might notice haloes around the vision) [3].

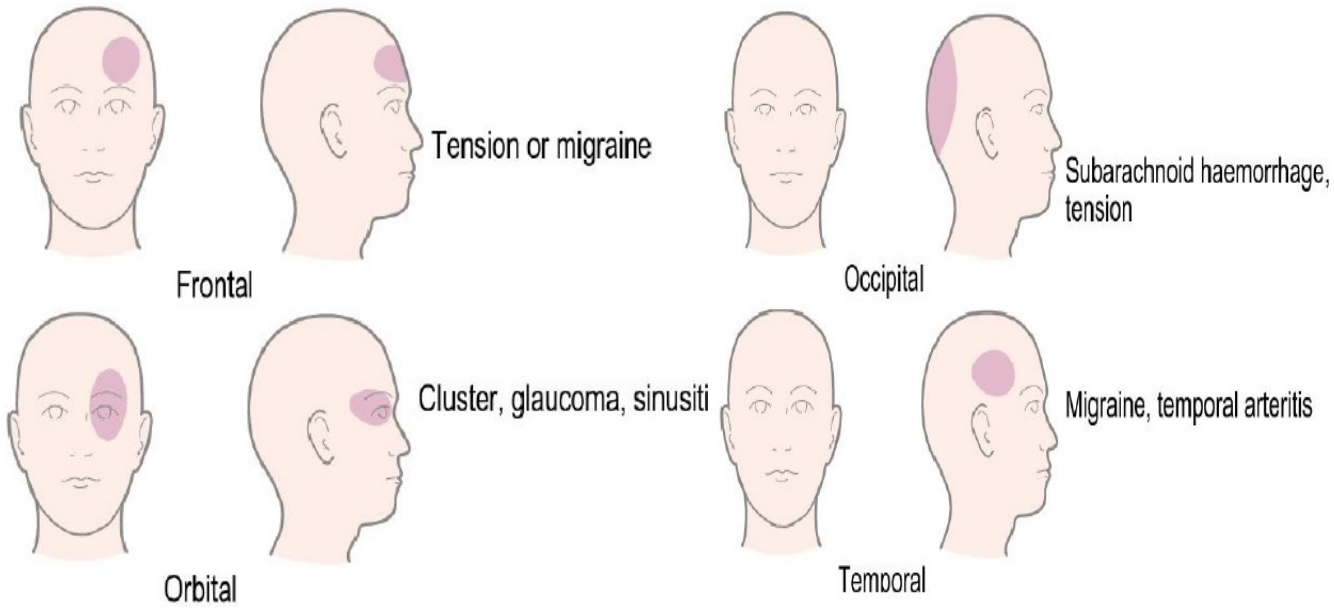

Figure -1: Location of pain in headache [3].

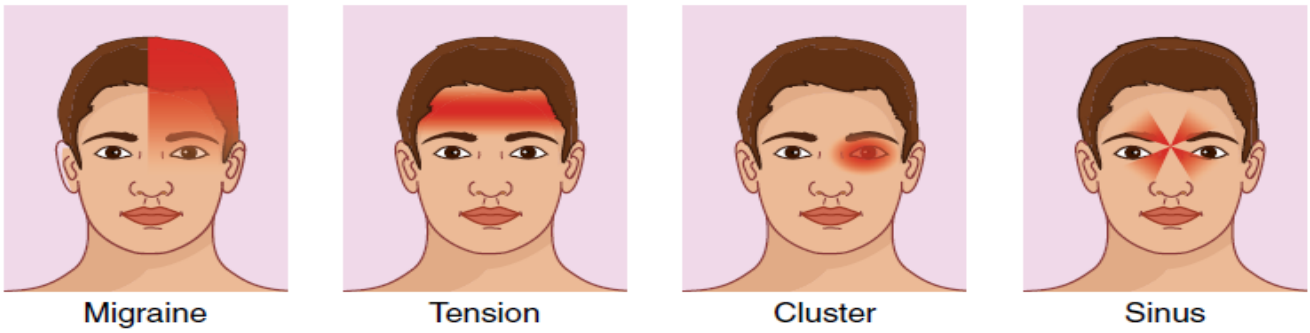

Figure -2: Common patterns of headache [1].

D-Precipitating factors

Tension headache and migraines may be precipitated by **stress**, e.g. pressure at work or a family argument. Some migraine sufferers experience their attacks after a period of stress, e.g. when on **holiday** or at **weekends** [1].

Certain foods have been reported to precipitate migraine attacks, e.g. **chocolate** and **cheese**. Migraine headaches may also be triggered by hormonal changes. In **women**, migraine attacks may be associated with the **menstrual cycle** [1].

E-Frequency and timing of symptoms

Pharmacists should regard a headache that is worse **in the morning and improves during the day** as particularly serious, since this may be a **sign of raised intracranial pressure** [1].
Cluster headaches typically happen daily for 2–3 months and each episode of pain can last up to 3 h. A person who has headaches of **increasing frequency or severity** should be referred [1].

F-Recent trauma or injury

Any patient presenting with a headache who has had a **recent head injury or trauma** [1] (Last 1-3 months) [3] to the head should be referred to the doctor immediately because **bruising or haemorrhage** may occur, causing a rise in intracranial pressure [1].
The pharmacist should look out for **drowsiness** or **any sign of impaired** consciousness. Persistent **vomiting after the injury** is also a sign of raised intracranial pressure [1].

G-Medication

1-The nature of any prescribed medication should be established, since the **headache might be a side-effect of medication**, e.g. **nitrates** used in t treatment of angina [1].

When to refer

- Headache associated with injury/trauma
- Sudden-onset severe headache
- Headache associated with high temperature (>38 °C)
- Severe headache of more than 4 h duration
- Suspected adverse drug reaction
- Headache in children under 12 years of age
- New onset headache in a person aged over 50 years
- Headache where acute glaucoma is suspected
- Headache that is worse in the morning (such as on waking) and then improves
- Associated with drowsiness, unsteadiness, visual disturbances, vomiting or photophobia
- Neck stiffness
- Frequent migraines suggesting need for prophylactic treatment
- Frequent and persistent headaches

2-Contraceptive pill
Any woman taking the combined hormonal contraception (pill, patch or ring) and **reporting migraine-type headaches**, either for the first time or as an exacerbation of existing migraine, should be referred to the doctor, **since this may be an early warning of cerebrovascular changes with risk of stroke** [1].

3-The patient may already be taking a non-steroidal anti-inflammatory drug (NSAID) or other analgesic on prescription and **duplication of treatments should be avoided**, since toxicity may result. If OTC treatment has already been tried without improvement, referral is advisable [1].

4-Medication overuse headache (Further reading 3).

Treatment timescale [1].

Any headache that does not respond to OTC analgesics within a day requires referral [1].

Management

1-The pharmacist's choice of oral analgesic comprises three main agents: **paracetamol**, **NSAIDs** (**ibuprofen**) and **aspirin**. These may be combined with other constituents such as **codeine**, **dihydrocodeine**, **doxylamine** and **caffeine** [1].

2-OTC analgesics are available in a variety of dosage forms and, in addition to traditional tablets and capsules, syrups, soluble tablets and sustained-release dosage forms are available for some products. The peak blood levels of analgesics are achieved **30 min after taking a dispersible dosage form**; after a traditional *aspirin* tablet, it may take up to 2 h for peak levels to be reached [(1)].

3-The timing of doses is important in migraine where the analgesic should be taken at the **first sign of an attack**, preferably **in soluble form**, since **GI motility is slowed during an attack and absorption of analgesics delayed** [(1)].

4-Sumatriptan 50-mg tablets can be used for **acute relief of migraine** with or without aura and where there is a '**clear diagnosis of migraine'** [(1)] (previously diagnosed migraine) [(5)].

OTC Products

1-Paracetamol (See lecture of Musculoskeletal Problems)
2-NSAIDs (ibuprofen) (See lecture of Musculoskeletal Problems)
3-Aspirin (See lecture of Musculoskeletal Problems)
4-Codeine and Dihydrocodeine (See lecture of Musculoskeletal Problems)

5-Caffeine

Caffeine is included in some combination analgesic products to produce wakefulness and increased mental activity. A cup of tea or coffee would have the same action. Products containing caffeine are best avoided near bedtime because of their stimulant effect. It has been claimed that caffeine increases the effectiveness of analgesics but **the evidence for such claims is not definitive** [(1)].

6-Doxylamine succinate

Doxylamine is an **antihistamine** whose **sedative and relaxing** effects are probably responsible for its usefulness in treating **tension headaches**. Like other older antihistamines, doxylamine can cause **drowsiness** and patients should be warned about this. Doxylamine should not be recommended for children under 12 years [(1)].

7-Buclizine

Buclizine is an **antihistamine** and is included in an OTC compound analgesic for migraine because of its **antiemetic action** [(1)].

8-Buccal Prochlorperazine

A buccal preparation of prochlorperazine can be supplied by a pharmacist for nausea and vomiting associated with migraine; it is not a treatment for migraine [(1)]. (**Further reading 4**).

9-Sumatriptan (5HT agonists) 50 mg tablet: See reference 1 for details about its use [(1)].

References

1-Alison Blenkinsopp, Paul Paxton and John Blenkinsopp. Symptoms in the pharmacy. A guide to the managements of common illness. 9th edition. 2023.
2-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press. 2008.

3- Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 5th edition. 2021.
4-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 20th edition. 2020.
5-BNF-84
6-Nathan A. Non-prescription medicines. 4th edition. London: Pharmaceutical Press. 2010.

Further reading

1-This is a condition of unknown cause that predominantly affects men between the ages of **40 and 60** [(2)]. Typical pattern would be daily episodes of pain over 2–3 months, after which there is a remission for anything up to 2 years. The pain can be excruciating and often comes on very quickly. In typical cases, the headache commonly wakes the person within 2 h of going to sleep, but may also occur at other times. Each episode of pain can last from 15 min to 3 h. The pain is usually experienced on one side of the head, localised to an eye, cheek or temple. A cluster headache is often accompanied by a painful, watering eye and a watering or blocked nostril on the same side as the pain [(2)].

2-Temporal arteritis is a curable disease and delay in diagnosis and treatment may lead to **blindness**, because the blood vessels to the eyes are also affected by inflammation. Treatment usually involves high-dose steroids and is effective, provided the diagnosis is made sufficiently early [(1)].

3-This type of headache differs from a headache related to a medication side effect. Some patients who suffer from migraine or tension headaches receive some relief from nonprescription medication, and over time may increase their use of the nonprescription treatment, which can lead to medication-overuse headache. These headaches are usually associated with frequent use (more than twice weekly) for 3 months or longer and occur within hours of stopping the agent; re-administration of the agent provides relief [(4)].

When medication-overuse headache is suspected, the use of offending agent(s) should be tapered and subsequently eliminated. Most often, **tapering of an agent should be done with medical supervision** because use of prescription therapies may be needed to combat the increased headaches that temporarily ensue during the days to weeks of the withdrawal period [(4)].

4-It can only be provided where migraine has previously been diagnosed by a doctor, to patients over the age of 18 years. Patients should be advised to place it high up along the top gum under the upper lip, until dissolved. The tablet should not be chewed or swallowed. The dose is one or two 3 mg tablets, once or twice a day. The main contraindications are for people with liver disease, epilepsy, Parkinson's disease, men with prostate symptoms and where there is a history of acute glaucoma. It should not be used in pregnancy or when breastfeeding. It should be avoided if patients are taking sedative drugs, such as antidepressants and hypnotics. Reported side effects include drowsiness, dizziness, dry mouth, insomnia and agitation. Very rarely it can cause muscle stiffness (dystonia) [(1)].