



Temporal Lobectomy

EPILEPSY CENTER

At California Pacific Medical Center we are committed to bringing new and advanced diagnostic tools, medical treatments and surgical options to the physicians we serve and the patients they care for. Through this procedure profile, our physicians illustrate actual medical situations that provide you with a window into their practice of diagnosis, treatment and patient follow-up—changing the lives of patients just like yours.

For patient referrals:
(888) 637-2762

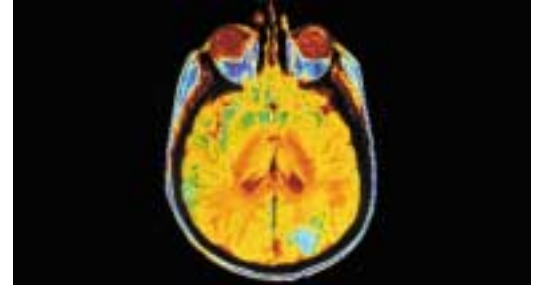
www.cpmc.org/epilepsy

Why does a patient need a temporal lobectomy?

Patients with epilepsy, whose seizures arise from the temporal lobe, have a high probability that their seizures will **not** be controlled with anti-seizure medications alone. Surgery for epilepsy is a well-established procedure with excellent results. These patients are evaluated with a battery of tests, which include a variety of brain scans, memory and cognitive testing, and electroencephalogram (EEG) to record the brain wave activity to determine if they are candidates for temporal lobe epilepsy surgery. If the test results show that a structural abnormality of the temporal lobe is responsible for seizures, performing a temporal lobectomy surgery offers patients a 70–90% chance of curing their epilepsy.

How is a temporal lobectomy done?

Temporal lobectomy is a surgical procedure designed to remove portions of the brain's temporal lobe causing seizures. The temporal lobe is a part of the brain located on either side of the head just above the ear. During surgery, a small, seizure-causing portion of the temporal lobe is removed. Depending on how much tissue is removed, the surgery may go by various names, such as temporal lobectomy, tailored temporal lobe resection, or selective amygdalohippocampectomy. Surgeons many times use specialized instruments such as an operating microscope, electrocorticography to record the electrical activity of the surface of the brain, and computer-assisted image guidance. Surgery lasts approximately 4 to 6 hours and the incisions are usually behind the hairline and hidden when the patient's hair grows back. Important areas of the brain controlling language and motor function are mapped out prior to surgery ensuring only abnormal tissue is removed and these crucial areas of the brain are left intact.



What are the risks of the operation?

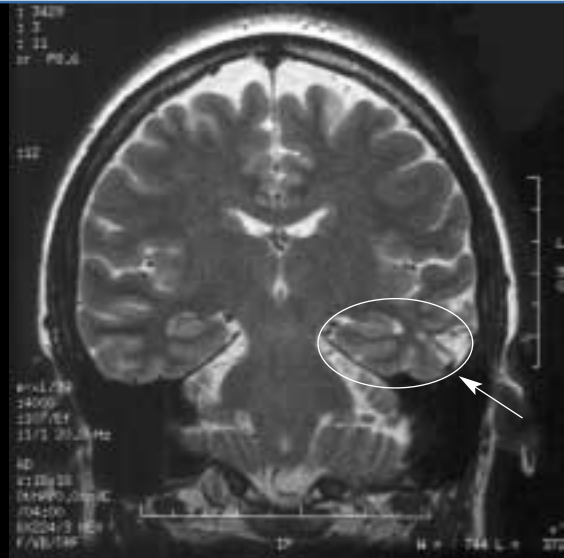
Complications are rare, however, all surgery carries some risks. The standard risks for any brain surgery include bleeding, infection, stroke and cranial nerve deficits. These are all discussed with the patient, but are exceedingly rare. Transient language dysfunction may occur for a few days after surgery on a dominant temporal lobe. Permanent memory dysfunction has been reported in 2% of patients who have had a temporal lobectomy. However, memory dysfunction can be minimized with careful patient selection and intensive preoperative evaluations.

What is the recovery time?

The surgery has a 70–90% success rate for complete seizure control. Hospitalization is approximately 4 to 7 days with the first post-surgical day usually spent in an intensive care unit. Some patients experience nausea the first few days after surgery. These post-surgical conditions usually subside prior to discharge. Regular follow-up visits with the Epilepsy Center are required to judge the effectiveness of seizure control and to monitor any continued anti-seizure medications. Once seizure control has been established, medications typically are drastically reduced or completely eliminated. Generally patients can ambulate and return to a regular diet within two days. Most patients will return to their normal daily activities including exercise, work or school within six weeks after surgery.

case study

Temporal Lobectomy



MRI scan showing atrophy (shrinkage) of the temporal lobe on the left side.

Case

Trauma induced epilepsy

Case Overview

H.C. is a 34 year old woman, who at age 30 was kicked in the head by a horse, suffered a concussion and lost consciousness for several hours. Subsequent to this accident, she developed epilepsy. Her epilepsy was characterized by seizures consisting of episodes of confusion, involuntary movements of the right arm and speech difficulties for several minutes. She had no recollection of these episodes and experienced convulsions during sleep. The longest seizure-free time period she ever experienced was one month. She was treated with six medications, none of which controlled the seizures and with these medications she developed side effects of cognitive deficits and fatigue. During this four-year epileptic phase, psychosocial issues arose as she lost her job, was divorced and her ex-husband took custody of her two children.

Diagnostic Tests

The patient was referred to California Pacific Medical Center for video/EEG telemetry through the Epilepsy Center. An MRI scan revealed a scar in the left temporal lobe. During the diagnostic phase of the study, the seizures were determined to originate from the left temporal lobe and confirmed a strong correlation between the scar and her epilepsy.

Phase II of the diagnostic study consisted of neuropsychological paper and pencil tests, evaluating memory, language and spatial perception. The testing concluded that her language function was on the left side of the brain and that most of her memory was on the right side of the brain. A positron emission tomography (PET) scan was also obtained during this phase showing abnormal function in the left temporal lobe.

Treatment

Because of concordance between EEG, MRI, PET and neuropsychological data, surgery was recommended. A left temporal lobectomy was performed in August 2000.

Outcome

Since her surgery in August of 2000 the patient has remained seizure free. One of the two medications the patient had been taking has been removed. She continues to experience occasional word finding problems, but otherwise is functioning well. She is planning to resume design classes and is considering taking driving classes. Freedom from seizures has given this woman another chance to be productive, pursue her interests and fulfill her dreams of a better life.

For more information

Please contact the California Pacific Epilepsy Center physicians:

David King-Stephens, M.D.

Epileptologist
(415) 923-3055

Peter B. Weber, M.D.

Neurosurgeon
(415) 885-8628

2100 Webster Street
San Francisco, California 94115
www.cpmc.org/epilepsy