

The intra-cranial electroencephalogram (EEG) is required in addition to your scalp EEG to confirm the site where the seizures originate. EEG grids and electrodes may then be placed directly onto the brain at operation and left in place for 1 week to monitor your brain activity.

When this confirms the site where the seizures originate, a second operation is performed to remove the grids/electrodes. At this same time a temporal lobectomy may be performed to remove the portion of brain identified as abnormal using the intra-cranial EEGs. This operation is usually performed under local anaesthetic.

RISKS OF THE PROCEDURES

Craniotomy & placement of subdural grids

The risks of this operation include the following. A detailed discussion with your surgeon is recommended prior to surgery.

- Infection: may be superficial or deep.
- Bleeding: may be superficial bruising or a deeper collection.
- Increasing headache and/or neurological deficit secondary to brain swelling which may require removal of the grid.
- Cerebrospinal fluid (CSF) may leak through the wound and require further stitches.
- Loss of smell or cerebrospinal fluid through the nose if a frontal approach is required.
- Headaches and neck pain which usually settle after several weeks.
- Weakness, numbness, speech disturbance or paralysis (stroke like symptoms).
- Seizures, infrequently prolonged seizures may be induced.
- Coma or death.

Temporal Lobectomy

The risks of this operation includes the following. A detailed discussion with your surgeon is recommended prior to surgery.

- Infection: superficial or deep.
- Bleeding: superficial bruising or a deeper collection.
- Weakness, numbness, speech disturbance or paralysis (stroke like symptoms).
- Loss of vision or double vision.
- Memory dysfunction: loss of short-term memory, speech comprehension and difficulty naming.
- Epilepsy: Seizures may persist either in their current form or may manifest as different forms of seizures.
- Coma or death.

LONG-TERM EFFECTS

You are to continue your anti-epileptic medications after surgical treatment. Your neurologist or neurosurgeon will slowly stop this medication depending on your underlying disease and response to surgery. Driving is not allowed until review by your neurologist.

Epilepsy Surgery

Most epilepsies are treated by the neurologist with medications to control seizures. If CT or MRI scans of the brain reveal a tumour or vascular malformation you will be referred on to the neurosurgeon to discuss surgery to remove the lesion. Likewise in cases of epilepsy where the source of the epileptic focus may not be evident, they may be referred for surgery to diagnose the site of origin of epilepsy.

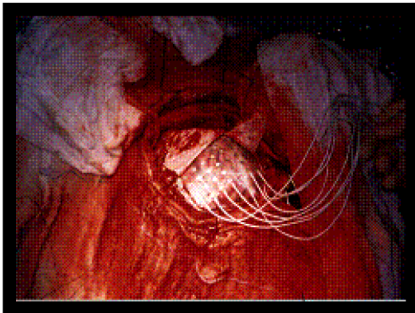
OPERATION

Surgery directed towards a mass lesion causing epilepsy will involve a stereotactic craniotomy and excision of lesion. Sometimes an awake craniotomy is performed to minimise the risk of damaging surrounding brain tissue during the operation.

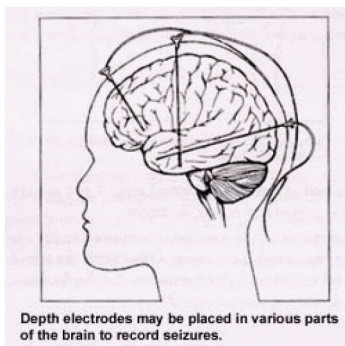
For epilepsies of intrinsic brain abnormalities, ie mesial temporal lobe epilepsy, the source of the epileptic focus may not be evident. In these cases several invasive diagnostic tests may be required.

These include:

1. Craniotomy and placement of subdural grids
2. Stereotactic placement of bilateral depth electrodes.



Intraoperative picture of subdural grids



Depth electrodes may be placed in various parts of the brain to record seizures.