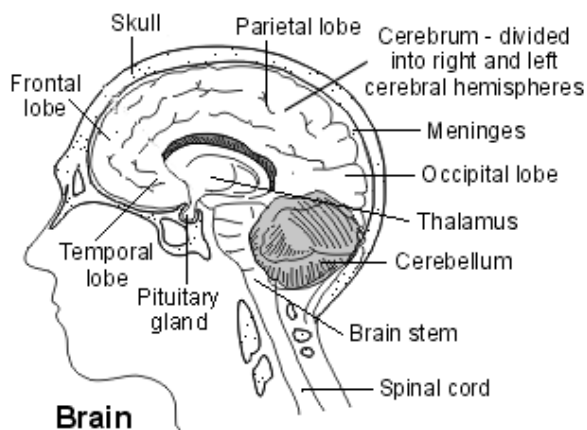


## Temporal lobe lesions

The temporal lobe is involved in understanding and remembering what we see (vision), understanding speech and language, and understanding emotions. The temporal lobe can be affected by various conditions, particularly a stroke, brain tumour or head injury.

Investigations will usually include an MRI scan to identify the underlying cause of the temporal lobe lesion. The treatment and outcome (prognosis) will depend on the underlying cause.

## Understanding the brain



The cerebrum is the main part of the brain. It lies inside your skull and the surface resembles a walnut. It is divided into the right side (right hemisphere) which controls the left side of the body, and the left hemisphere which controls the right side of the body.

The cerebrum is also where you think and store your memory. Each hemisphere is subdivided into parts that are associated with certain functions. The main divisions are the frontal lobe, temporal lobe, parietal lobe and occipital lobe.

## What does the temporal lobe do?

The temporal lobe is involved in:

- Understanding and remembering what we see (vision).
- Understanding speech and language.
- Understanding and managing emotions.
- Storing and recalling memories.

## What causes temporal lobe lesions?

There are many possible causes of temporal lobe lesions. The most common causes include:

- A [stroke](#). A stroke usually affects other parts of the brain but may occur in the temporal lobe.
- [Brain tumours](#) may also affect the temporal lobe of the brain.
- A serious [head injury](#) or a surgical operation to remove a brain tumour may also cause damage to the temporal lobe.
- Progressive worsening of language can be part of a [type of dementia](#) called [frontotemporal dementia](#).
- The temporal lobe can be affected by an [infection of the brain \(encephalitis\)](#), especially encephalitis due to herpes simplex virus.

Other conditions affecting the brain, [such as multiple sclerosis](#), can also affect the temporal lobes of the brain.

## How common are temporal lobe lesions?

Temporal lobe lesions are uncommon but not rare. However, some temporal lobe lesions may be very small and don't cause any obvious symptoms. Therefore, it is not known exactly how common temporal lobe lesions are.

# What symptoms do temporal lobe lesions cause?

The symptoms caused by temporal lobe lesions are usually much less obvious than when other parts of the brain are affected. For example, many strokes will cause muscle weakness (paralysis), often affecting one side of the body. However, the symptoms caused by a stroke affecting the temporal lobe will be much less obvious.

A temporal lobe lesion may cause various symptoms which may not be noticed by other people. These symptoms may include forgetfulness, problems with speech and language (especially understanding what is being said by others) and problems with vision. Temporal lobe lesions may also cause fits (seizures).

Other symptoms may include problems with hearing, identifying objects, learning new information and being unable to identify emotions in others. Temporal lobe lesions may also cause problems with memory and cause changes in your personality.

The symptoms you experience will depend on what is causing the problem in the temporal lobe. A stroke will usually cause a sudden onset of symptoms but a brain tumour will often cause a slow onset and progression of symptoms. The symptoms will also depend on whether only the temporal lobe is affected or whether other parts of the brain are also affected by the underlying condition.

## Temporal lobe epilepsy

Seizures which begin in the temporal lobe can cause a wide variety of symptoms. These symptoms may include different feelings, emotions, thoughts and experiences. These feelings may be familiar to you or you may have these feelings for the first time.

You may suddenly remember something from your past or feel that everything around you is strange and unknown to you. You may feel that you have already experienced something that is actually happening for the first time (this is called *déjà vu*). You may also imagine voices, music, smells or tastes that are not really there (hallucinations).

The symptoms of the seizure may be very mild and hardly noticed or may be very severe and cause you to be very frightened. The seizure may also cause nice sensations and be enjoyable.

Temporal lobe epilepsy can be treated with medicines that are used for epilepsy but treatment will also depend on any underlying temporal lobe lesion. [See the separate leaflet called Epilepsy with Focal Seizures for more details.](#)

## **How are temporal lobe lesions diagnosed?**

The most important part of making the diagnosis of a temporal lobe problem is a thorough history of your symptoms. A history of your symptoms from someone close to you who has seen what happens when you have the symptoms is also very helpful.

The symptoms may be very complicated and sometimes an assessment with a psychologist is needed to identify exactly what symptoms are due to the suspected temporal lobe lesion.

Temporal lobe lesions may cause you to be unable to see one area in your field of vision (this is called a visual field defect). Your visual fields will therefore also be tested.

The best way to find the cause of a temporal lobe lesion is by [having an MRI scan](#) of your brain. Any further investigations will depend on the underlying cause of the temporal lobe lesion.

## **Are there any treatments for temporal lobe lesions?**

A psychologist can often help you to overcome some of the symptoms caused by a temporal lobe lesion.

The treatment will otherwise depend on the cause of the temporal lobe lesion.

# What is the outcome (prognosis)?

The outcome will depend on the underlying cause and whether any other parts of the brain are also affected.

Young people, especially children, are able to use another part of the brain to take over the function of a damaged part of the brain but this ability is lost as we become older. Therefore young people are more likely than older people to regain some of the brain function lost as a result of a temporal lobe lesion.

# Can temporal lobe lesions be prevented?

There is a great deal we can do to reduce our risk of a stroke. See the separate leaflet called [Cardiovascular Disease \(Atheroma\)](#) for more details.

---

## Further reading

- [Faust K, Schmiedek P, Vajkoczy P](#); Approaches to temporal lobe lesions: a proposal for classification. *Acta Neurochir (Wien)*. 2014 Feb;156(2):409-13. doi: 10.1007/s00701-013-1917-4. Epub 2013 Nov 8.
- [Zhao F, Kang H, You L, et al](#); Neuropsychological deficits in temporal lobe epilepsy: A comprehensive review. *Ann Indian Acad Neurol*. 2014 Oct;17(4):374-82. doi: 10.4103/0972-2327.144003.
- [Patel A, Biso GMNR, Fowler JB](#); Neuroanatomy, Temporal Lobe

**Disclaimer:** This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Egton Medical Information Systems Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our [conditions](#).

Authored by:	Peer Reviewed by: Dr Toni Hazell	
Originally Published: 19/11/2023	Next review date: 29/04/2022	Document ID: doc_29318

---

View this article online at: [patient.info/brain-nerves/temporal-lobe-lesions-leaflet](https://patient.info/brain-nerves/temporal-lobe-lesions-leaflet)  
Discuss Temporal lobe lesions and find more trusted resources at [Patient](https://www.patientaccess.com).

---



To find out more visit [www.patientaccess.com](https://www.patientaccess.com)  
or download the app



Follow us

