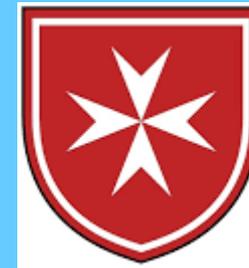




Finding help:

Understanding Different Types of Seizures

Malta 2018



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Epilepsy can present itself in many different ways

- **It can also change its appearance over a lifetime, after drug therapy and change of circumstances**
- **Not all epilepsies are bad**

First of all

- **Is it... epilepsy?**
 - **description as precise as possible**
 - by person who had the attack
 - by family members/caretakers/friends
 - **video images are helpful**

Person him/herself

- What is noticed before, during and after the attack? Seeing, feeling, hearing unusual things
- Order of things?

Nausea, then turning head to the R-side....when awakened: headache, sleepiness and weakened strength in L arm

- Circumstances / Provocation?

Always after nightsleepdeprivation, in the disco..

- How often? At what age did it start?

Regular or irregular occurrence

Family/ Friends

- Order of things?

Nausea, then turning head to the R-side, then loss of consciousness and rhythmic shaking of all limbs. After 1 minute back, but sleepy and sloppy. But this was only noticable after many more seizures...

- Circumstances / Provocation?

Always after nightsleepdeprivation, in the disco..more at night than during the day...

- Runs in the family

Physician considers epilepsy

To confirm

1. diagnosis of epilepsy
2. to help classify the seizure/epilepsy type

an EEG is made

! Not everything that shakes or with loss of consciousness is epilepsy!

It is indeed epilepsy- but what type?

This is necessary for advice about treatment
(prevention, drugs yes/no; what sort of drug
and later maybe surgery)

Seizure types- is there a focal onset?

Generalized

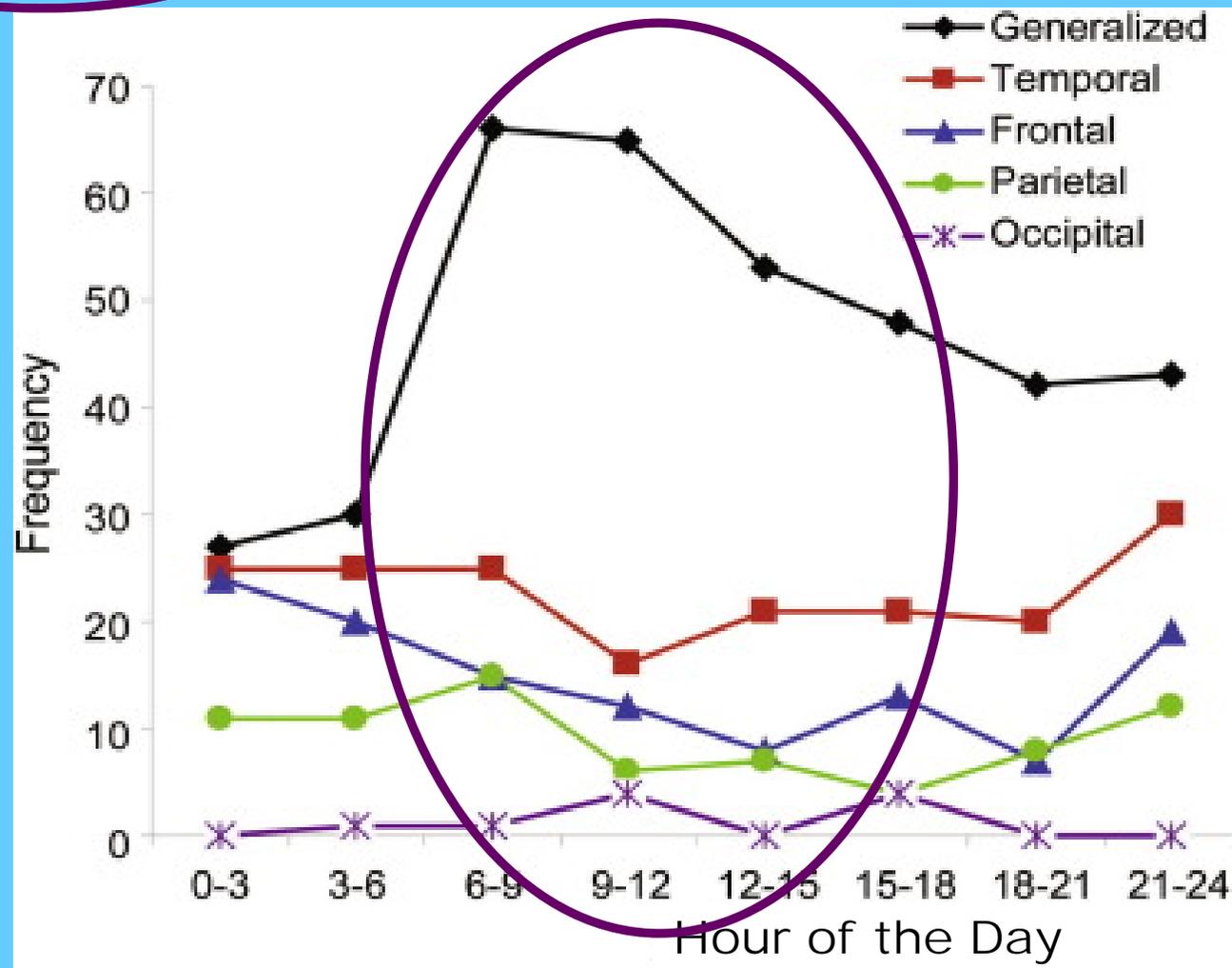
Focal

Both

Unknown

ILAE website
classification

Seizure patterns over 24 hour period comparing generalized with focal onset seizures



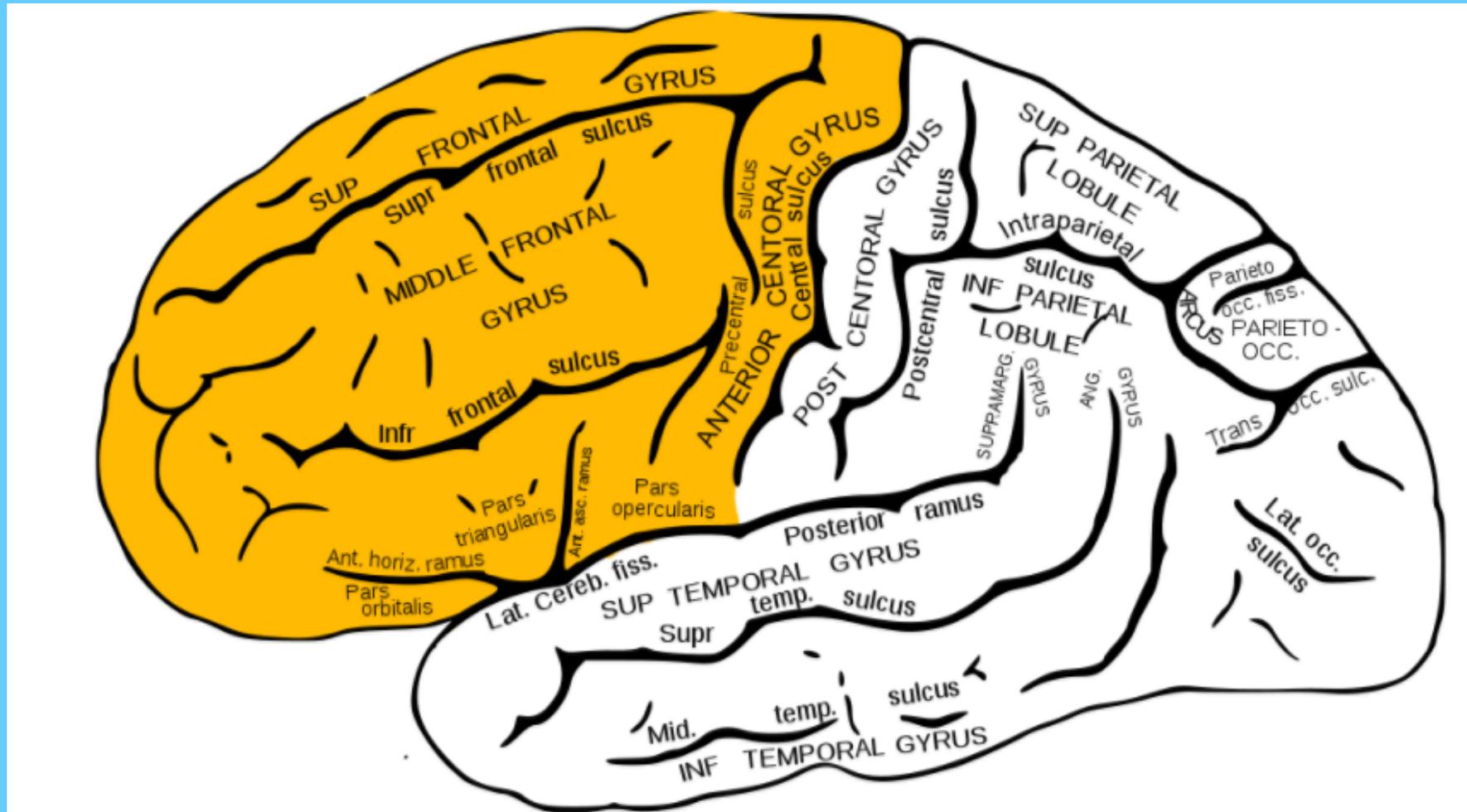
Marta Amengual-Gual, Iván Sánchez Fernández, Tobias Loddenkemper

Brain Research, 2018, Available online 23 February 2018

Generalized tonic clonic seizure

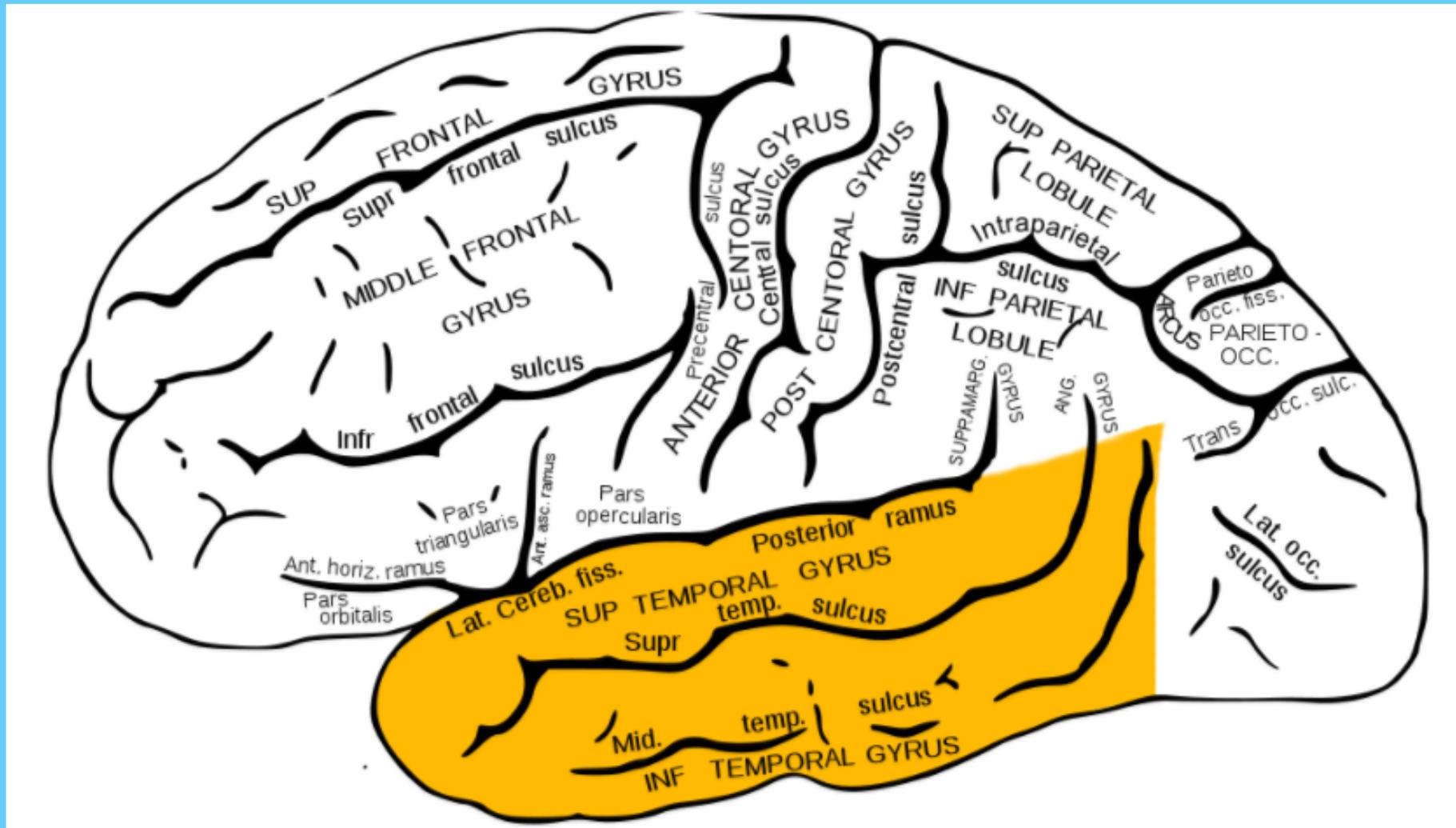
Courtesy ILAE:
epilepsydiagnosis.org

Focal from Frontal lobe



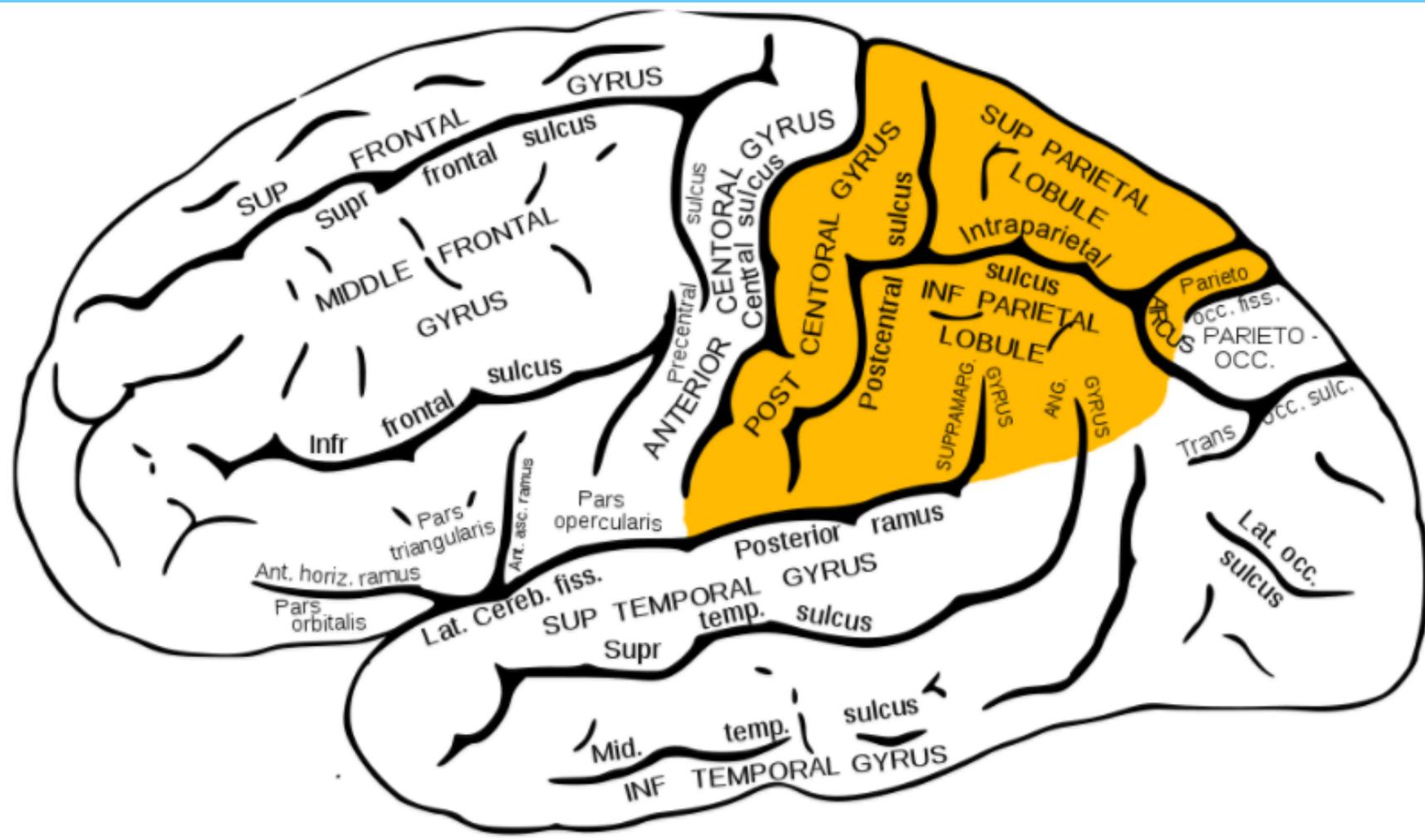
Frontal lobe seizure

Focal from Temporal lobe



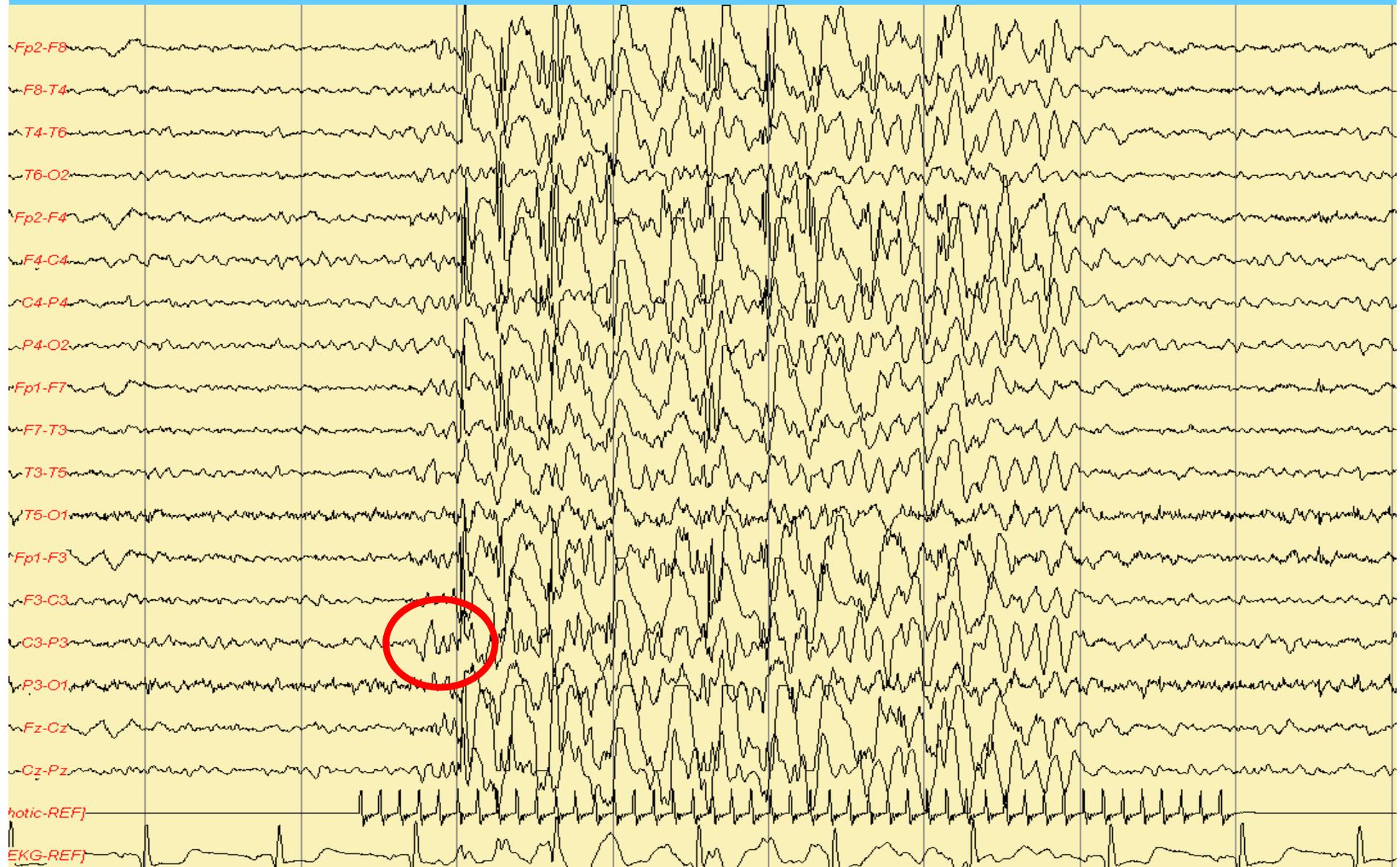
Temporal lobe seizure

Focal from Parietal lobe

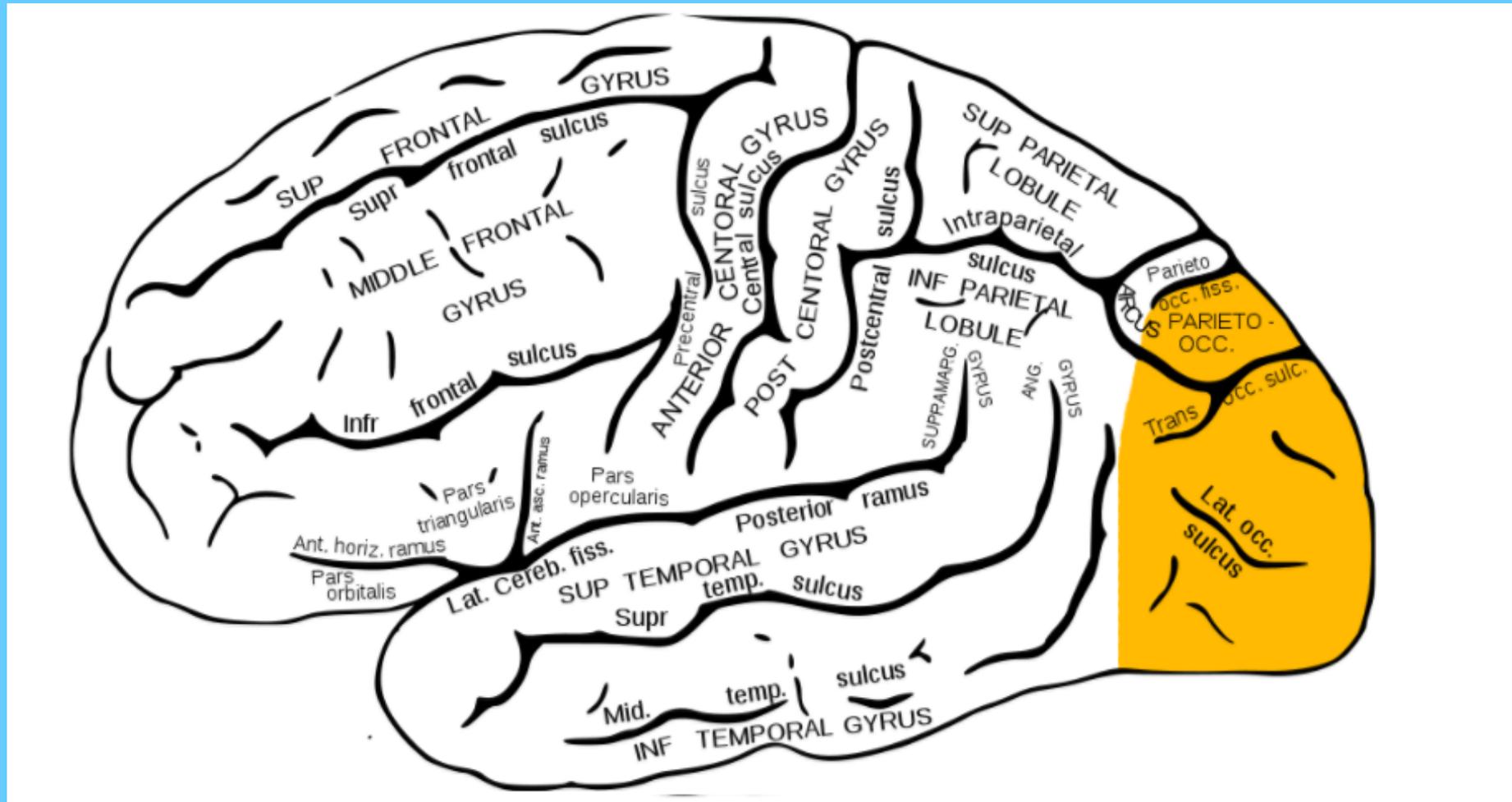


Parietal lobe seizure

Focal parietal onset and generalization of epileptiform discharges in the EEG



Focal from Occipital lobe



History of a 12 yr old boy and his mother

Since the age of 8 yr: episodes of slight lowering of attention with vomiting, headache and blurred vision, about four times/year.

Always when watching TV or playing on his computer!

Mother has migraine

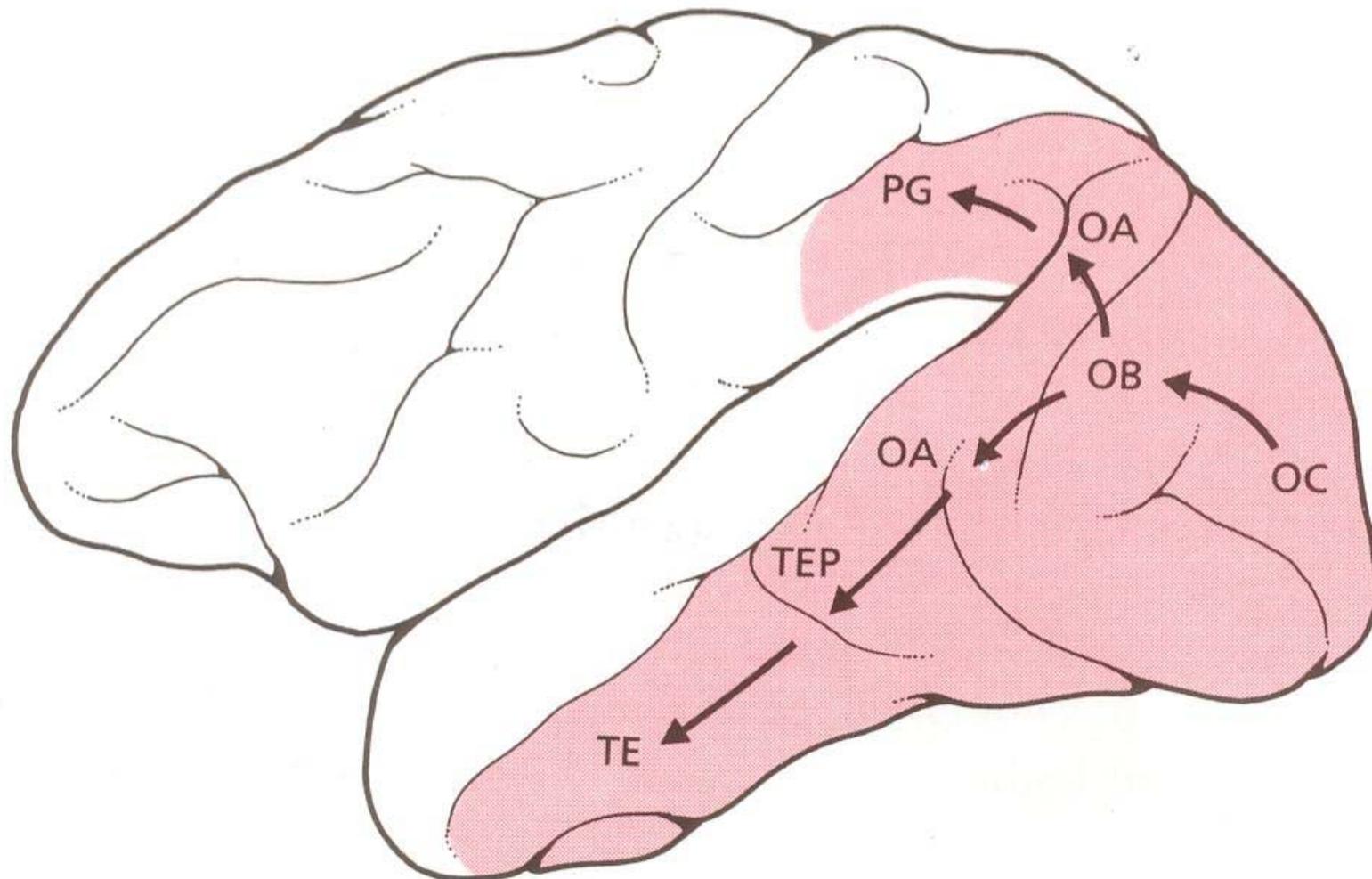
The childneurologist has prescribed anti-epileptic drugs (ethosuximide and later also lamotrigine), but the seizures continued..

EEG investigations of this 12 yr old teenager

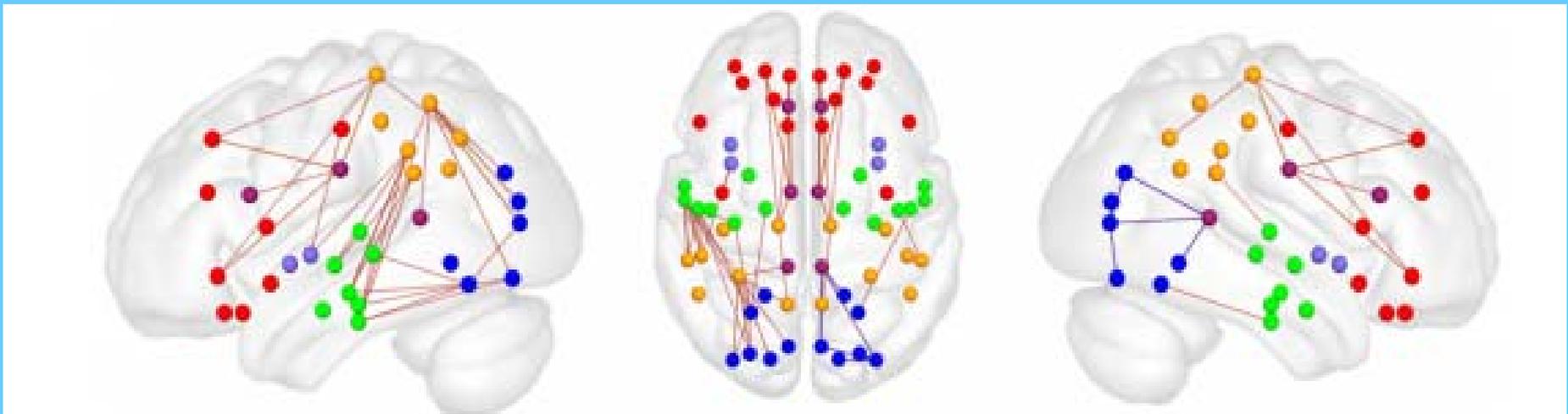
- Normal background
- Photic stimulation between 10- 40 Hz evoked generalized epileptiform discharges with some myoclonic jerks in his arms
- Black and white striped patterns gave occipital discharges
- TV with Pokemon gave a focal occipital seizure



Focal Occipital Seizure with Pokemon watching



Many connections between different brain structures: networks



Clemens et al., *Epilepsy Research* (2013) :357—369

Classification of epilepsy types

Generalized

Focal

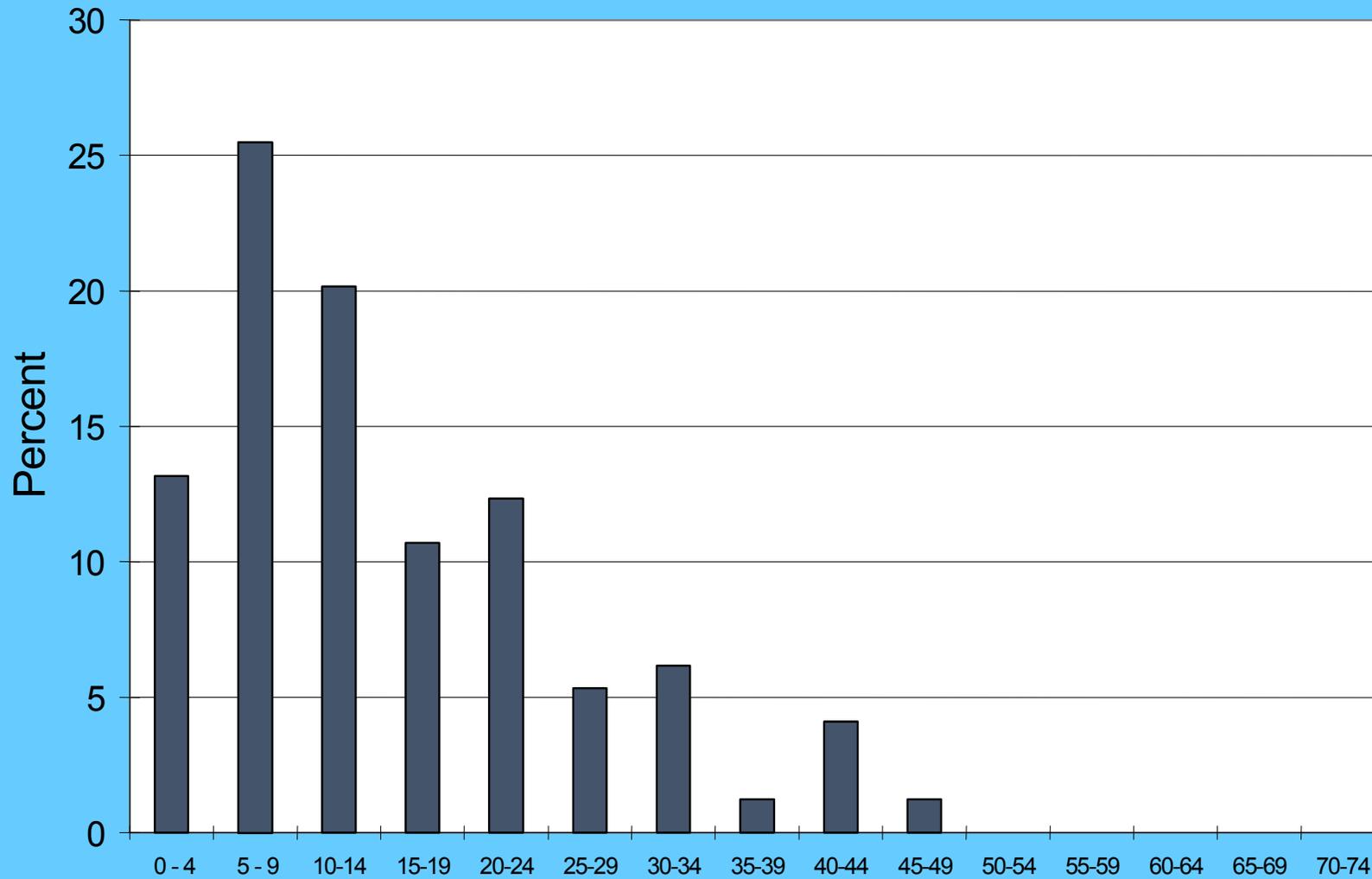
Both

Unknown

Age at onset

Genetics

ILAE website
classification



age at onset of epilepsy (5-year age bands)

Dutch national epidemiology study, Shackleton D.P. et al. 1999

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