

Epilepsy surgery is a name for the different types of brain surgery (also called neurosurgery) that some people with epilepsy have.

### what is epilepsy surgery?

Epilepsy surgery is surgery on the brain to treat epilepsy. In this factsheet when we use the word 'surgery' we mean epilepsy surgery.

There are different types of epilepsy surgery. One kind of surgery involves removing the part of the brain that is causing seizures, another kind involves separating the part of the brain that is causing seizures from the rest of the brain.

### when would someone have surgery?

For some people surgery can stop or reduce the number of seizures they have. It might be considered if anti-epileptic drugs (AEDs) have not stopped or significantly reduced the number of seizures a person has.

### can I have surgery?

Surgery is possible for adults and children. Whether you are suitable for surgery is something that you may like to talk to your GP or neurologist about. Surgery might be considered if:

- you have tried several AEDs and none of them have stopped or significantly reduced your seizures; and
- a physical cause for your epilepsy can be found and is in only one area of your brain.

If you meet these criteria and are considered for surgery you will need to have further tests before the surgery can happen.

### how will I know if my epilepsy has a physical cause?

One of the tests sometimes used to help diagnose epilepsy is a brain scan. You may have either an MRI (magnetic resonance imaging) scan or a CT (computerised tomography) scan. Although they use different technology both types of scan produce an image of your brain which is used to see whether there is a physical cause for your epilepsy.

Physical causes can include scarring on the brain or damage to the brain from a head injury, or following an infection such as meningitis.

If a physical cause is found, it is called the 'epileptic focus'. The epileptic focus can be different from person to person.

### the tests before surgery

If you are referred for surgery you will probably go to a specialist centre. There are many different pre-surgical tests you might be asked to have before you can be given the go-ahead for surgery. The tests could include having an EEG (an electroencephalogram) and video telemetry (an EEG while also being filmed). Further MRI or CT scans might be done to get more information about the epileptic focus.

Memory and psychological tests are also used to see how your memory and lifestyle might be affected after the surgery. These types of tests also help the doctors to see how you are likely to cope with the impact of having this type of surgery.

The tests you have will confirm whether:

- the surgeons can reach the epileptic focus during surgery and can remove it safely without causing new problems;
- the other parts of your brain could be affected by the surgery, for example the parts that control your speech, sight, movement or hearing;
- you have a good chance of having your seizures stopped by the surgery;
- you have any other medical conditions that would stop you from having this kind of surgery.

The results from the tests will help you and your neurologist decide if surgery is an option and what the result of the surgery might be.



For some people the results show that surgery is not an option; about 50% of people (half) who are recommended for surgery, and have these tests carried out, are unable to have surgery. Based on the results from the pre-surgical tests your specialist will talk with you about the possible risks and benefits of having surgery.

### deciding whether to have surgery

Having any kind of surgery on the brain is a big decision to make and you may have lots of questions or concerns that you need to discuss before you are able to make up your mind. The doctors will be used to this because it is an important part of deciding about, and preparing for, surgery.

To give you the full picture when deciding about having surgery your doctor will explain to you about the potential risks of the kind of surgery you are having. Although your doctor can give you information and advice, the final decision is yours. To give you time to talk about how you are feeling about having surgery you may be offered some kind of pre-surgical counselling.

### can I change my mind?

You may feel very excited and at the same time nervous about the surgery and the positive effect you're hoping it will have on your life. This is absolutely normal and is to be expected. You might also feel that you've changed your mind about having surgery, for whatever reason. This is ok – it is a big decision and you have the right to say no to the surgery if you don't want to have it.

### after surgery

Immediately after the surgery your doctors will monitor your recovery. For the first few days you may feel very tired and need to sleep, as it can take a while for the anaesthetic to completely wear off.

Some people who have brain surgery will have seizures within the first week of surgery – but this doesn't mean the surgery has not been successful. Seizures after surgery are thought to happen because of the direct stress the brain experiences in surgery, rather than because a person has a history of epilepsy.

How long you may need to spend in hospital will depend on the type of surgery you have had and how the doctors feel you are recovering. Generally your doctors might expect you to be back to your normal activity about six weeks after your surgery.

### reviews after surgery

Following surgery most people will have reviews with their doctors about their recovery and any seizure activity – how often you will need a review will be something you and your doctors will decide together.

### how will I know if my surgery has worked?

Before your surgery your medical team will have talked with you about the aims of your surgery and how successful they expect the surgery to be. For some people 'successful surgery' may be completely stopping all seizures, for others it may be reducing the number or severity of their seizures.

Usually two years is given after surgery to fully measure how successful surgery has been.

### how successful is epilepsy surgery?

Around 70% of people (7 in 10 people) who have surgery find that the surgery stops their seizures and they become seizure-free.

After surgery most people will still take their AEDs for some time. You can talk to your neurologist about when might be the best time to start to slowly come off the AEDs.

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Epilepsy Society, Chesham Lane  
Chalfont St. Peter, Bucks SL9 0RJ

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01494 601 400

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