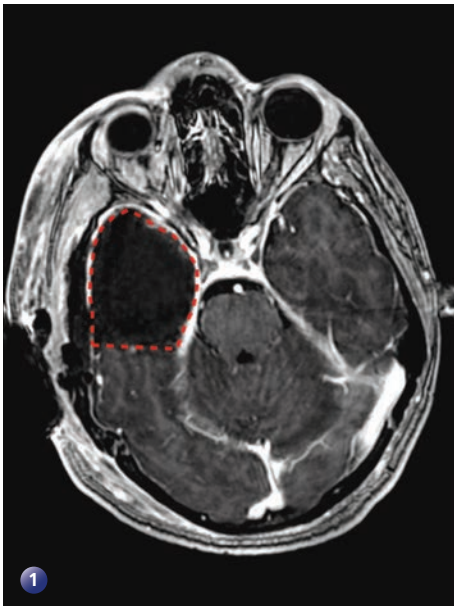
Surgical alternatives for epilepsy (SAFE) offers counseling, choices for patients

by **R. Mark Richardson, MD, PhD**

Epilepsy is often called the most common serious neurological disorder because at any given time 1% of the world's population has active epilepsy. The only potential cure for a patient's epilepsy is the surgical removal of the seizure focus, if it can be identified. Chances for seizure freedom can be as high as 90% in some cases of seizures that originate in the temporal lobe.

In 2003, the American Association of Neurology (AAN) recognized that the benefits of temporal lobe resection for disabling seizures is greater than continued treatment with antiepileptic drugs, and issued a practice parameter recommending that patients with temporal lobe epilepsy be referred to a surgical epilepsy center. In addition, patients with extra-temporal epilepsy who are experiencing difficult seizures or troubling medication side effects may also benefit from talking to an epilepsy surgeon, especial those with a brain lesion such as a tumor or vascular malformation.

Tragically, it takes an average of 20 years for patients with drug-resistant epilepsy to be referred to an epilepsy surgeon. For this reason, the University of Pittsburgh Adult Epilepsy Surgery Program has implemented a process for patients and their families to meet with the epilepsy surgeon earlier in the course of their disease treatment.



Post-operative MRI demonstrating a right anterior temporal lobectomy (red dashed line) in an epilepsy patient who has been seizure-free after surgery, without any cognitive changes.

Myths	Facts
• There are always **'serious complications'** from epilepsy surgery.	**Epilepsy surgery is relatively safe:** • the rate of permanent neurologic deficits is about 3% • the rate of cognitive deficits is about 6%, although half of these resolve in two months • complications are well below the danger of continued seizures.
• All approved anti-seizure medications should fail, or • a vagal nerve stimulator (VNS) should be attempted and fail, **before surgery** is considered.	• Some forms of temporal lobe epilepsy are progressive and **seizure outcome is better when surgical intervention is early**. • Early surgery helps to avoid the adverse consequences of continued seizures (increased risk of death, physical injuries, cognitive problems and lower quality of life. • Resection surgery should be considered **before** vagal nerve stimulator placement.
• A seizure focus near the language area of the brain cannot be removed. • A seizure focus near the movement area of the brain cannot be removed	• Language and movement areas of the brain can be preserved by carefully mapping these functions with electrical stimulation.
• Surgery on the head leaves a huge scar where hair doesn't grow and is disfiguring.	• Cosmetic changes are often only noticed by the patient, and hair does grow back over the incision.

Surgical Alternatives For Epilepsy (SAFE) counseling is a process that allows epilepsy patients, and their families, to talk to a neurosurgeon about the role of brain surgery in the treatment of epilepsy, even if surgery has not yet been recommended. In this program, neurologists and general practitioners are referring epilepsy patients as soon as surgical candidacy is a possibility, recognizing that surgery for epilepsy is not a "last resort" but a potential cure.

SAFE counseling is an appropriate step even if patients are not ready to undergo brain surgery, as meeting with the neurosurgeon does not represent a commitment to surgery. The philosophy of our comprehensive epilepsy program is that early education about surgery gives patients more control over the treatment of their disease. Also, surgical treatment earlier in the course of epilepsy is more effective. Some facts that are discussed include:

• Up to 40% of people with epilepsy cannot control their seizures with medication.

• The chance of becoming seizure-free after failing two medications is less than 10% and drops to less than 3% after failing three medications.

• 70-90% of patients are seizure free one year after temporal lobe surgery (*see figure 1 at left*).

• 100,000 people with drug-resistant temporal lobe epilepsy are eligible for surgery every year in the U.S., but less than 3% get surgical treatment.

Why are more patients who would benefit from epilepsy surgery not referred and treated? Myths and lack of education about epilepsy surgery probably play a large role (*see table above*).

As part of a neurosurgical consultation at UPMC, epilepsy patients also have the opportunity to talk to a representative from the Epilepsy Foundation of Western Pennsylvania (EFWP) to learn about available resources for people with epilepsy. Additionally, in conjunction with the EFWP, our department hosts an Epilepsy Surgery Discussion Group every third Friday of the month, where anyone who has had, or is considering having, surgery for epilepsy is invited to come and share their experiences or ask questions. •