Seizure classification

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Epilepsy is a chronic disorder characterized by recurrent unprovoked epileptic seizures. Not all epileptic seizures indicate the existence of an epileptic disorder; many represent a natural response of normal brain to noxious insults that are not likely to be repeated (reactive seizures). The International League Against Epilepsy (ILAE) made a major contribution when it established standardized classification and terminology of epileptic seizure that was devised in 1981 (Table 1). This classification depends on seizure semiology and interictal/ictal EEG or both. It classify seizures into generalized, partial or unclassified. Advances in neurodiagnostic technology, new insights into fundamental neural mechanisms of epilepsy and rapid developments in molecule genetics have greatly improved our understanding of epileptic seizures and epileptic disorder since 1981. Also, the success of epilepsy surgery and the widespread of epilepsy monitoring unit and video EEG, allowed us to understand much better the ictal semiology of epileptic seizures especially those of partial seizures and become clear that the 1981 seizure classification in partial seizures are with satisfactory in description and terminology. Semiology seizure classification was suggested by Lüder et al in 1998 and based exclusively on clinical semiology. In this classification, the classification takes in consideration:

1. Epileptic aura
2. Seizure semiology
3. Lateralizing features

It does not take in consideration whether the seizure is generalized or partial, although in the description this become clear.

1. Epileptic Aura – is defined as that portion of a seizure experienced subjectively by the patient without visible motor phenomena. The patient is always conscious during the aura and also not amnestic of its occurrence as he is the one to describe it, they may be:
   i. Somatosensory
   ii. Autonomic
   iii. Psychic
   iv. Aura involve special senses such as:
      - Visual
      - Auditory
      - Vertiginous
      - Gustatory (taste)
      - Olfactory

The aura is important as a localizing but not lateralizing of the symptomatogenic zone. However, some auras are lateralizing such as spitting or salivation, urinary-urge which lateralize to right insular or temporal lobe epilepsy.

2. Seizure semiology which includes:
   - Autonomic seizure (not aura)
   - Dialeptic seizure
   - Motor seizure
   - Special seizures

3. Lateralizing feature which includes:
   - Unilateral ictal dystonia
   - Ictal vomiting
   - Ictal speech
   - Automotor seizure with preservation of speech
   - Unilateral ictal blinking
   - Postictal or ictal Todd’s paralysis
   - Post-ictal aphasia

This classification has been used in many Centres in USA and Europe and it was suggested to have more

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S173
comprehensive picture of epileptic seizure than does ICES, especially in those with partial epilepsy. In RKH we still feel that the generalized classification of secondary in ICES is satisfactory in which it is classified into:

- Absence seizures
- Myoclonic seizure, which includes negative myoclonic seizures (named occasionally as atomic)
- Tonic-clonic, tonic or clonic

In partial seizures the SSC should be applied. In the last international congress of ILAE in May 01, at Buenos Aires, the ILAE task force on classification and terminology presented to General Assembly proposal Diagnostic Scheme for people with epileptic seizures and epilepsy which is published also in Epilepsia 2001.

### Further reading