The BRAIN TUMOUR CHARITY

Symptoms of a brain tumour in adults

A tumour is an abnormal growth caused by cells dividing in an uncontrolled manner. Approximately 9,300 people are diagnosed with a primary brain tumour each year. (Primary means it started in the brain).

Although this may sound a lot, brain tumours are rare. So ***usually your symptoms will not be due to a brain tumour.*** *However, it is important to be aware of the symptoms, so you can go to your doctor if you are concerned.*

The information in this fact sheet gives a brief outline of some of the most common symptoms of brain tumours in adults.

In this fact sheet:

- What is a 'symptom'?
- Brain tumour symptoms caused by increased pressure in the skull
- Brain tumour symptoms due to impairment of normal brain function
- What to do if you think you have these symptoms

How common is a brain tumour?

Each year in the UK, approximately 4,300 people are diagnosed with low-grade, slow-growing brain tumours and 5,000 with high-grade, fast-growing brain tumours.

Combined, this represents fewer than 2 out of every 10,000 people in the UK.

(Brain tumours are graded 1-4 according to their behaviour, such as the speed at which they are growing. Grades 1 and 2 are low-grade, slow-growing and sometimes referred to as benign; grades 3 and 4 are high-grade, fast-growing and often referred to as malignant.

Benign brain tumours can be serious, however, if they are not diagnosed and treated early, as they can cause harm by pressing on and damaging nearby areas of the brain. For more information, see What is a brain tumour? fact sheet.)

What is meant by the term 'symptom'?

The term 'symptom' means any physical or mental sensation or change in bodily function that is associated with a disorder or disease. You, or others, may have noticed something about yourself that is different from normal (in terms of function, sensation or appearance).

Any symptom can be caused by a number of different conditions, so having a symptom does not always mean you have something wrong with you. However, knowing some of the key symptoms of a condition helps to make you aware of when it would be advisable to seek the advice of a medical expert. Of course, any time you are worried, you can discuss your concerns with your doctor.

What are the symptoms of a brain tumour?

Our brains are housed inside the rigid, non-expandable protection of our skulls and cushioned by the cerebro-spinal fluid (CSF), with little room to move round. (*See The Human Brain fact sheet for more information).* So, when uncontrolled cell division leads to the growth of a tumour, there is little room for this new, abnormal growth. As a result, as the tumour grows, it can squeeze the normal healthy brain tissue and create pressure on the brain.

Also, depending on its position, the growing tumour can block the flow of the CSF. The brain is constantly producing CSF, about one pint per day, with 'old' fluid being drained from the brain into the blood vessels. Any blockage soon causes the level of CSF to build, placing pressure on the brain. (This is known as hydrocephalus or sometimes 'water on the brain').

An increase in pressure on the brain by either means may be referred to as raised intracranial pressure (ICP) or intracranial hypertension (IH) and can lead to damage of normal brain function.

As different parts of the brain carry out different functions, not every brain tumour will have the same set of symptoms. This means that the specific symptoms of a brain tumour depend on the location of the tumour within the brain and also its size and aggressiveness.

Raised intracranial pressure

Raised intracranial pressure (ICP) is the build-up of pressure inside the skull. The build-up can be fast or slow. Sometimes it is referred to as intracranial hypertension. (Intracranial means inside the cranium (skull); and hypertension means increased pressure.)

This can lead to the following symptoms:

- Headaches
- Changes in vision
- Seizures
- Nausea and vomiting
- Drowsiness
- Dizziness
- Confusion and irritability
- Loss of consciousness (eventually)

Headaches

Headaches associated with brain tumours are usually severe, throbbing, worse in the morning (you may wake with one) and aggravated by straining or coughing. Often these headaches will not be alleviated by pain killers, but may reduce once you are up and about i.e. no longer lying down, as this can help the build-up of CSF to drain.

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Changes in vision

Changes in vision associated with brain tumours can include blurred vision - you may find it difficult to watch TV or read. Or you may get a fleeting loss of vision lasting a few seconds ('greying out') related to changes in your posture, such as suddenly standing up. These are called 'transient visual obscurations'.

These changes in vision are due to the optic disc at the back of your eye becoming swollen as a result of the increased pressure in the skull. The optic disc is the point on the retina where the optic nerve enters the eye from the brain. (The retina is the layer of light-sensitive cells at the back of the eye.)

Optic disc swelling can be caused by a number of conditions, but when it is due to raised ICP, it is known as papilloedema. Papilloedema can be picked up by opticians during normal eye examinations. This can be important as people don't usually experience the visual symptoms in the early stages of papilloedema.

Not all patients with raised intracranial pressure develop papilloedema - this depends on the location and size of the tumour. Also patients who have previously had papilloedema may not develop it in the future.

Seizures

Seizures, sometimes referred to as 'fits', are one of the commonest symptoms of a brain tumour. They are the symptom that causes about one quarter of people with a brain tumour to first visit their doctor. When we talk about seizures we may think of a person losing consciousness, lying on the floor and twitching, and while this can occur, seizures can be far more subtle. Symptoms of a seizure can include the twitching of a hand, arm or leg; a change in sensation, such as an odd taste or smell; periods of 'absence'; or adopting an unusual posture. Often the more subtle seizures will be noticed first by a person's friends or relatives, as the person having the seizure may not be aware or may not remember it.

Nausea (feeling sick)

Nausea, as with other brain tumour symptoms, may be worse in the morning or if you suddenly change position e.g. move from sitting or lying to standing. You may actually be sick. You may also have hiccups. Again these symptoms are caused by the changes in pressure within the brain.

Drowsiness

Drowsiness is usually a later symptom of brain tumours. As the tumour grows and the pressure increases, you may sleep more than normal or find yourself falling asleep during the day. It is important to treat this as you may become more difficult to wake and become unconscious.

It is important to remember that many of the symptoms due to raised intracranial pressure (ICP) can be caused by other medical conditions. So if you are experiencing these symptoms, it does not mean you have a brain tumour.

Impairment of normal brain function

The brain is divided into two halves called the right and left hemispheres. The brain can also be divided into four areas known as lobes (frontal, temporal, parietal and occipital) plus two other important areas called the brain stem and the cerebellum. (*For more information, see The human brain fact sheet*).

The presence of a brain tumour can cause damage to healthy brain tissue, disrupting the normal function of that area.

Frontal lobe

The frontal lobe has a huge role in what we do and who we are, and controls our personality, emotions, memory and behaviour. If a brain tumour is located in the frontal lobe, symptoms may include difficulty with:

- concentrating
- speaking and communicating
- controlling emotions and behaviour
- learning new information.

As well as personality changes, it can also lead to a lack of inhibition, which can show itself as making inappropriate comments during conversation or laughing in inappropriate situations. It can also cause weakness in the opposite side of the body and loss of smell.

Temporal lobe

Damage to the temporal lobe can cause difficulty with:

- hearing
- speaking
- identifying and categorising objects
- learning new information
- correctly identifying emotions in others.

It can also cause memory loss, seizures or blackouts and sensations of strange smells.

Parietal lobe

Damage to the parietal lobe can cause difficulty with:

- bringing together information from your different senses (touch, vision, hearing, smell, taste) and making sense of it
  e.g. a person may bump into furniture that they have seen, but have misjudged where it is in relation to themselves.
- co-ordinating movements
- spatial awareness
  e.g. judging distances, hand-eye co-ordination
- speaking, understanding words, writing and reading.

It can also cause numbness on the opposite side of the body from where the tumour is.

Occipital lobe

A tumour in the occipital lobe causes difficulties with vision e.g. identifying objects or colours, and may cause loss of vision on one side.

Cerebellum

Damage to the cerebellum can cause problems with balance, a loss of co-ordination, difficulty walking and speaking, flickering of the eyes, vomiting and a stiff neck. It can also affect the fine co-ordination of the muscles leading to problems with dexterity (skills in using your hands).

Brain stem

For tumours in the brain stem, symptoms can include unsteadiness and difficulty walking, facial weakness, double vision and difficulty speaking and swallowing.

How is a brain tumour diagnosed?

If you develop any of the symptoms described and are worried, see your GP. The GP may examine the back of your eye and look for changes caused by increased pressure inside the skull. If s/he suspects a brain tumour, you will be referred to a specialist - a neurologist or neurosurgeon (specialists in brain and nerve disorders). Some GPs can refer you for a scan directly.

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The specialist will ask questions about your health and give you a physical examination. They will also test your nervous system (called a neurological examination). This involves examining your vision, hearing, alertness, muscle strength, co-ordination, and reflexes. They will also look at the back of your eyes to see if there is any swelling of the optic disc. (The optic disc is where the optic nerve from the brain enters the eye). Any swelling may be a sign of raised pressure inside the skull, which could be a sign of a brain tumour.

You will then have one or more further tests. If certain types of tumour are suspected e.g. germ cell or pituitary tumours, you may have a test to check for certain 'markers' in the blood that these tumours can cause. These could be changes in the levels of certain hormones. You will also need an MRI (Magnetic Resonance Imaging) or CT (Computerised Tomography) scan to confirm whether a brain tumour is present. *(For information about these scans, see the Scans fact sheet).*

If, following the scan, a tumour is found, a biopsy (small sample of the tumour) may be taken from your tumour. It is important to realise that a biopsy is an operation that takes several hours. Any risks will be explained to you by your surgical team.

Alternatively, if possible, the resection (surgical removal) of the whole tumour will be undertaken.

In both cases, cells from the tumour will be analysed in a laboratory, so that health professionals can give a more detailed diagnosis of the exact tumour type. This will allow them to determine the best course of treatment for you.

It is important to know that, for some tumour types, early presentation (to a doctor) is associated with better long-term outcomes. So if you have some of the symptoms described, you should not be worried about seeking help from your doctor, particularly if you have some of the more adverse symptoms - you are not wasting their time.

What are the symptoms of a brain tumour in children?

If you need information about the symptoms of brain tumours in children, please see our HeadSmart website www.headsmart.org.uk

What if I have further questions?

If you require further information, any clarification of information, or wish to discuss any concerns, please contact our Support and Information Team:

Call: 0808 800 0004
Free from landlines and most mobiles:
3, O2, Orange, T-mobile, EE, Virgin and Vodafone
Email: support@thebraintumourcharity.org
Join our online forums at:
thebraintumourcharity.org/forums

About us

The Brain Tumour Charity makes every effort to ensure that we provide accurate, up-to-date and unbiased facts about brain tumours. We hope that these will add to the medical advice you have already been given. Please do continue to talk to your doctor if you are worried about any medical issues.

We are the UK's pre-eminent brain tumour charity. We fund scientific and clinical research into brain tumours and offer information and support to those affected, whilst raising awareness and influencing policy.

We rely 100% on charitable donations to fund our vital work. If you would like to make a donation, or want to find out about other ways to support us including fundraising, leaving a gift in your will or giving in memory, please visit us at thebraintumourcharity.org, call us on 01252 749043 or email fundraising@thebraintumourcharity.org

About this fact sheet

This fact sheet has been written by Peter Hill, PhD and written and edited The Brain Tumour Charity's Support and Information Team. The accuracy of medical information has been verified by leading health professionals specialising in neuro-oncology. Our fact sheets have been produced with the assistance of patient and carer representatives and up-to-date, reliable sources of evidence. If you would like a list of references for any of the fact sheets, or would like more information about how we produce them, please contact us.

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Your notes

Saving lives through research, information, awareness & policy

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Registered Charity 1150054 (England and Wales); SC042096 (Scotland)

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Version 1.0, May 2014. Review date: by May 2016.