EPILEPSY NEW ZEALAND
Kia titiro ki te tangata | See the person

How is Suitability for Surgery Assessed?

If your doctor thinks you are a possible candidate for surgery, you will need to go through a range of tests to find out where in the brain your seizures are coming from. If the origin of your seizures can be located to a particular part of the brain, you will then undergo more tests to ascertain whether this part can be removed without affecting important functions such as movement, speech, memory or vision.

This pre-surgical testing can take some time but the information that is gained helps your health care team determine whether you are a suitable surgical candidate. It is also important so that you can make an informed decision whether or not to go ahead with surgery. The pre-surgical tests, include:

ELECTROENCEPHALOGRAM (EEG) AND VIDEO EEG MONITORING

Detailed information about an EEG and EEG video monitoring can be found in the Diagnosing Epilepsy section. These EEGs can help to determine where your seizures begin. A video EEG is usually required if you have not had one before. You will usually need to spend a week in hospital and the aim is to capture your typical seizures on both the EEG and video to help confirm where in your brain seizures begin.

MAGNETIC RESONANCE IMAGING (MRI) SCAN

Detailed information about a MRI scan can be found in the Diagnosing Epilepsy section. Sometimes the MRI will also include a functional MRI (fMRI), which is used to look at your brain while you are resting or doing a task. This type of MRI allows the doctors to see which parts of your brain are involved in undertaking a task and how it works. It may involve you looking at pictures, thinking of words or moving physically while you are in the MRI scanner. This can help the health care team to look at the part of your brain affected by seizures and what it does.

SINGLE-PHOTON EMISSION COMPUTED TOMOGRAPHY (SPECT) SCAN

Detailed information about a SPECT scan can be found in the Diagnosing Epilepsy section. A SPECT scan involves a safe, short-lived radioactive dye injected into your arm while you are having a seizure. A SPECT scan is only conducted during admission to an Epilepsy Monitoring Unit in a hospital and performed by specially trained healthcare staff such as nurses. A SPECT scan can help to determine where seizure activity is occurring in your brain.

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POSITRON EMISSION TOMOGRAPHY (PET) SCAN

Detailed information about a PET scan can be found in the Diagnosing Epilepsy section.

Like a SPECT scan, you are injected with a safe, short-lived radioactive dye into the bloodstream which then measures the amount of oxygen and glucose (sugar) used by different parts of your brain, as those areas affected by epilepsy will use less energy between seizures.

DEPTH OR GRID ELECTRODES

If other tests have not been able to determine the exact location of your seizure focus, you may need to have depth or grid electrodes implanted on or within your brain. This is an invasive surgical procedure. After this surgery, video EEG tests are then used to monitor and record any seizures. You will be hospitalised for a number of days, or longer, while this testing takes place. Sometimes you are sent home after the electrodes have been surgically removed. Or, if you and your health care team decide that epilepsy surgery would be good choice for you, then the surgery will be carried out at the same time as removing the electrodes.

NEUROPSYCHOLOGY ASSESSMENT

This pre-surgical assessment is conducted by a neuropsychologist. This test formally assesses your cognitive abilities, such as language, memory, attention, and problem-solving. This assessment helps to determine whether your thinking skills have been affected by epilepsy, medications, or other factors. It helps your health care team determine the risks and possible benefits of surgery for your thinking skills and memory.

NEUROPSYCHIATRIC ASSESSMENT

You may also be referred to a neuropsychiatrist as part of pre-surgical testing. This is partly because committing to brain surgery can stressful. This assessment looks at how well you would be able to cope before and after surgery, as well as look at any pre-existing mental health issues or concerns you have (e.g. depression, anxiety). It is a good opportunity to discuss any extra support you may need pre- to post-surgery, such as connecting with a local psychologist or counsellor, or organising a slow return to work plan.

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