# Headache

## *Executive summary*

## Introduction

Headache is the most common neurologic complaint occurring alone or as part of other syndromes. Most headaches are benign especially where the neurologic examination is normal. However secondary headaches may occasionally have a serious underlying cause which needs to be investigated.

Migraine and tension-type headache are the more common types of primary headache.

### Target users

* Nurses
* Doctors

### Target area of use

* Gate clinic
* Outpatient department
* Ward

### Key areas of focus / New additions / Changes

This guideline covers the diagnoses and treatment of the common types of headache.

Patients without features of a potentially dangerous headache should be managed at the Gate Clinic.

Patients referred to the OPD should be assessed for cause of headache and presence of red flag features. Primary headaches typically do not need any further investigations in the absence of red flags.

Patients with acute migraine attacks need immediate treatment with analgesics and antiemetics. Those with more frequent attacks may benefit from long-term prophylaxis.

Acute tension-type headache can be treated with analgesics. Chronic tension-type headaches may improve with lifestyle changes and amitriptyline.

Consider medication overuse headache in patients with chronic headache and longstanding analgesic use.

## Limitations

Some patients with secondary headaches will require referral to Sheikh Zayed Eye Care Centre or EFSTH depending on their suspected diagnoses. Triptans and verapamil are not readily available in The Gambia.

## Presenting symptoms and signs

Suspect a *migraine* headache if a patient has episodes of moderate to severe unilateral throbbing headache lasting between 4 hours and 3 days with associated nausea, vomiting, photophobia and/or phonophobia. There may be preceding warning signs (aura) which are typically visual. The patient may be able to identify and avoid triggers such as certain foods, menstruation or lifestyle changes.

*Tension-type* headaches are usually less severe, described as tightness or heaviness on head and mostly generalized. There may associated neck and upper back pain. Features of background anxiety disorder or depression may be present. It may be either episodic or chronic (occurring on more than 15 days in a month).

*Cluster* headaches are unilateral with associated eye pain, excessive tearing, nasal congestion or discharge. They occur mostly in male smokers, occurring frequently over a time period (“cluster”) and are far less common causes of headache.

### Important things to look for

Symptoms and signs of a potentially dangerous headache include the following:

* Worst headache patient has ever had: *Call the doctor!*
* Severe headache with nausea and /or vomiting: *Call the doctor!*
* Limb weakness, slurred speech or facial asymmetry: *Call the doctor* *!*
* Visual disturbances (blurred vision, aversion to light): *Call the doctor!*
* Recent neck stiffness: *Call the doctor!*
* New type of headache in a patient (“never had this type before”)
* Headache that varies with position
* Persistent morning headache with nausea
* History of head trauma in the last 3 months
* New onset of headache in:
  + Patient younger than 12 years or older than 50 years
  + HIV or Cancer patient
  + Female patient on combined oral contraceptive pills
* Raised blood pressure
* Headache present every day for more than 2 weeks

Patients with any of these features should be referred from the Gate clinic to the outpatient clinic.

## Management in Gate clinic

Treat all patients not referred to the outpatient clinic with

* oral paracetamol 1 g 3 – 4 times daily for 3 days or
* ibuprofen 400 mg 3 times daily after meals for 3 days (if patient has used paracetamol already without relief and there are no peptic ulcer symptoms)

Tell the patient to return if they deteriorate or if they are not better after 2 days.

If the headache is present along with symptoms of another underlying illness, manage according to the guidelines for that condition.

## Management in OPD

### Adults

The first step of management is to determine if the headache is a primary or secondary headache. The history is particularly useful in making this distinction.

If it is a secondary headache, look out for sinister features that may suggest a serious underlying cause.

New onset of headache in a patient under 10 or over 50 suggests a secondary cause. Changes in character of a patient’s usual headache is suspicious.

Neurological examination and fundoscopy are very useful in excluding secondary causes of hypertension and should be done at first visit as well as any time there is a change in character of the headache. Visual acuity tests are usually unhelpful.

Primary headaches typically do not need any further investigations in the absence of red flags.

Patients with a history of opioid use for more than 10 days in a month or other analgesics for more than 15 days in a month are at risk for medication overuse headache. Treatment requires withdrawal of the analgesics, psychological support and review after 2 months to determine and treat the underlying primary headache.

**Migraine Headache**

Start treatment as early as possible during an attack with

* ibuprofen 400 – 600 mg up to 4 doses in 24 hours or
* aspirin 600 – 900 mg (not for children or those with contraindications)

Add oral metoclopramide 10 mg (in adults) or oral promethazine 1.1 mg/kg (maximum 25 mg) if significant nausea or vomiting is present

Add omeprazole for gastroprotection in those with history of peptic ulcer disease.

A short acting sedative for a few days

Avoid opioids in acute migraine treatment as they worsen nausea and vomiting.

Patients who use analgesics for migraine two or more times every week will need prophylaxis with:

* First line: beta blocker (propranolol, atenolol or bisoprolol)
* Second line: amitriptyline
* Third line: sodium valproate.

For emergency treatment of patients with severe headaches or unable to tolerate oral medications:

* IM Diclofenac 75 mg stat
* IM Chlorpromazine 25 mg or IM Metoclopramide 10 mg stat (adults only. Beware acute dystonic reactions)
* Continue with oral therapy

**Tension-type Headache**

If episodes are two or less per week:

* ibuprofen 400 – 600 mg up to 4 doses in 24 hours or
* aspirin 600 – 900 mg (not for children or those with contraindications)
* Add omeprazole for gastroprotection in those with history of peptic ulcer disease.
* Advise to stop drugs once pain is relieved.

For more frequent episodes or chronic type:

* Do not give NSAIDs (risk of medication overuse headache)
* Start amitriptyline 12.5 mg nocte. Titrate dose every 2 weeks until improvement or limiting side-effects occur (up to a maximum of 75 mg nocte).
* After sustained improvement for 4 months, gradually taper off dose.

Reassure the patient on the nature of the headache.

Counsel on the need for regular exercise and stress management. Non-depressed patients on amitriptyline may require reassurance that they are not been managed for depression.

Avoid opioids.

### Children

**Evaluation of headache in children**

Head is the most common complaint in children. The prevalence of headache in children before 12 years is similar among boys and girls. After 12 years its prevalence is higher in girls.

Childhood headaches are rarely caused by serious underlying disorders. Most children with headaches have either viral infections or upper respiratory tract infections. However more serious conditions are occasionally diagnosed. Primary headaches and infectious aetiologies are also common.  Migraine is the most frequent acute-episodic headache in childhood.

Evaluation of headache in children begins with a good history and a thorough physical examination.

Ask for the following in the history.

* Age at onset (Migraines begin in first decade).
* Mode of onset (abrupt or insidious)
* Headache patterns, (acute, acute recurrent or chronic)
* How often does the pain occur
* When does the pain occur
* What is the headache quality (throbbing/pulsating, dull aching, squeezing, etc.)?
* Location of the pain.
* What makes the headache worse
* Make makes headache go away.
* Any associated symptoms.
* Past medical history (sickle cell, coagulopathy, immunodeficiency etc.).
* Use of medications
* Family history of headache

Important aspects of the physical examination in a child with headache include:

* General appearance
* Vital signs (temperature, Pulse, BP)
* Anthropometry (head circumference, weight and height)
* Auscultation of the neck for bruit
* Palpation of the head and neck for signs of trauma
* Visual fields and fundoscopy.
* Otoscopy
* A complete neurological examination including the spine.

When the physical or especially the neurologic examination is abnormal, secondary headaches must be considered and the examination findings may provide clues to diagnosis.

**Investigation of headache in children**

Decisions regarding neuroimaging in children with headaches should be made on a case-by-case basis (CT vs. MRI)

Children with red flag signs and symptoms should undergo neuroimaging.

Neuroimaging is also indicated for severe headache in a child with an underlying disease that predisposes to intracranial pathology (e.g., immune deficiency, sickle cell disease, neurofibromatosis, history of neoplasm, coagulopathy and hypertension)

Laboratory investigations are rarely helpful in the evaluation of children with headaches. A FBC may be helpful. EEG and toxicology screens are not available.

Children in whom intracranial infection or subarachnoid haemorrhage is suspected should undergo lumbar puncture. At least fundoscopy be performed before LP. The ideal thing is neuroimaging before LP.

**The treatment of childhood headache** depends on the underlying aetiology. Some management components of recurrent headache disorders include:

* Educating the child and family about the headache
* Avoidance of triggers of headache.
* Daily exercise where applicable
* Address co-morbid conditions and sleep problems.
* Additional non-pharmacologic treatment include: cognitive behavioural therapy, physical therapy, acupuncture etc.

The use of acute medication is a key component of treatment. Mild to moderate attacks may be treated with oral paracetamol 15 mg/kg 3 -4 times per day or ibuprofen 10 mg/kg 3 times per day.

The indications for referral may include the following:

* Secondary headache requiring specialist management
* Headache associated with mood disturbance and anxiety
* Uncertain diagnosis
* Headache refractory to initial management
* Need for more intensive management.

**Diagnoses Not To Miss (Investigate and manage urgently)**

* Intracranial tumours: morning headache with nausea or vomiting, focal neurologic deficits, seizures (do CT scan)
* Meningitis: fever, neck stiffness (do lumbar puncture)
* Subarachnoid haemorrhage (SAH): neck stiffness, worst ever headache (do CT scan ± lumbar puncture)
* Giant cell (temporal) arteritis: older patient with scalp tenderness, jaw pain when chewing, firm palpable temporal arteries (Do ESR if suspected; treated with steroids)
* Primary angle-closure glaucoma: unilateral painful red eye of sudden onset with blurred vision (refer to the eye hospital urgently)
* Idiopathic intracranial hypertension: Usually adolescent or young adult female with bilateral blurred vision, vomiting (Fundoscopy – bilateral papilloedema, refer to the eye hospital)
* Chronic carbon monoxide poisoning: Blurred vision, fatigue, nausea, vomiting. Ask for history of indoor exposure to wood fires and kerosene stoves. Gas cookers producing yellow/orange flames (instead of blue) also increase this risk. (Counsel on risk and advise to discontinue exposure)

## References

British Association for the Study of Headache. Guidelines for All Healthcare Professionals in the Diagnosis and Management of Migraine, Tension-Type, Cluster and Medication-Overuse Headache. 3rd ed. 2010

Bonthius DJ, Hershey AD.headache in children: Approach to evaluation and general management strategies. Uptodate. April 2020.

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