Is My Headache Dangerous?

The Guide to Serious Headache Symptoms Dr Raeburn B. Forbes MD(Hons) FRCP Ed FRCP Lond Consultant Neurologist Author of The Billionaire's Book of Headaches



Introduction

Important Headache Symptoms You Cannot Ignore

THE PATTERN OF SYMPTOMS TELLS US WHAT IS GOING ON

Most people with headaches never see the doctor about them. They correctly work out a solution to these headaches, realise that they are nothing to worry about and a few hours later feel absolutely fine.

If you start to get headaches on a daily or weekly basis, it is less easy to ignore the symptom.

Worse still if headaches stop you from doing what you want to do, you want answers - fast!

This short guide will let you discover the headache symptoms you cannot ignore, and patterns of symptoms experienced by people who have a serious cause for headaches.

As a general rule - Dangerous Headaches are **NEW** headaches of very **RECENT** onset in someone who has **NEVER** previously had a headache. A Dangerous Headache can sometimes happen to someone who has

previously had Migraine or Tension-Type Headache - but the key feature is that the headache is NEW and is VERY DIFFERENT from what went on before.

Headaches that have happened again and again for years will not (in almost all cases) be dangerous. A useful cut off is 6 months - as long as your neurological and eye examinations are normal, and none of the significant features mentioned in this guide are present.

Most people with headache who want medical advice have Migraine, and do not have a serious cause.

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Using This Guide Safely

Always seek medical advice for symptoms causing you concern

THIS IS AN EDUCATIONAL RESOURCE - IT IS NOT A SUBSTITUTE FOR MEDICAL CARE

Is My Headache Dangerous shows you how an experienced neurologist works out if there is a serious cause for headache from someone's symptoms.

The reality is that most people who see a doctor with headache have one of 3 symptom patterns - Migraine, Tension-Type Headache or Ice-pick Headache. All 3 symptom patterns can happen in the same person at the same time or different times.

On average, Tension-Type Headache affects about 50% of people during their lifetime. For Migraine it is a 12% chance, and for Ice-pick Headache it is at least 2% (one report said 30% - but all I'm saying is that it is very common).

Is My Headache Dangerous is about symptoms not related to these common headache types, but completely new headache symptoms in people who have **never** previously had headache. The other scenario is a person who does have Migraine, Tension-Type Headache or Ice-pick Headache who gets a completely new and **DIFFERENT** headache that is unlike anything they have previously had.

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Overview: Headache Symptoms That Matter

Patterns of Headache needing prompt medical attention

MOST PEOPLE WITH THESE WILL PRESENT TO AN EMERGENCY ROOM

Here is a summary of the important headache patterns and we will go through these one at a time.

- 1. Thunderclap Headache
- 2. New Onset Headache with a New Onset of Fever
- 3. Headache with Progressive Neurological Symptoms or Signs
- 4. New onset persistent headache
 - a. Postural Type (Orthostatic)
 - b. Exercise Induced
 - c. Cough Induced
 - d. With Pulsatile Tinnitus
 - e. With a Previous History of Cancer
 - f. With Known HIV Infection
 - g. With loss of menstrual cycle / loss of libido
 - h. With weight loss and scalp tenderness
 - i. In wintertime or after electricity black out
 - j. Over the age of 50 having never had headache before
 - k. Severe headache with a Body Mass Index over 40
- 5. A Chronic Headache that is completely out of control

Thunderclap Headache

Sudden Severe Headache Completely Out of The Blue

RUPTURE OR CLOTTING OF BRAIN ARTERIES AND VEINS ARE THE MOST COMMON SERIOUS CAUSE

What is Thunderclap Headache?

This headache symptom is a severe headache which appears very suddenly and is at its **worst** from the very start. Up until that point you will have never had any previous significant headache of this intensity.

In Thunderclap Headache you experience a very severe pain - usually affecting the whole head - which is at its worst as soon as it started. This head does not build up over hours like a Migraine. Usually the pain is at its peak within 2 seconds1....2......BOOM!

Think of the sound of thunder during a storm - suddensevere....out of the blue....frightening.

A Thunderclap Headache will usually persist for several hours before settling down.

If at the start of Thunderclap Headache you black out (lose consciousness) or vomit, then there is an increased risk of a serious cause such as a brain haemorrhage.

What Causes Thunderclap Headache?

The most serious cause of Thunderclap Headache is rupture of an an artery inside the head causing 'Subarachnoid Haemorrhage'. Most people with 'Subarachnoid Haemorrhage' will have had a rupture of a weakness in the artery called a 'Berry Aneurysm'.

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Someone who gets Thunderclap Headache needs to seek IMMEDIATE medical advice, and would normally need a CT Brain Scan urgently. If a CT Brain Scan does not identify the problem a Lumbar Puncture is performed in most cases.

The risk of a dangerous cause in someone with Thunderclap Headache is about 10%. In 90% of cases a non-dangerous cause or no cause is found.

When no cause is found this is called 'Primary Thunderclap Headache".

There are over 100 different causes of Thunderclap Headache known, and the most dangerous causes involve disease of the blood vessels (arteries and veins) in the head and neck.

The common vascular causes include subarachnoid haemorrhage, reversible cerebral vasoconstriction syndrome, venous sinus thrombosis and dissection of carotid or vertebral or basilar arteries.

Non-vascular causes include Pituitary Tumour, Meningitis of any type, and Pneumocephalus. In older people a Heart Attack will occasionally cause a sudden intense pain that is felt in the head instead of the chest.

What is the most important thing to know about Thunderclap Headache?

When trying to assess Thunderclap Headache it is really important to know how long it took from the start of a headache until the time the headache reached its worst.

In Thunderclap Headache this is usually about 1-2 seconds. This severe pain will usually last at least one hour, and when a serious cause is present the severe pain can persist for many hours or until it is relieved by treatment in hospital.

The Difference between Thunderclap Headache and Ice-Pick Headache

Do not confuse Thunderclap Headache with a Neuralgic pain such as an Ice-pick Headache. In Ice-pick Headache also cause sudden severe

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headache that is at its worst from the start. However, Ice-pick Headache usually affects a small part of the head only - most commonly in or around one eye - and only lasts a few seconds. It is very brief. A Neuralgic pain also appears very suddenly, but it is away as quick as it came - seconds only.

After an Ice-pick Headache, some people will report a dull ache for an hour or so after that feels like Tension-Type Headache. People with Migraine will often get Ice-pick Headaches and if they have a few in quick succession, they may start to feel a typical Migraine building up.

It is very important to make this distinction, as Ice-Pick Headaches are very common - maybe 20,000 people per million get Ice-Pick Headaches each year. Thunderclap Headache affects about 400 people per million per year, of which about 40 people per million have a serious cause.

Repeated Episodes of Thunderclap Headache

Some people will get repeated bouts of Thunderclap Headache. These can be provoked by emotion, exertion or a specific scenario like having a very hot bath. Sexual Activity can also cause repeated attacks of Thunderclap Headache. Repeated Thunderclap Headache usually does not have an underlying cause after investigation, but if a cause is found it is usually a spasm of brain arteries called 'Reversible Cerebral Vasoconstriction Syndrome'. It is estimated that about 60% of people with Thunderclap Headache - who have not had brain haemorrhage - will have Reversible Cerebral Vasoconstriction as a cause.

Thunderclap Headache that is One Sided Only

A sudden severe headache that only affects one side of the head also requires investigation. The likely cause may depend on the location of the pain and the examination findings. A sudden onset of severe pain in the forehead or eye with a drop in the position of the eyelid can indicate a tear in the Internal Carotid Artery - called Arterial Dissection. People may

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actually describe a ripping sensation in the head or neck at the start of the pain. The pain that persists is often throbbing in nature and can feel really severe.

If a similar pain occurs in the back of the head, then the artery at the base of the skull called the Vertebral Artery may have torn - called Vertebral Artery Dissection.

While most people with dissection make a full recovery - the artery heals itself up - a tear in the lining of an artery increase the risk of stroke. Some types of dissection can also lead to a rupture of the artery causing brain haemorrhage. This is another reason why sudden headache - even if one-sided - should be investigated as an emergency.

Even more important is if a sudden, one-sided headache is immediately followed by symptoms of weakness, speech loss or visual loss - as this could mean that a stroke has occurred. Immediate medical attention is needed.

Many people with sudden, one-sided headache have normal tests. In this situation the most likely cause is pain referred from a bony structure of the head or upper neck - for example the jaw joint -TemporoMandibular Joint (TMJ) or Upper Cervical Spine. Pain referred from the upper cervical spine is called Cervicogenic Headache and some people call it Occipital Neuralgia.

Summary

Thunderclap Headache is a sudden, severe, maximum-at-onset headache which occurs completely out of the blue. It has a 10% risk of a dangerous cause, the most important of which is a brain haemorrhage. There are over 100 causes of Thunderclap Headache - so this symptom requires immediate medical attention.

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A one-sided sudden headache can be due to a problem with neck or jaw joints but a tear in a carotid or vertebral artery called arterial dissection needs ruled out.

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New Onset Headache with New Onset Fever

The most serious cause is Bacterial Meningitis

VIRAL ILLNESSES ARE THE MOST COMMON CAUSE

Dangerous Causes of Headache and Fever

The most serious cause of a new onset of headache with a new onset of fever is an infection of the brain lining called Meningitis. For every 10 people with Meningitis, 9 will have 'Viral Meningitis' and 1 will have a much more dangerous cause called 'Bacterial Meningitis'.

Most people with Viral Meningitis will make a complete recovery.

In Bacterial Meningitis about 30% will be left with a significant neurological problem and the risk of death is about 10%. This is why suspected Bacterial Meningitis must be treated as an emergency, as early treatment reduces the risk of harm.

In Viral Meningitis the headache usually follows a day or two of feeling run down - like you have a viral illness. The pain in the head can build up at the same time, or after a few days of feeling unwell you can experience a much more sudden build up of pain.

Neck stiffness is also a common symptoms that accompanies the headache.

At the same time, you will feel very hot and may have other symptoms of a viral illness eg aching limbs, sore throat, cough, nasal congestion.

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The headache of Bacterial Meningitis is also a progressive headache. However most people with Bacterial Meningitis will develop the headache over a few *hours* before feeling so ill that they must get help. Half of people with Bacterial Meningitis will be in hospital within 24 hours of their first symptom.

Bacterial Meningitis is a much more severe and dangerous headache than Viral Meningitis and immediate antibiotic treatment is required.

95% of people confirmed as having bacterial Meningitis will have at least 2 of the following 4 symptoms: headache, neck stiffness, fever or altered mental status.

Other important symptoms that can appear alongside the headache of Bacterial Meningitis include: weakness, rigors, extreme exhaustion, rash.

People with any type of Meningitis can get a sudden severe headache - like the Thunderclap Headache described in the last chapter.

Unfortunately there is no easy way to rule out Meningitis in an emergency situation without doing a Lumbar Puncture Test. Most people will also require a CT Brain scan.

What does the headache of Meningitis Actually Feel Like?

The pain of Meningitis is usually very difficult for the patient to describe - it is just very severe and will feel like the worst headache they have ever had. It can described as a pressure - like the head wants to burst. It can also be a severe all-over throbbing pain.

Almost everyone with Meningitis will say that it is sore to look at light - called Photophobia. The pain of Meningitis can sound like Migraine, but in Meningitis there is a fever present.

Usually the whole head is involved - it is not common for Meningitis to only affect one side or one part of the head.

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A common observation is that people with Meningitis do not often get significant relief from standard painkillers - at which point medical advice is usually sought.

If Meningitis of either type is suspected then immediate investigation is necessary - this is a reason to attend an Emergency Room.

Telling the difference between Migraine and Meningitis is difficult. Many people with Migraine will have had the experience of being admitted to hospital with a severe Migraine to then undergo tests for Meningitis - a CT Scan of Brain and Lumbar Puncture.

Both types of headache are severe, throbbing and make you want to avoid light. Vomiting can occur in Migraine and Meningitis too.

If someone develops a pattern of headache in keeping with Meningitis for the first time ever then it is an easy decision to proceed with treatment and tests for suspected Meningitis. In someone with a previous history of Migraine it is less straight forward, but f in doubt it is inevitable that a doctor will lean towards managing such a headache as Meningitis until they can rule it out.

Systemic Illness Headache

Fortunately, most people who get a new onset of headache and at the same time a new onset of a fever (High Temperature) do not have Meningitis. They will have an infection which will go away itself. This is called 'Systemic Illness Headache'.

A common cause would be Influenza (The 'Flu'), various types of pneumonia or upper respiratory tract infection. The headache will usually feel like a pressure or throbbing pain. The clue that it is not Migraine or Tension-Type Headache is that there is a high temperature that has appeared alongside the pain. As the fever settles, so does the headache.

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As many as 80% of people with a significant infection outside of the nervous system will report headache during their illness.

Summary

Meningitis Headache is a new onset headache with a new onset of fever. The pain affects the whole head and is usually accompanied by neck stiffness, photophobia (worse when you look at light) or a change in mental status.

Meningitis Headache can happen all of a sudden, but usually builds steadily over several hours or a day until it is completely unbearable.

Suspected Meningitis is a medical emergency and immediate medical attention at an Emergency Room is advised.

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Headache with Progressive Neurological Symptoms or Abnormal Neurological Signs

Most people with focal symptoms and headache have Migraine

A NEW HEADACHE WITH ABNORMAL NEUROLOGICAL SIGNS NEEDS INVESTIGATED

What is a focal neurological symptom and what is a focal neurological sign?

A focal neurological *symptom* is a symptom caused by abnormal activity in the nervous system. Examples of focal neurological symptoms include - blurred vision, double vision, tingling or numbness, weakness of face, arm or leg, vertigo or loss of speech.

A focal neurological *sign* is an abnormality of body function observed by a doctor during a neurological examination. Examples of neurological signs are changes in patterns of eye movement, the shape of the pupils, position of the eyelids, the shape or colour of the optic disc or retina.

How the face muscles, arms or legs move, or how the reflexes react are also examples of neurological signs.

A neurological and eye examination is a very important part of assessing a person with headache, as any new headache that is accompanied by abnormal neurological signs needs to be explained or investigated further.

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The Most Common Cause of Headache and Focal Neurological Symptoms is Migraine with Aura

About 12% of all adults will experience Migraine at some point in their lives. About 1 in 5 people with Migraine will experience Migraine Aura. This means that 1 person in every 40 will experience Migraine Aura ($1/8 \times 1/5 = 1/40$).

In Migraine Aura there is a gradual build up of visual loss, abnormal sensation, weakness or speech disturbance over 5-20 minutes, which can last another 20-120 minutes before settling back down again.

About 1 person in 5 with Migraine will experience Migraine Aura from time to time. Migraine Aura can happen just before the pain of a Migraine Headache, but can also happen on its own between Migraine Headaches (called Isolated Migraine Aura).

Migraine Aura is due to a protective electrical change in the surface of the brain called 'Cortical Spreading Depression'. This protective response spreads slowly across the surface of the brain and is now thought to be the reason for Migraine Aura.

Migraine Aura with Headache is not dangerous. Someone who only ever gets Migraine Aura and NEVER has any headache will need investigated further, as Migraine Aura on its own - especially if it appears in later life - 60's or older - can be a symptom of a focal brain disease such as a minor stroke.

What pattern of Headache with Focal Neurological Symptoms is dangerous?

Headaches with progressive neurological symptoms are dangerous when the neurological symptoms start slowly - maybe over several weeks and continue to get progressively worse. With each passing week there is worsening loss of vision, loss of speech, weakness or confusion.

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A progressive focal deficit like this can be a symptom of Brain Tumour or an infection of the brain called encephalitis. A blocked vein within the head - called cerebral venous sinus thrombosis, can also present with this pattern of symptoms.

The headaches experienced by people with Brain Tumours, encephalitis or blocked veins in the head can all sound just like Tension-Type Headache - eg an intense pressure, and will sometimes throb. Nausea or intolerance of light can sometimes occur.

So how can I tell the difference between Migraine Aura and Brain Tumour?

You may be asking - well that all sounds like we cannot tell the difference between a Migraine and a serious brain disease! The difference between is **not** the nature of the headache - it's the nature of the **focal** neurological symptoms that come along with the headache.

Migraine Aura will build up over minutes, last minutes to an hour or two, then settle. The focal neurological symptoms of a progressive disease will start over hours to days, building to their worst over days to weeks and when examined, a doctor will identify abnormal signs, or be sufficiently concerned about the progression of symptoms that tests are arranged.

New Onset Headache with Short Lived Focal Neurology

Some people will develop a focal symptom a bit like this: the hand or foot will start to claw or tighten, and then within a few seconds start to shake or stiffen. The shaking or stiffness can spread from foot to hand, or hand to foot or even to one side of the face. This pattern of movement would make me suspicious of a partial epileptic seizure.

A partial epileptic seizure, of new onset always needs investigated. In adults a partial epileptic seizure happening for the first time has a 10% risk of an underlying serious problem such as a Brain Tumour.

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Everyone with focal epileptic seizures needs to seek medical advice to get treatment to reduce the risk of further epileptic seizures.

What do Brain Tumour Headaches Feel Like?

The classic Brain Tumour headache is the headache of high pressure inside the head to the fact that a large Brain Tumour will start to take up too much room inside the head. The jargon term doctors use is an 'SOL" - a Space-Occupying-Lesion.

A classic 'SOL' headache is actually very rare.

People who have Brain Tumours and Only have Headache.

Only 2-8% of people with Brain Tumours will have headache - AND ONLY HEADACHE - by the time they are diagnosed. These tumours are usually causing a space-occupying effect i.e. a lot of brain swelling, or are blocking the flow of brain fluid.

Even then most Brain Tumour headaches sound like Tension-Type
Headache. They are of recent onset, and within about 8-10 weeks the
other sinister focal symptoms will have appeared. Long standing
headaches with no other symptoms and normal neurological and eye
examinations are not caused by Brain Tumours. In people with Brain
Tumours there is a significant clue on neurological examination - swelling
of the back of the eye, or an abnormal neurological sign affecting eye
movement, balance, speech or strength.

Only 1/16 Brain Tumours which present with headache have classic 'SOL' Headache. A classic 'SOL' headaches is a headache that wakens from sleep and causing unprovoked vomiting. As the day goes on - when you are up and about - the headache improves, only for it to be repeated the next morning. The reason a classic 'SOL' headache is worst in the morning is that pressure inside the head rises when you lie flat, so by morning time pressure reaches its peak and symptoms appear.

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Most people with Brain Tumours will see the doctor due to epileptic seizures or a progressive loss of neurological function like blindness, weakness or loss of speech that is getting worse day by day week by week over 1-2 months.

About 2/3rds of these people with progressive neurological symptoms due to Brain Tumours will have headaches, but headache is not their main concern - it's the loss of neurological function.

Most people with Brain Tumours describe pressure type pains in the head - which - you guessed it - sound like Tension-Type Headache. Some will even have Migraine-like headache.

It's not the headache that let's you tell the difference between a Brain Tumour and an 'ordinary' headache. It is the progressive worsening neurological problem accompanying the headache, or a neurological and eye examination which point to a more serious cause.

The Maths of Brain Tumour Headaches

Each year about 140 out of every million will suffer a Brain Tumour.

Of these about 2% will only have headache and nothing else - no focal neurology.

That means the chance of a new onset headache being due to a Brain Tumour is about 3 per million chance.

Tension-Type Headache will affect about 40% of the population each year. The chance of a new onset headache being Tension-Type Headache is about 400,000 per million.

A new onset headache is over 100,000 times more likely to be Tension-Type Headache than a Brain Tumour Headache. The risk is even smaller if you have a normal neurological and eye examination.

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Summary

A new onset headache with abnormal neurological signs needs to be explained or investigated.

A progressive focal deficit with a new onset headache needs to be investigated with a brain scan.

It is rare for Brain Tumours to present with headache and only headache.

People with Migraine Aura who have recovered from their aura and who have normal neurological examinations do not require brain scans.

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New Onset Persistent Headache

There are many different types of headache

THE GROUP OF HEADACHES MOST LIKELY TO HAVE AN UNDERLYING CAUSE IDENTIFIED AND TREATED

This group of headaches are all new onset, but there are particular features in the headache that provide a clue to the actual cause. These headaches are:

a. A New Onset Headache which is Postural

This is a new onset headache - usually affecting both sides of the head like an intense pressure or squeezing. What makes this headache notable is that when you lie down the pain goes away completely - within no more than a minute your head feels clear. When you go to sit up or stand up again within a minute it's back again - a tight, intense squeezing pain on both sides of the head. You lie down again the headache is better.

This pattern of new onset headache, which changes with posture is also called an 'Orthostatic Headache'. It is the classic headache of low pressure inside the head. Other symptoms that usually come at the same time are disturbances of hearing - tinnitus or distorted hearing, and very often there is neck pain or pain between the shoulder blades.

Diagnosis of low pressure requires specialist scans - a contrast enhanced MRI scan of the head is almost always abnormal, but the changes on a plain non-contrast MRI may be easily overlooked. A Ct Brain Scan is usually normal, unless the low pressure is so Is My Headache Dangerous?

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severe that it has caused a build up of fluid in the side of the head called sub-dural collections.

This headache is treatable in the majority of cases by a procedure called an epidural blood patch.

The danger with this headache is that it is completely incapacitating, yet if identified can be treated very effectively.

b. Exercise Induced Headaches

A Headache that is only ever brought on by exercise or straining should be investigated, as this type of headache has a 20% chance of an underlying cause. Exercise headache is provoked by physical activity, which could be anything from running, rowing, cycling, lifting weights or climbing stairs. Sexual activity can also provoke this pattern of headache - usually at the height of sexual excitement there is a sudden severe headache - similar to Thunderclap Headache.

An Exercise Induced Headache feels like an intense throbbing or pressure pain building up within seconds or minutes of starting exercise. An Exercise Induced Headache can also be sudden and maximum at onset - just like Thunderclap Headache.

The pain is usually on both sides of the head, or feels like the whole head is about to explode, and can last from 5 minutes to a couple of days.

In some people the pain evolves into a pain very similar to a migraine - throbbing quality of pain with intolerance of light, noise, smell or movement - in which case the term exercise induced migraine is used.

In people without a serious cause the headache is usually mild at onset and builds fairly slowly. In the more serious cases, the onset

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can be acute, severe and maximal at onset, like a Thunderclap Headache.

A first ever Thunderclap Headache which is brought on by exercise needs to be managed in the same way as a spontaneous

Thunderclap Headache - immediate medical attention in an

Emergency Room is required.

An Exercise Induced Headache needs investigated as it can be a symptom of either very high or very low pressure inside the head.

Causes of Exercise Induced Headaches

Most people with Exercise-Induced Headaches have several bouts of the headache before seeking medical advice. These headaches still need investigated. After several episodes the risk of a very serious cause such as brain haemorrhage is very small. After a first episode, especially if it was Thunderclap Headache, the risk of a dangerous cause is greater than in someone who has had several episodes.

In older people Exercise Induced Headache can also be a symptom of angina - that is heart disease and is called cardiac cephalalgia.

Older people with Exercise Induced Headaches should also be tested for heart disease (coronary artery disease).

The 2 most common causes of Exercise Induced Headaches are a developmental abnormality called Chiari Malformation and Low Intracranial Pressure (Spontaneous Intracranial Hypotension). The risk of finding one of these causes of an exercise-induced headache is about 20%.

If a cause is not found then the condition is labelled 'Primary Exertional Headache'.

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Headaches during sexual excitement are probably due to a type of brain blood vessel spasm called Reversible Cerebral Vasoconstriction Syndrome. A first ever episode of sudden headache during sexual activity will need immediate investigation to rule out more serious causes - similar to the approach with Thunderclap Headache. Repeated sudden headaches brought on by sexual activity do not often have a serious cause identified and get the label 'benign coital headache'.

c. Cough Induced Headaches

This rare pattern of headache goes like this: you are completely pain free until you cough. At the point of coughing there is a sudden and usually severe impulse of pain or pressure in the head - like being hit with a blunt object. You feel stunned briefly, and the pressure or pain settles down after about a minute. Nearly every time they cough - they get the same experience. The pain usually feels like it affects the whole head, but it can be just the back of the head or feel like it is the front of the head. The location is not specific.

A cough-induced headache has all the same causes and need for investigation as a Exercise-Induced Headache - mentioned above.

The classic cause of a cough induced headache, exclusively induced by coughing, is Chiari Malformation. Low Pressure inside the head - called Spontaneous Intracranial Hypotension - can also cause a cough induced headache, although postural headache is present as well.

People with Chiari Malformation will also describe headaches provoked by laughter or changes in position eg stooping forward to pick something off the floor.

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Cough Induced headaches need investigated - an MRI is required to be certain about the presence or absence of Chiari Malformation.

There are people with cough induced headaches that are one sided. In my experience these patients will often have evidence of stiffness of joints in the upper part of the neck and this cough induced pain is likely to be referred from the upper cervical spine and the mechanical stimulus of coughing refers pain up the back, side and front of one side of the head.

During a Migraine Attack pain in the head will worsen if you cough or move. This is a worsening of pain and is different from Cough Induced Headache where there is no pain...until you cough. This is an important difference as people can end up undergoing unnecessary investigations or hospital admissions if a Migraine is misdiagnosed as a Cough Induced Headache.

d. Headaches with Pulsatile Tinnitus

Pulsatile tinnitus describes a whooshing noise in the head which is in time to your pulse - so if you feel your pulse the noise in your head is going at exactly the same rate.

Incidentally, pulsatile tinnitus, without headache, also requires investigation in case there is a problem with blood vessels close to the inner ear.

When pulsatile tinnitus is present with a new onset and persisting headache the most common cause is a condition of high pressure inside the head called Idiopathic Intracranial Hypertension. The typical Intracranial Hypertension Sufferer is a female of 20-30 years of age who is overweight (BMI of 30 or more). The headache is usually an intense pulsating feeling at the front (both sides) or an all over headache. To the sufferer this will usually feel like the worst headache they have ever had, and different to any previously Is My Headache Dangerous?

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encountered headache. The pain can be made worse by straining, exercise or stooping forward or coughing, and when the pain worsens the pulsatile tinnitus is often louder. The headache can waken the sufferer. Some people will describe a pain that is restricted to the back of the head, and about one in 3 people report vomiting with the headache. It is rare for this headache to be one-sided.

Sometimes the pressure in the head will evolve into a typical Migraine Headache with nausea, photophobia and intolerance of noise.

The reason this headache is potentially dangerous is that high pressure over many weeks or months can start to damage the optic nerves - the nerves that carry light from your eye to the brain. Permanent visual loss can occur in untreated Intracranial Hypertension. Over 70% of people with Intracranial Hypertension will report brief episodes of near-complete visual loss on straining called a visual obscuration - which should alert the doctor to a possible high pressure problem.

The best clue that high pressure is present comes from examining the back of the eye and seeing swelling at the point where the optic nerve joins the back of the eye. Swelling of the the junction between the optic nerve and the back of the eye is called papilloedema. An optician can confirm this.

e. Headaches in someone with previous cancer diagnosis

People with a previous diagnosis of cancer need to have any new
headache taken seriously, especially if the cancer diagnosis was
relatively recent - within the previous 5 years. Any one with active
cancer and a new headache will also need to have the headache
investigated.

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The reason for this is that active cancer or cancer that has been dormant can spread to the brain tissue itself - called cerebral metastases, or to the lining of the brain - called Malignant Carcinomatous Meningitis. Some types of cancer can also spread to the bones of the skull - bony metastases - the most likely cancers to be myeloma, breast, lung, prostate, kidney and melanoma.

In cerebral metastases the headache is almost always accompanied by epileptic seizures, significant confusion or a severe neurological deficit like paralysis or blindness.

In Malignant Carcinomatous Meningitis there is often new deafness, new facial weakness or double vision but an initial brain scan looks normal. This is because the cancer is not present in large lumps but has coated the nerves on the surface of the brain - a Lumbar Puncture is needed to try and identify cancer cells.

Metastases to the skull bones can also be very difficult to diagnose as they can be difficult to detect when they appear just behind the eye (at the 'orbital apex'), or in the sphenoid and temporal bone (at the 'clivus' or at the 'petrous apex').

There is no specific feature of a cancer related headache that can easily distinguish it from Tension-Type Headache. The difference is that a cancer related headache will be accompanied by a focal neurological symptom or sign, or will be getting progressively worse day by day or week by week.

It is of course the case that most people with a previous cancer diagnosis can develop a non-serious new onset headache such as Tension-Type Headache or pain referred from the neck called Cervicogenic Headache. These diagnoses can be considered if clinical assessment or tests are normal

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f. New Onset Headaches in someone with known HIV Infection

HIV infection increases the risk of a low grade infection within the head which could present with a persistent new onset headache. Fever may or may not be present. The classic low grade infection in someone with HIV is called cryptococcal Meningitis. A brain scan and Lumbar Puncture is required to make this diagnosis.

People with HIV Infection also seem to be at an increased risk of Chronic Headache with no other cause identifiable. However a new onset of headache in someone with known HIV does require investigation.

g. New Onset Headaches with loss of menstrual cycle / loss of libido

A new onset of headache accompanied with changes in menstrual function or sexual desire can indicate a problem with the pituitary gland. The pituitary gland is the main hormone control centre in the brain. A tumour of the pituitary gland can cause too much hormone to be made - growth hormone or prolactin or ACTH.

Too much Growth Hormone can cause changes in facial appearance or in the size and shape of the hands called Acromegaly.

Too much Prolactin can cause breast milk to appear and a reduced libido and irregular menstrual cycle.

Too much ACTH leads to high cortisol levels and high blood pressure that is very difficult to control.

The headache that accompanies these changes in the body is often a dull, persistent pain which can affect any part of the head. The clue is not the quality of the pain, but the fact that it is new, persistent and accompanied by these changes in bodily function.

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These changes in bodily function can be very subtle - it is only on looking at old photographs that many people realise that they may be getting acromegaly for example.

Some people with pituitary gland headaches describe recurrent brief intense headaches that sound like Cluster Headache. These are short-lived - say about 3-60 minute attacks of pain in or over one eye, and at the same time as the headache the eye will water or look bloodshot.

This is why someone presenting with a new onset of Cluster Headache requires brain scanning.

h. New Onset Headache with Scalp Tenderness and Weight Loss

This pattern of symptoms usually occurs in someone over the age of 50 years. The headache become very noticeable over several days to a week, and alongside the headache people lose their appetite or lose weight and feel generally run down. The headache is often one-sided and the affected area is sore to touch - the scalp is tender. The main scalp arteries are difficult to feel - they no longer pulse and are also tender.

This combination of symptoms should alert your doctor to a condition called Temporal Arteritis - also called Giant Cell Arteritis.

This condition is potentially dangerous as if untreated it can cause permanent loss of vision in one or both eyes, yet if treated early with steroid tablets the risk of visual loss is significantly reduced.

A blood test called a Sedimentation Rate (ESR) is usually very high - greater than 50mm in an hour - and if suspected a Temporal Artery Biopsy is usually needed.

There is no one feature of Temporal Arteritis headache that accurately distinguishes it from less dangerous headaches. The

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key feature is that it is a new onset pain in someone over the age of 50 years.

 New Onset of Headache In Wintertime or after Electricity Black Out

This scenario is trying to make people remember that Carbon Monoxide Poisoning is a cause of new onset severe headaches.

Carbon Monoxide usually comes from poorly ventilated open fires, poorly ventilated central heating systems or from use of a diesel electricity generator.

This is why these headaches occur in cold weather or following a power cut. Warehouse workers who operate combustion-engine machinery can also be at risk. Often more than one person in a household is affected, and almost 80% of people with Carbon Monoxide Poisoning will have a dull, generalised headache when they seek medical advice.

This headache is exactly the same as Tension-Type Headache, although it may throb too. The clue to the diagnosis is the context - it is a completely new headache and the patient is coming from a setting which places them at risk of Carbon Monoxide exposure.

Removing the person from the source of the Carbon Monoxide Gas will cause the headache to settle, only for it to appear again when they are back to the Carbon Monoxide environment.

Eliminating the source of Carbon Monoxide will stop the headaches. Someone with true Carbon Monoxide Poisoning will require hospital assessment and treatment - the diagnosis is made from an analysis of gases in a sample of blood (ABG Test).

Carbon Monoxide Poisoning is fatal if undetected, yet identifying it and removing the cause prevents death. This cause must always be on the list of potential causes of a new onset headache.

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j. A new diagnosis of Cluster Headache

Cluster Headache is a strictly one-sided headache. It usually builds within a minute to an extremely severely level.

It is usually in or above one eye, and during the pain the eye waters, nose can feel congested or the nose may run. The pain can be described like a really severe pressure or a hot poker in the eye - basically it is really intense.

The eyelid on the affected side may drop down a bit or close over and the white of the eye will look bloodshot. The pain is so severe, what the person can think of nothing else and feels like they are in another world.

The pain is so intense that they may - literally - bang their head off a wall, try to gouge out their eye or do a repetitive destructive behaviour like bang their fists on a table or go and chop wood until the pain goes away.

During a Cluster Headache there is extreme agitation. Within an hour or so the pain is gone and they look completely normal once more.

This headache may return later that day or often appears during sleep. A person with Cluster Headache will then have similar bouts of headache every day for 4-6 weeks before they go away again.

Often Cluster Headache appears at the same time each year eg autumn time.

A new onset of Cluster Headache is sometimes a symptom of an enlarged Pituitary Gland, and can also be mistaken for a tear in the lining of the Carotid Artery - called Internal carotid Artery Dissection. This means that an MRI Scan of Head is required in someone with a new onset of Cluster Headache.

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k. A New Diagnosis of Trigeminal Neuralgia

The Trigeminal Nerve is the main nerve that brings sensation from one side of the head and face. Neuralgia is the name given to a sudden, short-lived pain. Sudden short lived pains on one side of the face - usually the lower half of face - triggered by touching the face, chewing, talking, shaving, putting on make up or exposure to a breeze is called Trigeminal Neuralgia.

Most older people (older than 45 years) with Trigeminal Neuralgia do not have a serious cause for their symptoms. In younger people (younger than 45 years) Trigeminal Neuralgia can a symptom of inflammation of the brain. Inflammation of a small area of the brain can be due to Multiple Sclerosis - which can be treated if diagnosed. If someone has Trigeminal Neuralgia affecting both sides of the face then this increases the chance that inflammation is present. A tiny number of Trigeminal Neuralgia cases are due to a benign growth on the Trigeminal Nerve - usually a meningioma or nerve sheath tumour.

Older people will sometimes a loop of artery running over the Trigeminal Nerve which is some cases is felt to be the cause.

An MRI scan is usually required to investigate someone with a new onset of Trigeminal Neuralgia.

I. Severe Persistent Headache with a Body Mass Index greater than 40

People, usually women, with very high Body Mass Index are prone to High Intracranial Pressure. The headache of high intracranial pressure is usually a general severe headache and will not go away no matter what you do. Visual Loss can occur if the high pressure is not identified. Pulsatile tinnitus also accompanies the pain of High Intracranial Pressure - a whooshing noise in time to your pulse - which we mentioned above in part 'd' above. If a Visual

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Field test is normal, the treatment is weight loss. If there is an abnormal visual field test then drugs, lumbar punctures or even shunt surgery is needed.

Summary

New Onset Headache can be accompanied by additional features that lead to a diagnosis other than Migraine, Tension-Type Headache or Icepick Headache.

The context of a new onset headache is important - what were you doing at the point the headache started and what makes it feel better?

Is the headache linked to any specific environment or other symptom?

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Chronic Headaches that are Completely Out of Control

People who cannot cope with headache every single day

YOUR LIFE IS ON HOLD DUE TO CHRONIC HEADACHES

People with headache every single day for months or years will reach a point of desperation and want something done urgently.

About 20% of people who attend emergency rooms for headache management are in this category.

I have included these as dangerous headaches, not because life is at risk, but more because people stop living a fulfilling life due to the impact of headache.

The most common pattern of headache is a background pain or pressure that never goes away and usually involves the whole or top of the head, or feels like a squeezing band around the head. This daily discomfort is usually bearable.

However, every day or every few days the pain will increase and feel like Migraine. A severe, throbbing, sickening pain and light, noise, smell and movement are intensely unpleasant. You cannot function and have to take to bed or stop what you are doing.

Eventually a point is reached where you worry that there is a dangerous cause for your headaches.

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In this situation if a neurological and eye examination are normal, and this pattern of headache has been present for more than 6 months then the diagnosis is usually Chronic Migraine. The other dangerous headache features mentioned in this guide are absent.

Managing Chronic Migraine requires attention to lifestyle, correct use of medication and strategic use of drug-free treatments.

My own approach to managing Migraine is outlined in The Billionaire's Book of Headaches, which blends the best of good medication advice, drug-free treatments and a healthy approach to diet, exercise and thinking.

If you want to know more about the Billionaire's Book of Headaches you need to sign up at www.severe-headache-expert.com.

Summary

Chronic Daily Headache feels dangerous as it has a significant impact on people's lives.

People with Chronic Daily Headache need to learn to cope with symptoms through a blend of medical and non-medical interventions

AN important step in taking control of Chronic Daily Headache is to know that your headache type is not dangerous

More information on Managing Migraine can be found at www.severe-headache-expert.com

More Information

www.severe-headache-expert.com

LEARNING ABOUT HEADACHE REDUCES MEDICATION USE

If you want more information to help you manage or understand headaches you can visit my own website www.severe-headache-expert.com.

The following organisations will also provide helpful information on headache:

The American Headache Society

The Migraine Association of Ireland

The Migraine Trust (UK)

Migraine Action (UK)

OUCH - Organisation for the Understanding of Cluster Headache (UK)

Headache Network Canada

Headache Australia

Australia and New Zealand Headache Society

South African Headache Society (Dr Elliot Shevel)

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Dr Raeburn Forbes is a Consultant Neurologist whose main interest is in headache disorders and in managing people presenting to hospital acutely ill with neurological diseases.

For the last 10 years he has been trying to work out the steps that people with headache can take to achieve control of their symptoms.

The approach he recommends is based on a combination of the best of medication advice and allowing people take charge of non-drug treatments and changes to lifestyle and how they think about pain.



In 2008 he created an approach called the Headache Friendly Lifestyle™ which was written for readers of the severe-headache-expert.com website.

Since then over 5 million people have visited the site for information on headaches, and more than 8000 people have participated in The Headache Friendly LifestyleTM. In 2017 he wrote the The Billionaire's Book of Headaches - now available as an email based course and book (visit www.severe-headache-expert.com).

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