

Each year, more than 2000 people get surgery to control or reduce their epileptic seizures. Some of these surgeries are riskier than others.

While there are differences between the types of epilepsy surgery which are performed, many of the same considerations apply to all of them. When a doctor presents epilepsy surgery as an option, it is important that he or she places the risks and benefits of the procedure in the context of the risks of uncontrolled seizures or high doses of anti-epilepsy medications. There are many types of surgery, and each is associated with different risks and benefits.

The most common type of epilepsy surgery is called a temporal lobectomy. This is the removal of part of one of the temporal lobes of the brain, areas associated with memory and emotion. Following a temporal lobectomy, there may be a slight decline in memory and word finding, especially for rarely used words. These potential problems are most likely to occur if the operation is performed on the left temporal lobe, which controls language functions. After a temporal lobectomy, the most common emotional changes are improvements in anxiety and depression. However, anxiety and depression can occasionally develop for the first time after a lobectomy. If it does, it is usually temporary and responds well to medication. Although some patients experience a minor loss of vision on the outer part of the side opposite from the surgery, it is usually so slight that most are unaware of it. The most serious risks of temporal lobectomy are a 1 to 2% chance of stroke and a 0.1% risk of death. However, because epilepsy surgery is elective and allows for preparation, the risks are reduced to the lowest possible levels in neurosurgery.

After a temporal lobectomy 55 to 75% of patients are free of seizures that impair consciousness. An additional 10 to 30% have occasional seizures, but enjoy a significant reduction in seizure activity. Unfortunately, occasional seizures that impair consciousness will still restrict driving and certain other activities. However, up to 15% of patients notice no improvement post-surgery.

Most people who become seizure free after surgery still require anti-epilepsy medications, but often that lower doses than before. Some patients can eventually come off all medications, but this is not the primary goal. Freedom from seizures and medication side effects is considered success.

A lesionectomy is another type of epilepsy surgery. Lesionectomy and other epilepsy surgeries that remove brain tissue generally come with a risk of stroke that is just 1 to 2%. Depending upon the specific location of the seizure focus, there may be other risks to vital function, including language, movement or sensation.



Corpus callosotomy, another form of surgery, carries a slightly higher risk of stroke or problems with attention or behavior. The corpus callosum is the largest group of fibers or wires that connect the left and right sides of the brain. After partial corpus callosotomy, which severs the front two-thirds of this fiber bundle, seizure reduction is around 60 to 80% for certain seizure types, including tonic-clonic, atonic and tonic seizures. After the complete procedure, which often involves two separate surgeries, reductions rise to 80 to 90%.

Another surgery, called hemispherectomy, is the removal and/or disconnection of half the brain. Although the functions of this half of the brain are often seriously impaired before surgery, any remaining functions are lost after the procedure. However, hemispherectomy does provide almost complete seizure relief in 75% of patients.

When deciding if epilepsy surgery is right for you it can often be helpful to obtain the opinion of experts at another epilepsy center or to speak to patients who have had surgery before. Bottom line: if someone is a good candidate for surgery and epilepsy significantly impairs quality of life, surgery is worth seriously considering.