

Epilepsy surgery programme

Frequently asked questions



Information for patients

Clinical Neurophysiology



PROUD TO MAKE A DIFFERENCE

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Frequently asked questions about the Epilepsy Surgery Programme prior to surgery

Who is suitable for epilepsy surgery?

Seizures are associated with an electrical discharge in the brain which can be recorded in a test you may have had, called an EEG (electroencephalogram). In some people this discharge occurs throughout the brain resulting in generalised seizures. In other people it may occur in a single area, causing partial seizures*.

Most people's seizures can be controlled by medication. However, if your epilepsy is from a single area of the brain and is poorly controlled by medication, or you have unacceptable side effects from taking your medication, then you may be suitable for an operation which may reduce or stop your seizures.

* Further information on seizures is available from the National Society for Epilepsy (www.epilepsysociety.org.uk).

How do I find out whether I may be suitable for epilepsy surgery?

To be assessed as a suitable patient for epilepsy surgery you need to have several tests to be sure which part of the brain your seizures are starting from. The surgeon needs to decide whether the area can be operated on without causing unacceptable risks to you.

You could be left with a problem depending on the operation site and the function which that area controls (for more information please read the section below, 'What are the risks of epilepsy surgery?').

What tests do I need to have?

You will need to have:

- MRI scan - magnetic fields and radio waves produce a picture of your brain
- Video telemetry EEG (carried out over 5 days, as an inpatient)
- Neuropsychological tests - a psychologist will assess your memory, language and emotional well-being

Sometimes additional tests are needed

- **Wada test** - you are admitted as a day case. An injection into a blood vessel in your groin anaesthetises each half of the brain for a couple of minutes. An EEG, X-ray and memory tests are performed to see which side of your brain is more important to your language and memory functions.
- **Telemetry with intracranial electrodes** - an operation is needed to implant electrodes on or in the brain and a long term EEG is performed over 1 to 3 weeks to confirm the point where your seizures start. This may sometimes involve 'mapping', where points on the implanted electrodes are stimulated. You will then be observed and your reactions will be monitored.
- **SPECT scan** (single photon emission computed tomography) - you are given an injection of a radioactive tracer which travels to your brain. The scan then shows different parts of the brain in different colours. The colours show how much blood flows in each area of the brain. Usually the area where the blood flow is highest, is the part of the brain where the seizures start.

There are 2 types of SPECT scan and you may need to have both of these:

i) Ictal SPECT scan (ictal means seizure) - this scan is done just after a seizure.

ii) Inter-ictal SPECT scan – this scan is done between seizures.

To capture an Ictal SPECT you will have EEG telemetry as an inpatient over 3 to 5 days, with staff and the radioactive tracer available for 2 of these days to try to capture a seizure.

- **Psychiatric assessment** - a psychiatrist may check for any other problems your seizures are causing. This is important if you have depression, anxiety attacks, or any psychiatric illness, as well as epilepsy. They will assess the risk of any illness after surgery.
- **Functional MRI** - this is similar to an MRI but you will be asked to perform tasks during the scan, e.g. look at pictures, or tap/move your fingers.
- **Positron Emission Tomography (PET scan)** - this scan uses a radioactive tracer to show how the brain is working. It can look at the use of oxygen and sugar, and also the blood flow in the brain.
- **Magnetoencephalography (MEG scan)** - this scan is available in specialist centres and measures your brain activity. It can show which parts of your brain are active during a certain task which you are performing.

Detailed information will be provided to you when each test is arranged.

As with any any procedure or treatment, we must seek your consent beforehand. Staff will explain all the risks, benefits, and alternatives before they ask for your consent. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.

How long does it take to go through the assessment process?

The time and the tests needed vary with each individual patient. An average time to complete the process is between 1 to 2 years.

What happens after the tests are completed?

At this point your neurologist will meet with all the specialist staff (called the epilepsy surgery team) and decide whether the tests you have had mean you may be helped by having epilepsy surgery. If you are a suitable candidate and you have not already seen a neurosurgeon you will be offered an appointment to see one.

If you are not thought to be suitable for surgery you will remain under the care of your neurologist.

What happens at the appointment with the neurosurgeon?

The surgeon will explain what the surgery will involve, and discuss the benefits and the risks of the operation. You may find it helpful to write all your questions down before you attend.

What are the risks of epilepsy surgery?

The risks will depend on the area to be operated on and the type of surgery you are to have. These will be explained in more detail by your neurosurgeon. Risks can include the following:

- There is a risk that the surgery will not work and that you will continue to have seizures after surgery.
- There is a 2% risk that you could lose some movement on one side of your body (hemiparesis).
- There is a 5% risk of a partial loss of vision; this loss may not be noticeable to you, but may be picked up by visual tests.
- Up to 50% of patients may experience some degree of memory changes. All of the changes may be permanent but some improvement may occur in the months following surgery.
- Some people have mood changes in the weeks/months after surgery, this is usually temporary and is a reaction to having had major surgery and perhaps to any change in your seizure pattern.
- The risk of mortality (death) is less than 1 in 100 people.

Where can I find further information?

If you are suitable for surgery, there is a further leaflet, **Epilepsy Surgery**, which explains your admission for surgery and your recovery after the operation:

- <http://publicdocuments.sth.nhs.uk/pil1143.pdf>

Who should I speak to if I have any questions or concerns?

If you have any further questions, please call the co-ordinator for the Epilepsy Surgery Programme as follows:

- **0114 271 2372**
Monday to Friday, 8.30am to 4.30pm



www.neurocare.org.uk

0114 267 6464

appeals@neurocare.org.uk



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