

## CLASSIFICATION OF SEIZURES

### *The International Classification of Epileptic Seizures*<sup>1</sup>

It is important to ascertain **seizure type** in patients and, when possible, **epileptic syndrome**, (or exact disease) as it is these that will largely determine:

- The type of investigation a neurologist will undertake.
- The type of treatment that will be required.

Seizures are classified into two basic groups, **partial** and **generalized**.

**Partial seizures** involve only a portion of the brain *at the onset*.

These can be further divided into two sub-types:

- Simple partial, in which consciousness is not impaired.
- Complex partial, in which consciousness is impaired.

Both types of partial seizures *can spread*, resulting in *secondarily generalized tonic-clonic* seizures.

**Generalized seizures** are those in which the *first* clinical changes indicate that *both hemispheres* are *initially* involved.

Consciousness is *usually* impaired during generalized seizures, although some seizures, such as the myoclonic type, may be *so brief* that impairment of consciousness cannot be assessed.

#### Partial seizures:

##### A. **Simple partial seizures** (consciousness is not impaired):

1. With motor signs:
  - Focal motor without march.
  - Focal motor with march (Jacksonian).
  - Versive.
  - Postural.

- Phonatory.
- 2. With somatosensory or special-sensory symptoms:
  - Somatosensory.
  - Visual.
  - Auditory.
  - Olfactory.
  - Gustatory.
  - Vertiginous.
- 3. With autonomic symptoms or signs.
- 4. With psychic symptoms:
  - Dysphasia.
  - Dysmnesic.
  - Cognitive.
  - Affective.
  - Illusions.
  - Structured hallucinations.

**B. Complex partial seizures (consciousness is impaired)**

1. Simple partial seizures at onset, followed by impairment of consciousness
  - With simple partial features.
  - With automatisms.
2. With impairment of consciousness at onset.
  - With impairment of consciousness only.
  - With automatisms.

**C. Partial seizures evolving to **secondarily generalized seizures****

1. Simple partial seizures evolving to generalized seizures.
2. Complex partial seizures evolving to generalized seizures.

3. Simple partial seizures evolving to complex partial seizures evolving to generalized seizures.

#### Generalized seizures:

##### A. Absence seizures:

###### 1. Typical absence seizures:

- Impairment of consciousness only.

With variants:

- With mild clonic components.
- With atonic components.
- With tonic components.
- With automatisms.
- With autonomic components.

###### 2. Atypical absence seizures.

##### B. Myoclonic seizures.

##### C. Clonic seizures.

##### D. Tonic seizures.

##### E. Tonic-clonic seizures.

##### F. Atonic seizures.

#### Status Epilepticus

A patient who has continuous seizures or does not recover between recurrent seizures that are “so frequently repeated or so prolonged as to create a fixed and lasting condition” is considered to have **status epilepticus** (SE).

Clinical and experimental data indicate that generalized convulsive seizure activity for **30 minutes** is a reasonable criterion for use of the term, at least for recurrent seizures, because *brain damage may occur at this point*.

**Aggressive treatment should start much sooner, however.**

Just as there are many types of epileptic seizures, there are many forms of SE.

Until the last few decades the term has been applied primarily to generalized convulsive seizures.

The simplest current classification of status epilepticus however is **convulsive** versus **non-convulsive SE**.

Types of Status Epilepticus:

#### Convulsive:

- Generalized tonic-clonic: **“Grand mal”**; may be secondarily generalized from a focus.
- Myoclonic:
- Tonic: Paediatric; often with Lennox-Gastaut syndrome.
- Atonic/akinetic: Paediatric; often with Lennox-Gastaut syndrome.
- Clonic: Infants.

#### Non-convulsive:

- Generalised (absence status).

*Or*

- Partial:
  - ♥ Simple partial status.
  - ♥ Complex partial status.

#### References

1. Dreifuss FE. Proposal for revised clinical and electroencephalographic classification of epileptic seizures. *Epilepsia*. 1981; 22: 249-260.
- 2 <http://professionals.epilepsy.com>

Dr J.Hayes  
May 2012