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## Headache types, causes and treatment

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### Abstract

Headache is pain that arises in the head, scalp, or neck, and the main cause of headaches of all kinds is unknown, and most people can improve if a quiet lifestyle is changed either by getting used to and adapting to relaxation or by taking medications for it. Headaches may be caused organically as a result of a light blow to the head or due to fever, tumors, sudden rise in pressure and eye disorders such as conjunctivitis and others, or caused by inflammation of the sinuses, and otitis media may cause headaches, and perhaps problems Teeth, constipation, and premenstrual symptoms are causes of headaches, and each case is treatable according to the diagnosis and supervision of the specialist doctor.

**Keywords:** headache types, main causes, medications

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### Introduction

Headache is one of the common and very important symptoms that all people face frequently in their lives, and it can be described as a feeling of pain that leads to discomfort in the head or scalp area, and may extend to the neck area. The headache pain is often severe, in which the individual may lose his focus or ability to perform most of the usual daily tasks, which forces the individual to use all methods to treat it. About (95 %) of the general population have experienced headache at several stages in their life with a (1 year) dispersals of nearly one in two adults <sup>[1]</sup>. Headaches are classified into several types, including tension headaches, which are caused by stiffness that occurs in the muscles in the shoulders, neck, scalp or jaw. And among the causes of headaches are stress, depression and anxiety, and headaches may be caused by a lot of work or due to lack of sleep, and sometimes it is due to eating or drinking alcohol or excessive use of narcotic pills. Eating tyramine in chocolate, cheese and nuts, as well as monosodium glutamate, which is placed in canned meat, are all harmful substances that may generate headaches. And that people who take caffeine with tea, coffee and cola feel headaches, especially when they take daily doses they are accustomed to taking. Exposing the sensitive areas of the head to external and internal influences such as the brain, eyes, and ears, as well as the bones of the skull, facial muscles, sinuses, arteries, and others lead to headaches. Patients often adopt for using several approaches at various times and being able to employ this flexibility resorts to progress treatment outcomes <sup>[1, 2, 3]</sup>. All of these organs, if exposed to a certain effect, will be a cause of headache, and there are some organs far from the head that can provoke a headache attack if they are exposed to some stimuli. On this basis, headaches are classified into forms and types. Headaches may be intermittent, generate and then go away, or persistent, always present. A person may experience headaches frequently, monthly, weekly, or daily. The headache may remain for several hours, varying in intensity between mild pain or moderate pain to feeling severe and harmful pain. The pain may be in the forehead area or near the eyes, and at other times it may be in the back of the head, and it may be generated in a fissure of the face or in both. The headache may be accompanied by nausea and vomiting, as well as confusion or lack of vision and bad mood. Some patients shown perfection with vestibular rehabilitation physical therapy, affecting they can afford it <sup>[4]</sup>. The treatments for headaches varied according to its type, severity, and the amount of pain generated by it. In most cases, the reason is to take paracetamol, and sometimes aspirin is the appropriate treatment to get rid of headache pain, while it has spread in the present time to take panadol in severe cases by the patient who He suffers from headaches, and there are other cases of headaches for which he uses other treatments according to the diagnosis of the specialist doctor. In the event that the headache has been born for some reason, the body can be eliminated as soon as the cause is treated. Headache is considered one of the multi-caused diseases, as its causes are varied according to the psychological trauma or other diseases that a person is exposed to, whether physiological or non-physiological. But it is possible to treat it according to the diagnosis of the condition and the conditions that the patient is going through, as well as according to the complications that the patient may suffer from, some of them are what Panadol is used for its treatment and some of it is Paracetol for its treatment, and some of it is used for other treatments, and all treatments must be given to the patient According to the opinions and recommendations of the doctor after diagnosing the disease.

### Headache Types

Headaches are classified into two main types, primary headaches and secondary headaches, and each type is classified into different subtypes according to the different causative factors. Headache related directly with central nervous system happens at any part of head some time completely or migraines and other times in the neck as shown in figure no-1. The severity of the headache varies among the injured according to the different condition that the patient suffers from. It may be a simple headache that comes for a temporary period and then fades away gradually, or it may be severe and difficult depending on the degree of complexity that arose because of it.



**Fig 1:** To show the net of headache by white color in head (complete and migraine), and neck

Patients taking simple analgesic medicines are few likely for responding to sharp preventive treatments, and hence stopped of the over used medicine is the first-priority in all cases <sup>[5]</sup>.

Below is a breakdown of the diversity of these different types of headaches:

#### 1. Primary Headache

This type of headache occurs as a result of the excessive activity of the muscles in the head area, as well as the neck, blood vessels, or another specific area in the brain, and sometimes due to a change or disturbance of the chemical substances and elements in the brain. Its types include:

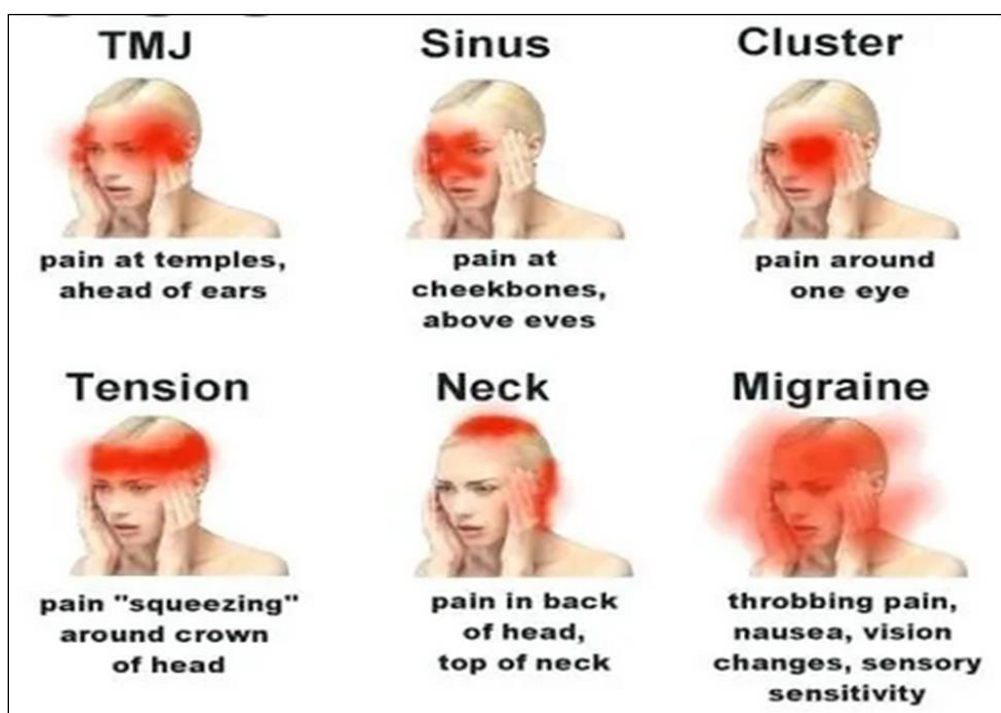
- **Tension headache:** Tension headache is pain that occurs in the head as a result of muscle tension in the neck or scalp area, and this type of headache is one of the most common types, and it often occurs as a result of wrong head positions or due to tension.
- **Migraines headache:** Migraine headaches cause severe pain to the patient and this pain is throbbing, and usually focused on one side of the head, and migraine headaches occur in the form of attacks of varying duration and intensity. The effect on an individual's fineness of life is hard to quantify with (75 %) of patients reported functional disabilities through a migraine attacked, and (50 %) required the helping of all family\ friends with a major impact on their social-life (3). Migraines are also divided into several types according to their causes, and they can affect children and adults. Studies and research are still underway to accurately search for the causes of left and right migraines, but it is not known exactly now, but there are a number of factors that directly contribute to stimulating a migraine attack in a patient, including fluctuating hormone levels in the body, which is a common cause. Women have more than men.
- **Cluster headache:** Cluster headaches cause attacks of pain for the patient, and these attacks are repeated many times a day for a period of a week or more, and then followed by a long period of time that may last for years in which the patient does not suffer from pain in the head throughout this period. An intense cluster offense reply's quite for injectable or nasal-sumatriptan, or nasal-zolmitriptan unless contraindicated <sup>[6]</sup>. As for the causes of cluster headaches, the main cause of cluster headaches is still unknown, but it is believed that the hypothalamus gland located at the base of the brain may be responsible for its occurrence, due to its sudden release of histamine and serotonin in the brain.

## 2. Secondary Headache

Secondary headaches are associated with a number of medical conditions that cause headaches, as a result of exposure to it, causing the following headaches, and they include several types, including:

- **Sinus headache:** It is a headache that causes pain whose main source is inflammation or swelling of the tissues lining the sinuses.
- **Spinal headache:** This type of headache occurs as a result of slowly leaking cerebrospinal fluid, and most often it occurs during a spinal tap, or during spinal or epidural anesthesia.
- **Headache of tumor and cerebral hemorrhage:** There is not enough space inside the skull to accommodate tumors or bleeding, so the growth of tumors, both benign and malignant, causes, and as is the case in the case of blood pooling when a fake inside the skull creates pressure on the brain tissue, which causes a feeling Headache.
- **Cervical headache:** This type of headache is caused by damage to the discs between the vertebrae of the spine, which causes abnormal pressure on the spine, and this degeneration of the discs usually causes pain in the neck and head area.
- **Sudden thunder headache:** It is a severe pain that occurs suddenly without warning and continues for a short period of up to five minutes, and this type of headache can indicate the presence of a specific problem that has been exposed to the cerebral blood vessels, and this requires the need for medical care, the necessary emergency and monitoring the case after presenting it to the specialist doctor in order to control and treat it by giving the appropriate treatment to the patient who has this type of headache.
- **Meningitis headache:** Meningitis occurs as a result of infection of the membranes surrounding the spinal cord and brain and lining the skull. These membranes are known as meningitis.
- **Headache or neck trauma:** This type of headache is caused by head and neck injuries. And these injuries are caused by accidents such as falling from a high place, or car accidents, which leads to headaches.
- **Rebound headache:** It is a headache that can occur due to the long-term daily use of pain relievers such as acetaminophen, aspirin, as well as ibuprofen, leading to headaches as a reaction to reducing or stopping the use of these drugs.

Each type of headache leads to pain in a specific area of the head or neck, according to the severity and the extent of the impact, so figure no. 2; illustrates this, and the reason is due to the type of factor that led to the headache.



**Fig 2:** To show headache types and location

### Causes of Headaches

The causes of headaches and the risk factors resulting from them vary according to the type of pain experienced by the affected individual, and a person may suffer from more than one type of headache at the same time, and what should be noted is that the brain does not contain nerve fibers, This means that the pain is not in the brain itself, but rather occurs as a result of a certain defect in the body, for example, a migraine occurs due to irritation or inflammation of the structure surrounding the brain itself, thus affecting the most important functions performed by the brain, causing headaches. It might increase pains starting by regulated the secretions of

endogenous-opioids that act as analgesic effects. It has been limited that endogenous-opioids, such as enkephalins, endorphins, and dynorphins, which binds to opiate receptors in brain, and neuron terminals for causing the analgesic effectives, and regulated human emotions [7, 8]. The causes of headaches vary between simple causes that can pass and end, and severe causes that are dangerous that require immediate medical intervention in order to treat and get rid of them. Possible headache causes include the following:

- **Systemic diseases:** These include a group of medical conditions, changes in blood circulation, an imbalance in the blood flow process, or exposure to shock that leads to headaches.
- **Chemical changes:** Occur as a result of excessive and irregular use of medicines without consulting doctors, or drug abuse and abrupt cessation of its use and quitting.
- **Viral infection:** Viral infection is a major cause of headache as it leads to cumulative symptoms that affect all body systems, the most important of which is the immune system, for example, HIV infection (AIDS).
- **Encephalitis:** or what is known as stroke, arterio-venous malformation, subarachnoid hemorrhage, and carotid arteritis, in which headaches occur as a result of idiopathic intracranial pressure.
- **High blood pressure:** High blood pressure is one of the most important causes of headaches, as it is linked to the circulatory system on the one hand and the central nervous system on the other.
- **Hypothyroidism:** It is known that any defect in the secretory functions related to hormones and enzymes, the glands that secrete them, leads to headaches as a result.
- **Dehydration:** Dehydration is one of the causes of headaches due to the absorption disturbance in cells and the imbalance of their osmosis, as well as the imbalance that may occur in the acid function.
- **Ear, nose and throat problems:** They are considered one of the direct causes of headaches as they are part of the head. Any problem that you get will generate headaches from it.
- **Dental pain:** being directly related to the skull bone, head nerves, and muscles and tissues of the face and jaws.
- **Eye problems:** the other ones that are directly related to the head, from which one feels any defect that occurs in both eyes or one of them, such as iritis and glaucoma.

### Headache Symptoms

Headache symptoms vary according to the different type of head pain, and the differences between the symptoms of different types of headaches help to identify the type of headache and determine the most important causes, and the following is to identify the headache symptoms that occur in the most common types of headaches:

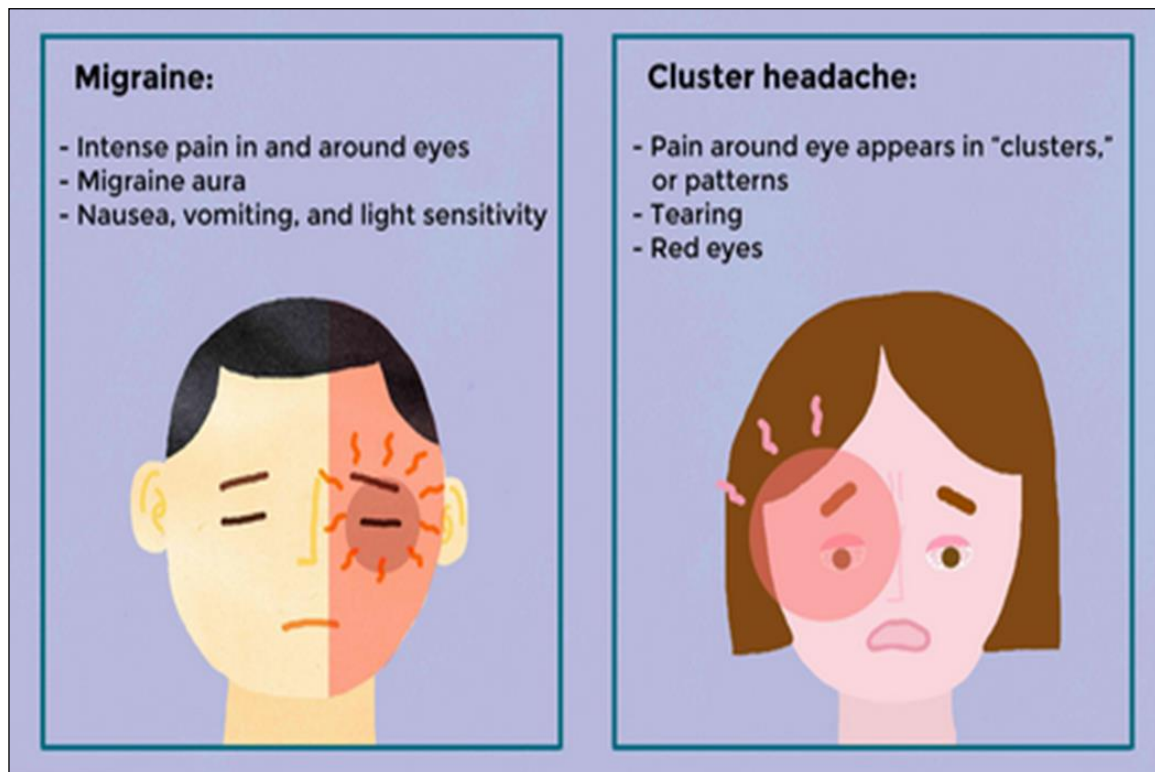
- **Symptoms of tension headache:** It includes mild or moderate pain on both sides of the head, and the neck also includes pain, in addition to the feeling that there is heaviness around the head.
- **Symptoms of cluster headache:** These symptoms include pain in the cluster head and pain around or behind one eye, redness and excessive watering of the eyes, stuffy and runny nose, as well as narrowing of the pupil in one of the eyes, eyelid drooping, and facial sweating.
- **Migraine symptoms:** These symptoms include pain accompanying a migraine attack with sensitivity to light and sound, changes in vision, nausea accompanied by vomiting in some cases, as well as dizziness, and a feeling of high pressure in the eye area or the area above the eyebrow.
- **Rebound headache symptoms:** These symptoms are congestion in the nasal passages, with insomnia, pain in the neck area, and a feeling of fatigue.

### Symptoms of Secondary Headache

Secondary headaches are accompanied by many uncountable symptoms, and vary according to the number of cases that caused them. It is good to understand if this is a modern headache to patients, or if they have had a same headache in the previous. The follow step is to eliminate every potential red-flag symptoms [9]. These accompanying symptoms that may indicate the presence of a medical emergency, such as subarachnoid hemorrhage or stroke, are as follows:

- **Headache:** It occurs suddenly, which may worsen when doing some activities such as bending over, exerting physical effort, or the occurrence of some pathological conditions such as coughing.
- Some changes in vision, or disturbance in perception, behavior, or even speech.
- A headache different from what was used to it in the past.
- Pain that appears after a fall or head trauma.
- Head pain is associated with convulsions or muscle spasms, and seizures such as epileptic fits.
- Persistent nausea or vomiting.
- Feeling weak and numb on one side of the body, which is a symptom of a stroke.
- Pain generated by a change in a person's quality of life and ability to perform daily tasks.
- Pain arising due to not responding to treatment, or that worsens after taking some kind of inappropriate treatment.
- Pain that is generated by taking more than the recommended dose of pain reliever treatments that can be obtained without consulting and going to specialist doctors.

There are a simple example some symptoms of headache, in figure no. 3; showing the symptoms of headache that affects vision as compare between migraine and cluster.



**Fig 3:** To show the symptoms of headache that affects vision

### Headache Treatment

The methods of treating headaches differed from one patient to another according to the type of headache that the patient suffers from. It is very important for recognition relevant symptom blends that propose common primary headaches, or medicament overuse headache [10, 11]. It is possible to control most headaches, both primary and secondary, including headaches that occur in the back of the head or pain in the area above the head with rest, and the use of appropriate non-prescription pain-control treatments, such as acetaminophen or paracetamol and ibuprofen. The medical condition that caused the secondary headache must be treated in order to get rid of the headache completely, such as headache caused by sinusitis. In cases of severe primary headaches, the appropriate treatment for a headache depends on knowing some details such as the patient's medical history, pain patterns, in addition to a complete physical examination and also laboratory in order to determine the type of headache that most people suffer from, and then choose the appropriate treatment path and the necessary medications for treatment. Headache treatments have be prevention and sharp, pharmacological, and non-pharmacological too [12].

### Headache Treatment at Home

There was slightly differences ( $P < 0.05$ ) between treatment-group, and control-group [13]. It is possible to control mild and moderate headaches by practicing some necessary steps at home, examples of which are the following:

- Doing light and moderate exercise at regular times, which helps in the production of some basic chemicals in the brain that have a relaxing effect and a feeling of happiness.
- Use hot compresses or take warm baths for (5 to 10) minutes, especially in cases of headaches caused by muscle spasms, but it is necessary to avoid using warm compresses in cases of headaches that are considered severe, and that require consulting a specialist doctor in order not to be it has a negative effect instead of a positive.

### Conclusion

Headache is one of the serious diseases that most people suffer from, and the study around it is renewed and continuous, as it is caused by a specific disease in the body or a group of diseases that the individual is exposed to through the exercise of his activities in daily life. Therefore, light was shed on the types of headaches and the most important causes that result from them and ways to treat them.

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