

Two minutes with...

John Croom, M.D., Ph.D.

Headed in the Right Direction

One out of every 100 people suffer from epilepsy. Saint Luke's Brain and Stroke Institute offers relief for their debilitating seizures

What is epilepsy?

Epilepsy is a brain disorder that causes repetitive, unprovoked seizures in patients.

Most people picture grand mal seizures where someone falls to the ground and shakes uncontrollably. But most adults suffer from complex partial seizures where they have an altered state of consciousness—where they can zone out and stare or pick at their clothes. This can typically last up to one minute or so.

Who is prone to it?

Epilepsy is very common and affects 1 percent of the population—people of all ages. However, the highest incidence is in young children and the elderly.

Strokes and brain tumors typically cause epilepsy in older adults while genetic defects or developmental abnormalities can cause it in children. Of course, head trauma can also result in epilepsy and can affect people of all ages.

How does epilepsy occur?

The brain is composed of billions of neurons, which fire at different rates. A seizure occurs when too many neurons fire at the same time and at the same rate. In other words, the neurons are firing too synchronously, which is abnormal. Clinical symptoms of a seizure coincide with the part of the brain that is firing abnormally.

For example, if a seizure involves the part of the brain that controls the arm, then



Head case John Croom, M.D., Ph.D., is the Director of the Comprehensive Epilepsy Center and one of two epileptologists (doctors specializing in treating epilepsy) at Saint Luke's Brain and Stroke Institute, which has the area's only Level 4 Comprehensive Epilepsy Center.

your arm would move but you'd remain conscious. If the seizure involves the whole brain, you'll lose awareness and can have whole-body convulsions.

What treatments are available?

Epilepsy is treated with anticonvulsant medication or surgery. Approximately 60 percent of patients can be treated with medicine; the rest might need several medications or may need to undergo surgery.

Some receive a vagal nerve stimulator, which is like a pacemaker. It's a small flat disc several inches long that's implanted in the chest. It's connected to a wire that's wrapped around a nerve in the neck, the vagus nerve, which ultimately comes from the brain. The stimulator delivers small pulses of electricity to the vagus nerve that, in turn, signals the brain and can control seizures.

Lobectomy is another surgical option. If the area of the brain where the seizures are starting can be localized, then this part of the brain can be safely removed by a neurosurgeon. For the right patient, this can cure them of their epilepsy when anticonvulsant medications have failed.

How does Saint Luke's help those with epilepsy?

The Comprehensive Epilepsy Center at Saint Luke's is a Level 4 Epilepsy Center, which is the highest designation by the National Association of Epilepsy Centers. As the only Level 4 center in the metro area, we are able to offer a full range of diagnostic and treatment options, including surgery.

We have a comprehensive team of epilepsy specialists, neurosurgeons, an advanced practice nurse, a psychiatrist, a neuropsychologist, neuroradiologists, and a social worker. Because of this team, we're able to provide a multidisciplinary approach in evaluating and treating patients. We're also involved in clinical research trials involving new anticonvulsant medications. ✦

For more information about Dr. Croom or Saint Luke's Brain and Stroke Institute, call NurseLine at (816) 932-6220 or visit our Web site at saintlukeshealthsystem.org.