What are the symptoms of Epilepsy?
Fits are of many types. The symptoms found in most of the cases are:
- Sudden fainting & falling on ground.
- Face turning to one side.
- Eyes becoming glossy.
- Clenching of fists.
- Bending of neck to one side.
- Foaming in the mouth.
- Feeling of giddiness for a second.
- Fainting with oh’–oh’/go’–go’ sound or even headache with giddiness.
- Seizures during Menstrual period in women.

What Causes Epilepsy?
Epilepsy is a disorder with many possible causes. Anything that interrupts the brain’s normal activity can lead to seizures. Epilepsy can be inherited, or it can result from a birth defect, birth or head injury, brain tumor, or an infection in the brain. In some cases, epilepsy may develop due to abnormal nerve connections that form as the brain heals after a head injury, stroke, or other problem. In about 70 percent of people with epilepsy, the exact cause cannot be determined. When the exact cause of epilepsy is not known, it is referred to as idiopathic epilepsy.

What is a seizure?
A sudden, excessive discharge of nervous–system electrical activity that usually causes a change in behavior. Closeis a sudden surge of electrical activity in the brain that usually affects how a person feels or acts for a short time. Seizures are not a disease in themselves. Instead, they are a symptom of many different disorders that can affect the brain. Some seizures can hardly be noticed, while others are totally disabling.

The seizures in Epilepsy. A disorder characterized by transient but recurrent disturbances of brain function that may or may not be associated with impairment or loss of consciousness and abnormal movements or behavior. Closemay be related to a brain injury or a family tendency, but often the cause is completely unknown. The word “Epilepsy” does not indicate anything about the cause or severity of the person’s seizures.

How is epilepsy treated?
Before a person begins treatment, the first step is to ensure that the diagnosis of epilepsy is correct and to determine, if possible, the type of epilepsy and whether there are any underlying conditions that also need treatment. This will require a careful review of the person’s medical history and a neurological examination. Other tests may be recommended as well, usually including an electroencephalogram (EEG) and often a brain scan; such as a computed tomography (CT) or magnetic resonance imaging (MRI). The medical decision about how best to treat the epilepsy is based on this evaluation.

- Antiepileptic drugs are the mainstay of treatment for most people. There are now many drugs available, and a doctor may recommend one or more of these based on several individual patient factors such as the type of epilepsy, the frequency and severity of the seizures, age, and related health conditions. After starting a medication, close monitoring is required for awhile to
assess the effectiveness of the drug as well as possible side effects. Early in treatment, dosage adjustments in dosage are often required. Sometimes, because of continued seizures or significant side effects, it is necessary to change to a different drug. For about two-thirds or more of people with epilepsy receiving optimum treatment, drugs are successful in fully controlling seizures. For the remainder, although drugs may have a partial benefit, some seizures continue to occur. For some of these people, other treatment options may be considered.

- Surgery. With certain types of partial epilepsy, especially when it can be determined that seizures consistently arise from a single area of the brain called the seizure focus, surgery to remove that focus may be effective in stopping future seizures or making them much easier to control with medication. Epilepsy surgery is most commonly performed when a seizure focus is located within the temporal lobe of the brain. This may need further advanced tests from an epileptologist -such as special sequence MRI scan even if previous simple screening MRI has been done, video EEG, SPECT or PET SCAN and neuropsychological evaluation or a functional MRI scan as required.

- Surgery for epilepsy is available at few specialized epilepsy centres in India and abroad and is useful in carefully evaluated persons with epilepsy by a dedicated epileptologist and his team in a comprehensive manner. When this happens 5-10% of resistant or difficult to treat epilepsy with focal brain disturbance, if not in an important brain area, can be surgically treated with good results for seizures reduction or total stoppage and improved quality of life.

- Other options. Other supplemental treatments are sometimes beneficial when medications alone are inadequate and surgery is not possible. These include vagus nerve stimulation, where an electrical device is implanted to intermittently stimulate a large nerve in the neck, Alternative treatment such as specialized Yoga techniques and the ketogenic diet, a high fat, low carbohydrate diet with restricted calories.

**At what age does epilepsy start? Is it hereditary?**

Epilepsy primarily affects children and young adults, although anyone can get epilepsy at anytime. 20% of cases develop before the age of five, and 50% develop before the age of 25. However, epilepsy is also increasingly associated with the elderly, and there are as many cases in those 60 years of age and older as in children 10 years of age and under. Heredity usually is not a direct factor in epilepsy. But some kinds of brain wave patterns associated with seizures do tend to run in families.

**How can I help someone who is having a seizure?**

Stay calm don’t try to restrain or revive the person. If the person is seated, help ease him/her to the floor. Remove hazards such as hard or sharp objects that could cause injury if the person falls or knocks against them. Don’t move the person unless the area is clearly dangerous, such as a busy street. Loosen tight clothing and remove glasses. Protect airways by gently turning the person on one side so any fluid in the mouth can drain safely. Never try to force something into the person’s mouth! Don’t call an ambulance unless the seizure lasts more than five minutes, or is immediately followed by another one, or if the person is pregnant, ill, or injured. When the seizure ends, let the person rest or sleep. Be calm and reassuring because the person may feel disoriented or embarrassed.
How do the doctors know that a person has epilepsy?
A range of tests can be carried out at specialist centres to identify possible causes of epilepsy but these cannot always provide a definite diagnosis. The patient’s medical history and an eye–witness account are what doctors mainly use to decide the diagnosis. Epilepsy is a very difficult condition to diagnose correctly so it is important to see someone who has a specialist knowledge in this field as soon as possible.

How long is treatment necessary for epilepsy?
There is no easy answer to this question. Some people will need to take antiepileptic drugs all their lives. Others may only need medication for a limited time. If no seizures have happened for two to three years, then consult a doctor first about the possibility of withdrawing from the drugs don’t decide just to stop! Seizures may return or become severe and life threatening.

Is Epilepsy related to mental illness?
Epilepsy is not related to mental illness. Because of the involvement Of the brain, Epilepsy has been mistakenly associated with psychiatric disorders. Epilepsy differs from psychiatric disorders in that seizures last for very brief periods and begin and end abruptly. Further, when not having seizures, people with Epilepsy need not have any changes in their mood or behavior and are normal persons able to carry out all activities of daily living and continue their studies or work.

Can Epilepsy affect intelligence?
Seizures can affect intelligence, so prompt diagnosis and rapid control of seizures is important. There is also a risk if seizures are prolonged and there is a significant reduction in oxygen in the brain during seizures. However, these are extremely rare occurrences. In the case of developmentally delayed persons with Epilepsy, it is most likely that the cause of the developmental delay is also the cause of the seizures. In most cases, people with Epilepsy have normal intelligence.

Why epilepsy happens?
The brain consists of millions of nerve cells, or neurones, and their supporting structure. Each neurone maintains itself in an electrically charged state. It receives electrical signals from other neurones, and passes them on to others. What actually happens is that a tiny quantity of a special neurotransmitter substance is released from the terminals of one neurone. This chemical excites an electrical response in the neurone next in the chain, and so the signal moves onward.

All the functions of the brain, including feeling, seeing, thinking and moving muscles depend on electrical signals being passed from one neurone to the next, the message being modified as required. The normal brain is constantly generating electrical rhythms in an orderly way. There is a cancellation of unwanted signals which does not allow the excitation to spread to unwanted parts of the brain for the activity under consideration. When this does not happen excitation of larger portion of neurones occur causing interference with brain function seen as epileptic manifestations.

In epilepsy this order is disrupted by some neurone discharging signals inappropriately. There
may be a kind of brief electrical "storm" arising from neurones that are inherently unstable because of a genetic defect (as in the various types of inherited epilepsy), or from neurones made unstable by metabolic abnormalities such as low blood glucose, or alcohol. Alternatively, the abnormal discharge may come from a localized area of the brain (this is the situation in patients with epilepsy caused by localized structural changes such as head injury, or brain tumor or abnormal brain development).

Who can have epilepsy?
Practically, anyone can have excessive excitation of the brain cells leading to a seizure if there are precipitating conditions that reduce the threshold for electrical excitation such as fever, lack of sleep, alcohol, chemicals/drugs etc. In addition brain injury, strike, poisoning, metabolic disturbance in body’s chemical environment (such as heat or sun stroke) can cause seizures.

When unprovoked and repetitive we call it epilepsy. A single seizure may occur commonly in many persons and we do not call it epilepsy but it is necessary to investigate even a single seizure Epilepsy is seen most commonly in childhood below the age of 10 years (50% of all onset of seizures), then becomes less in adolescent (70 % of all seizures have begun by 20 yrs), rare in adulthood and again is seen to rise after the age of 50 years.

How is epilepsy diagnosed?
Only a neurologist can diagnose epilepsy. To make a diagnosis, the neurologist may order a neurological exam, blood tests, an electroencephalogram (EEG), and other tests like a CT or MRI scan.

What types of doctors treat epilepsy?
In many cases, a person’s initial diagnosis of epilepsy is made by their primary care provider, family doctor, or an emergency department physician. To get the type of specialized care a complex condition like epilepsy requires, you should see a specialist. A variety of specialists treat epilepsy. These include adult and pediatric epileptologists, physicians who specialize in the diagnosis and treatment of epilepsy, and adult and pediatric neurologists, physicians who specialize in diagnosing and treating disorders of the nervous system, including epilepsy. Epilepsy treatment is often provided in a specialized Epilepsy Center, where a treatment team of specialists in multiple fields offer a full range of treatment options.

The ultimate goal of epilepsy treatment: seizure freedom with minimal side effects. The most common treatment is with antiepileptic drugs (AEDs). Your neurologist may prescribe one or many AEDs to find the best treatment option for you. Other treatment options include ketogenic diet, Vagal Nerve Stimulator (VNS), and surgery.

Can epilepsy be fatal?
Most people with epilepsy live a full life span. Nevertheless, the risk of premature death is increased for some, depending on several factors:
- Sometimes epilepsy is a symptom of a more serious underlying condition; such as a stroke or a tumor that carries an increased risk of death.
- People with some types of epilepsy who continue to have major seizures can experience injuries during a seizure from falling or hurting their head that may occasionally be
life-threatening.

- Very prolonged seizures or seizures in rapid succession, a condition called status epilepticus, can also be life-threatening. Status epilepticus can sometimes occur when seizure medication use is stopped suddenly.
- Rarely, people with epilepsy can experience sudden death (SUDEP). These events are not well understood, although they are suspected sometimes to be due to heart rhythm disturbances during a seizure. Sudden death due to heart rhythm disturbances can also occur in the general population. The risk of sudden death is not increased for all types of epilepsy, but occurs more among people with major seizures, especially generalized tonic-clonic seizures that are not well controlled.

**Is epilepsy a disease?**

Epilepsy is not a disease. It is a symptom of a neurological disorder—a physical condition—which causes a malfunction of the electrical signals which control the operation of the brain. It is characterized by sudden, brief seizures whose nature and intensity varies from person to person.

**How does our nervous system work?**

Nerves throughout the body act like telephone lines, allowing the brain to communicate with the rest of the body via signals. This is our nervous system. From the moment we are born to the moment we die, this communications network controls our every thought, our every emotion, every step we take, every impression we get. Without it we could not plan, feel, move a muscle, nor distinguish between pleasure and pain.

**What is a seizure threshold?**

A seizure threshold is the level of stimulation at which your brain will have a seizure. A very high fever, for instance, can sufficiently excite anyone’s brain to produce a seizure. People with epilepsy have a lower—than—normal seizure threshold, meaning that only slightly increased excitement will cause them to have a seizure. Your seizure threshold is mostly genetically inherited, but other factors can affect this level. Young age and high fever are two factors that may lower one’s threshold, making a child more likely to have a seizure.

**Is epilepsy genetically inherited?**

Some forms of epilepsy have now been linked to specific genes. In addition, scientists believe that everyone inherits a seizure threshold which determines how susceptible you are to seizures. In fact, in most cases epilepsy develops without any family history of the condition. Basically, unless both parents have a strong family history of epilepsy, the chances that any of their children will inherit the tendency to have seizures are quite low.

**Is Epilepsy Contagious?**

Epilepsy is in no way contagious. No one can get the disorder by talking to, kissing, or touching somebody with Epilepsy. Epilepsy can only be transmitted through hereditary transfer. Epilepsy that runs in families suggests an underlying metabolic or genetic etiology, and this is the least common of all Epilepsy causes.

**Who has epilepsy?**
Epilepsy most often starts in childhood or else late in life, but anyone can develop epilepsy at any time. Epilepsy affects people of all ages, all nations, and all races. Next to migraine headaches, it is the most common neurological disorder.

**What is an EEG?**
The electroencephalograph or EEG directly measures electrical activity in the brain–brain waves–through the skin. In this harmless test, small sensors called electrodes are attached to the patient’s scalp. The electrical activity picked up by each sensor is graphed onto an EEG printout. Tests done on people with epilepsy commonly show uneven activity or large changes in the voltage of brain waves. Different patterns of activity from different spots on the scalp point to different kinds of epilepsy.

**How accurate is the EEG test?**
The EEG is not foolproof. It can only measure abnormal electrical activity that occurs during the test period. Sometimes, the brain of the person with epilepsy functions perfectly normally during the test. Or the electric patterns that the device is looking for happen too deep in the brain to be picked up by the scalp electrodes of the EEG. When the EEG doesn’t find anything unusual, it is common for the patient to get a continuous, 24–hour EEG monitoring in hospital. About 20% of people with epilepsy have normal EEGs, and a small percentage who don’t have epilepsy have abnormal ones!

**What other tests are sometimes used?**
Neuroimaging tests are often recommended, even in cases of long–standing epilepsy, when its cause is unknown.

1. CAT or CT scan stands for computerized axial tomography, which uses computer processing and x–rays to make a computer image of the brain in three dimensions.
2. The Magnetic Resonance Imager (MRI) can better define the structures of the brain in three dimensions. All electric currents make magnetic fields, and the MRI measures the strength of these fields.
3. MRS (Magnetic Resonance Spectroscopy) provides information about the brain’s functioning and biochemistry which can be used in conjunction with structural MRI or CT images.
4. Functional MRI (fMRI) can look at discrete areas of brain activation.
5. PET (Positron emission tomography) scanning is a highly specialized, expensive and largely unavailable technique that detects cerebral blood flow and metabolism.
6. SPECT scanning is much cheaper and technically simpler than PET scanning for determining cerebral blood flow.

**Does having epilepsy affect sex?**
Epilepsy can have effects on sex, and sex has effects on epilepsy. Many people with well controlled epilepsy have a comfortable, satisfying sex life. Having a supportive partner who provides emotional closeness, as well as sexual intimacy, is perhaps the greatest asset in helping people with epilepsy feel positive about themselves, which in turn improves seizure control. Anxiety and stress are known seizure “Triggers”. Sex can release stress, and help relax people, thereby reducing seizure frequency.

People living with epilepsy frequently encounter sexual difficulties. These can be due to the
epilepsy itself, the medications used to treat the illness, or due to reactions of partners.

**Can epilepsy lower my sexual desire?**
One of the commonest sexual effects of epilepsy is the decrease or loss of desire. This is variable depending on the type of epilepsy a person is dealing with. Erectile dysfunction is also a common problem for men with epilepsy. Desire changes appear similar for women.

Sexual difficulties are found to be more significant in people whose epilepsy started before adolescence. Epilepsy can affect a person’s self-confidence, body image, and mood, both of which are important when relating with others.

**What effects do anti–seizure medications have on sex?**
Drugs used to treat epilepsy have common side–effects than can depress sexual responsiveness, desire, arousal (erection problems for men, and lubrication problems for women), as well as orgasmic difficulties. Finding the right balance of seizure control and side–effect reduction can be challenging. Stopping drugs due to frustrating side–effects might feel like a good solution in the short term, but doesn’t help reduce seizures and can be dangerous.

**Who can I talk to about sex and epilepsy?**
Discussing sexual side–effects can feel embarrassing, but most doctors should be able to deal with them appropriately. As more and more drugs become available for epilepsy, as well as other diseases, quality of life issues are becoming significant factors in medication choices.

**When should I tell someone new that I have epilepsy?**
Potential partners are often scared of the unknown, which leads them to avoid someone with epilepsy. At times people with epilepsy will hide their illness from someone new. It is appropriate to know someone a bit before divulging such private information. At times this leads to increased anxiety. Partners have fears regarding the myths and realities of what epilepsy actually is.

**Could having sex trigger a seizure?**
It is rare than sex will trigger a seizure, although it does occasionally happen. An intimate partner needs to be taught how to deal with seizures in general.

**What can I do if I’m encountering problems with sex?**
Talk to your partner, which is the best solution for it. By talking with doctors, family physicians, neurologists, and others about your sexual concerns, they can change medications or other treatments accordingly. For example, treatments exist for erectile dysfunction; lubricants can help for dry vaginas. Love can be the best medicine for a couple living with epilepsy.

**Is there a cure for epilepsy?**
There is currently no cure for epilepsy, but there are ways to keep seizures under control.

**Do anti–epileptic medications have side effects?**
All anti–epileptic drugs can have side effects. These vary from drug to drug and only affect some people. In general, however, it is common for people on anti–epileptic medication to
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experience drowsiness, fatigue, weight change, upset stomach and difficulties with concentration and memory.

Is surgery used to treat epilepsy?
Yes, brain surgery for epilepsy is performed, but only in a small percentage of cases, and only when all other treatments fail to adequately control seizures. The area of the brain with abnormally discharging neurons is surgically removed, if it is possible to identify this area and remove it safely. Or, in certain patients without a well-defined epilepsy focus, surgically disconnecting or isolating the abnormal area so that seizures no longer spread to the neighbouring normal brain can help. As with any operation, there are risks to epilepsy surgery. In patients with an identified seizure focus, the success rate of surgery is up to 80%.

Is diet used to treat epilepsy?
The Ketogenic Diet is used to treat a small number of children with intractable epilepsy who do not respond to standard therapies. It is an extreme, multi-year, high-fat diet that is challenging to administer and maintain. There is no way to predict whether it will be successful, but a significant percentage of children who are placed on the Ketogenic Diet achieve significant reduction in intensity and frequency of seizures. At present, the diet is not considered helpful for adults.

What is vagus nerve stimulation therapy for epilepsy?
The vagus nerve stimulator has been approved to treat to control seizures. The device is an small, pacemaker-like generator which is surgically implanted near the collarbone to deliver small bursts of electrical energy to the brain via the vagus nerve in the neck. So far, research has shown that vagus nerve stimulation may reduce seizures by at least 50%.

What alternative therapies are used for epilepsy?
Unconventional or non-medical therapies that focus on the integration of the body, mind and spirit have not yet been well researched for epilepsy. Some people who have tried alternative therapies like relaxation, yoga, acupuncture, aromatherapy, biofeedback, nutrition and behaviour therapy have felt that these have helped their epilepsy and improved their quality of life.

Is epilepsy related to other neurological problems?
Epilepsy is not necessarily associated with other neurological problems or learning disabilities. Occasionally, the source of the seizures may be reflected in other neurological deficits. People with Epilepsy have the same range of intelligence as the general population.

Is there a link between memory loss and Epilepsy?
Some people with Epilepsy do experience a difficulty in recalling distant and recent events. Often, this is caused by the medications used to treat Epilepsy, or by regular seizure activity.

Can seizures be triggered by flashing lights?
“Photosensitive Epilepsy” is the name given to a form of the disorder where seizures are triggered by flickering or flashing lights. Though it occurs more frequently in girls aged 6–12, it can occur at any age and regardless of gender.
When is surgery used to treat Epilepsy?
Surgery is used only when medication fails and only in a small percentage of cases where the injured brain tissue causing the seizures is confined to one area of the brain and can be safely removed without damaging personality or functions.

Are there any diseases that persons with Epilepsy more prone to?
People with Epilepsy who are on medications may experience side effects that makes them more susceptible to other diseases and disorders. One common condition is Hyperplaxia, an over-growth of the gums caused by the drug Dilantin. Other common problems are liver dysfunction and depression.

Can epilepsy cause emotional problems?
People with Epilepsy may develop depression for both biological and social reasons. Some longstanding poorly controlled seizure disorders may be associated with chronic personality changes. Some patients may have emotional “Swings” or other thinking difficulties. Anger, fear, and depression are also common. However, with information and support, people with Epilepsy can understand the condition and develop positive coping strategies.

Is there a special diet for people with Epilepsy?
Good nutritional habits and a healthy life style may assist in the maintenance of optimum seizure control. Experiencing a drastic weight change may mean that either a chemical or metabolic imbalance is occurring, and you should consult your physician.

What if my child has a seizure during his sleep?
Children are usually awakened by seizures that occur while they sleep. Thus, a parent of a child with a known seizure disorder is usually aware when their child has seizures during the night. Only in those rare cases where a child vomits or experiences other problems during a seizure is there a need to worry.

Does alcohol affect seizures?
Alcohol can raise and then lower the seizure threshold, and thus increases the tendency to have a seizure. More important are interactions between alcohol and seizure medicines. Also, some drugs of abuse, especially cocaine and amphetamines, can cause seizures. Some prescription medications when taken in large doses can also bring on seizures.

Can low blood sugar trigger seizures?
Hypoglycemia (low blood sugar) can induce epileptic-type seizures. This condition can be caused by diet or by drugs such as insulin. This is not really Epilepsy since it is not recurrent seizures that are due to abnormal brain activity. Here the seizures are directly caused by the blood sugar levels.

Can lack of sleep cause seizures?
Excessive sleep deprivation can lower seizure thresholds and possibly result in a seizure. Lack of sleep is known to be an important precipitating factor in causing seizures. Other factors that can lower seizure thresholds are high fever, increased excitement, and changes in body
chemistry. It is important for people with Epilepsy to learn what kinds of events can trigger seizures for them.

**How long do the seizures last?**
Depending on the type of seizure, they can last anywhere from a few seconds to several minutes. In rare cases, seizures can last many hours. For example, a tonic–clonic seizure typically lasts 1–7 minutes. Absence seizures may only last a few seconds, while complex partial seizures range from 30 seconds to 2–3 minutes. “Status Epilepticus” refers to prolonged seizures that can last for many hours, and this can be a serious medical condition. In most cases, however, seizures are fairly short and little first aid is required.

**Can seizures occur if a person does not have Epilepsy?**
Epilepsy is a chronic condition of recurrent unprovoked seizures. Isolated seizures and provoked seizures (e.g., drug or alcohol induced) are not Epilepsy even though the events are real seizures. There are many types of non–epileptic seizures. Non–epileptic seizures differ from epileptic seizures in that there is usually no evidence of abnormal electrical activity in the brain after the seizure, and they do not occur repeatedly. Some of the more common causes of non–epileptic seizures are: low blood sugar, fainting, heart disease, stroke, migraine headaches, kinked blood vessels, narcolepsy, withdrawal, and extreme stress or anxiety.

**What are pseudoseizures?**
Psuedoseizures (or psychogenic seizures) are quite common and can occur in people who have, or do not have, Epilepsy. The attacks are triggered by a conscious or unconscious desire for more care and attention. The seizures start with rapid breathing, triggered by mental stress, anxiety, or pain. As the person breaths rapidly, they build up carbon dioxide in their body and change their chemistry. This can cause symptoms very much like Epileptic seizures: prickling in the face, hands, and feet, stiffening, trembling, etc. The appropriate treatment for pseudoseizures is to calm the person and start them breathing at a normal rate. Treatment should also involve investigating the mental and emotional factors that led to the psuedoseizure.

**How do you distinguish epileptic seizures from pseudoseizures?**
Epileptic seizures and pseudoseizures are distinguishable both by their nature and symptoms, but the diagnosis can be difficult. Epileptic seizures are caused by a change in how the brain cells send electrical signals to each other, while pseudoseizures are triggered by a conscious or unconscious desire for more care and attention. Thus, measuring brain activity with an EEG and video telmetry is important for distinguishing epileptic and pseudoseizures. Also, pseudoseizures often lack the exhaustion, confusion, and nausea that is associated with epileptic seizures.

**What are “Status” seizures?**
Status epilepticus is the term used to describe recurrent seizures without recovery of consciousness between attacks. This is a medical emergency and can be life threatening, or cause brain damage. Immediate action to get the necessary medical care should be taken.

**What is an Aura?**
Before the onset of a seizure some people experience a sensation or warning called an “Aura”.

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The aura may occur far enough in advance to give the person time to avoid possible injury. The type of aura experienced varies from person to person. Some people feel a change in body temperature, others experience a feeling of tension or anxiety. In some cases, the epileptic aura will be apparent to the person as a musical sound, a strange taste, or even a particular curious odour. If the person is able to give the physician a good description of this aura, it may provide a clue to the part of the brain where the initial discharges originate. An aura could occur without being followed by a seizure, and in some cases can by itself be called a type of simple partial seizure.