

## Understanding Epilepsy

### What is Epilepsy?

Epilepsy is commonly defined as a condition in which the person is likely to have recurrent seizures. Epileptic seizures (or fits as they are usually known) can take variety of forms, depending on where in the brain they are coming from.

### What happens in the brain in a seizure?

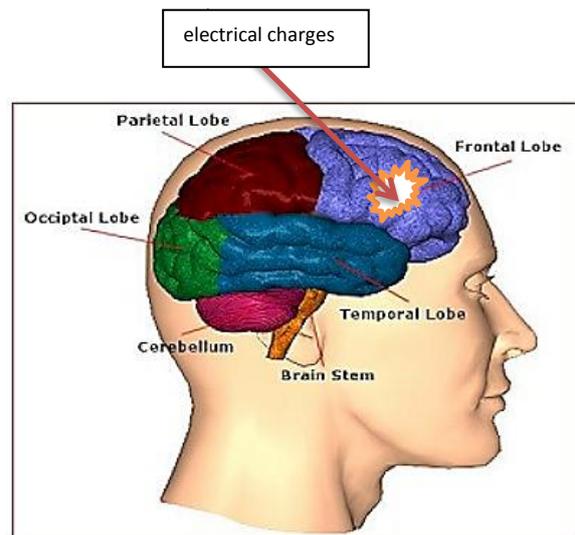
A seizure is likened to an electrical storm. These electrical charges can be confined to one part of the brain (partial seizures), spread to other parts of the brain or involve the whole part of the brain (generalised seizures).

Almost all seizures are sudden, short-lived and self-limiting. Most occur spontaneously and without warning.

### Types of Seizures

#### Partial seizures

These are seizures confined to a small part of the brain during which the individual is conscious. They are often divided into temporal lobe, frontal lobe, parietal lobe depending where the seizure starts. These seizures can be; simple partial, complex partial seizures (seizures spread from larger part of the brain on which the person having seizures can lose consciousness) and secondary generalised seizures (electrical charges spread to both halves of the brain).



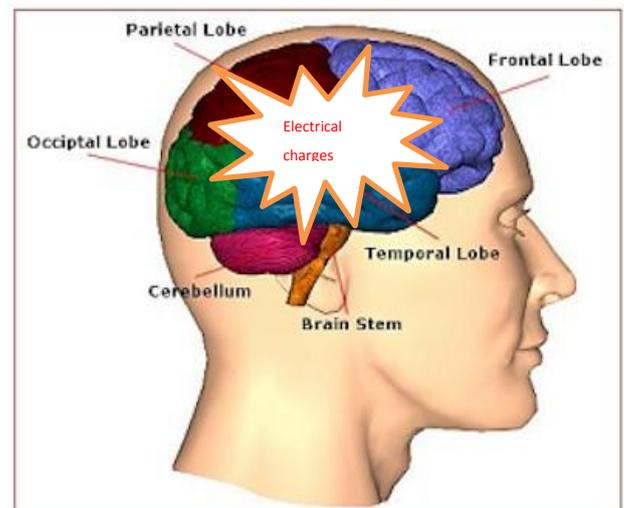
#### Significance with Hypothalamic Hamartoma

Gelastic seizures are partial seizures. Gelastic seizures can also occur as “seizure clusters”, seizures which are happening one after the other. These Gelastic seizures, however, can progress to complex seizures and secondary generalised seizures. The evolution of Gelastic seizures into complex seizures usually takes place between the ages of 4 to 10 years old. The individual will have a witnessed

impaired level of consciousness, focal motor convulsive features, and automatism. For example, during seizures, an individual may fumble his/her clothes, make chewing movements. Sometimes actions are coordinated and can even take the form of running, dancing, undressing or talking in confused manner. In secondary generalisation seizure, the seizure becomes generalised and it is known as “tonic-clonic” seizures. A tonic phase, the person goes stiff and falls, may let out a high pitched cry and both extremities jerk rhythmically (the clonic phase). Usually grunting occurs, heavy breathing, foaming of the mouth and lips turning blue due to lack of oxygen (cyanosis). During the seizure the person may bite his tongue or wet him/herself. Tonic-clonic seizures last for a few minutes. The person will be confused or disorientated about his/her environment and will often sleep. The post “ictal” phase or after-effects could last minutes or for hours.

### **Generalised Seizures**

These are seizures that begin in both halves of the brain at once with no warning and consciousness is lost instantaneously. These seizures are often a tonic-clonic form but it can also be just a tonic seizure (no shaking) or just a clonic seizure (no stiff phase which the person just falls). In rare occurrence, an atonic seizure type can happen which the person just slumps to the ground and recovers quickly. There are also other types of generalised seizures which absences and myoclonic jerks.



### **Significance to Hypothalamic Hamartoma**

Individuals may progress to generalised seizures; tonic seizures, tonic-clonic seizures and drop attacks. Gelastic or complex seizures typically precede the onset of generalised epilepsy.

### **Safety measures during seizures;**

*The most important thing for you to do is to be calm, talk to the person who is having seizures for reassurance and let the seizure run its course.*

**During seizures:** The person should be laid down on the ground; keep the environment safe and away from any objects that can cause an injury. If in a public space, retain the person's privacy and dignity by giving his/her some personal space. Stay with the person and try to monitor any changes of his/her seizure activity.

- Support the person's head with a pillow/cushion
- The person should **NOT** be restrained in anyway
- **NO** objects should be put in the person's mouth

**After a seizure:** The person **SHOULD** be placed on recovery position.

Recovery position:

**Step 1** > With the patient lying on her/his back, place the patients left hand to the side of his/her body. Turn the head to the left.

**Step 2** > Tuck the patients right hand under the left side of his/her face and jaw. Bend the patients right leg at the knee and pull the patient gently to his/her left side by the right knee and right shoulder so he/she is resting on his/her left side.

**Step 3** > Raise the right leg at the hip while keeping his/her knee bent, Ensure that his/her left arm is behind the body, **NOT UNDERNEATH**. This will stabilise the patient on her side.

**Step 4** > the recovery position is complete.

\* If you have witnessed a person having seizures and if time allows, try to record your observation about the seizure activity, the time it happens up to the time of recovery. This information will invariably help the emergency services if called to assist or the person having the seizure.

### Seizure Observation Template

Date and time	Activity before seizure	Seizure description	Assistance given	Recovery time	Activity after seizure
Example 16/02/14 11.00 am	In the garden playing football	Gelastic seizure Simple partial seizure	none	47 seconds 11.01 am	Continued playing football
Example 16/02/14	On the lounge playing	Gelastic seizure, fell	Buccal Midazolam	4 minutes 14.29 am	Went to deep sleep.

14.25 pm	computer games	down on the ground, went stiff, head turns on his left side, eyes turning upwards, jerking movements, stopped breathing, turned blue. Gasp for air, normal breathing occurs, murmurs incoherently. Simple partial seizure to secondary generalised seizure	10mgs Pillows to support head.  Put to recovery position.		
17/02/14 8.20 am	Dining room having breakfast	Gelastic seizure and simultaneously fumbling his clothes Complex partial seizure	none	45 seconds 8.21 am	Continued having his breakfast.