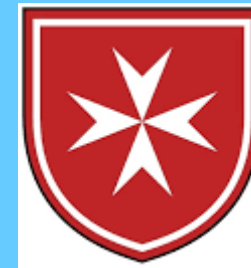


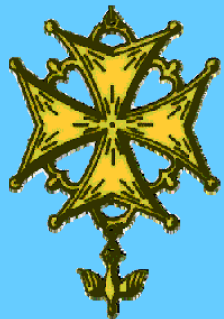


# Finding help: Understanding Different Types of Seizures

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

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- **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

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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**

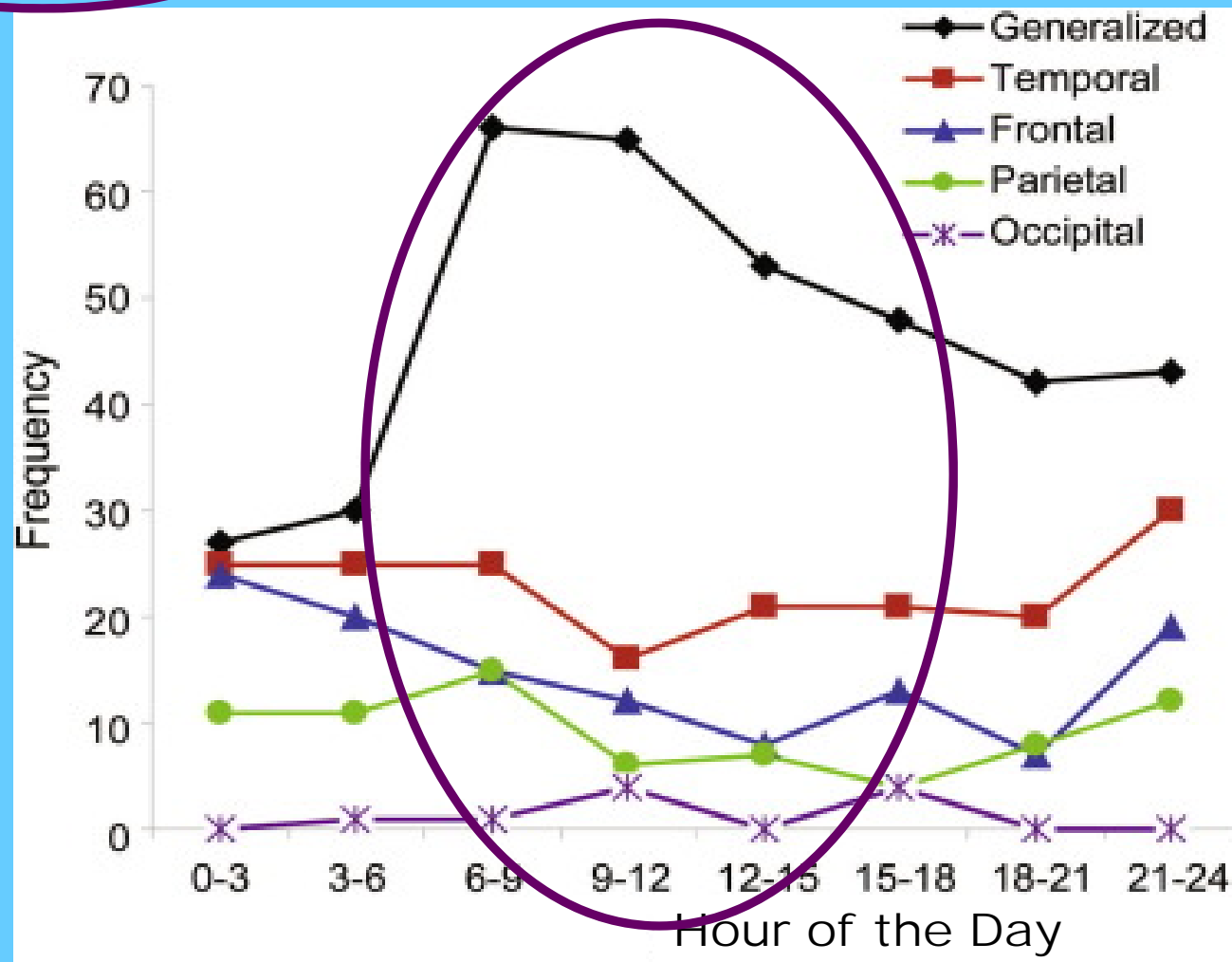
**Focal**

**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

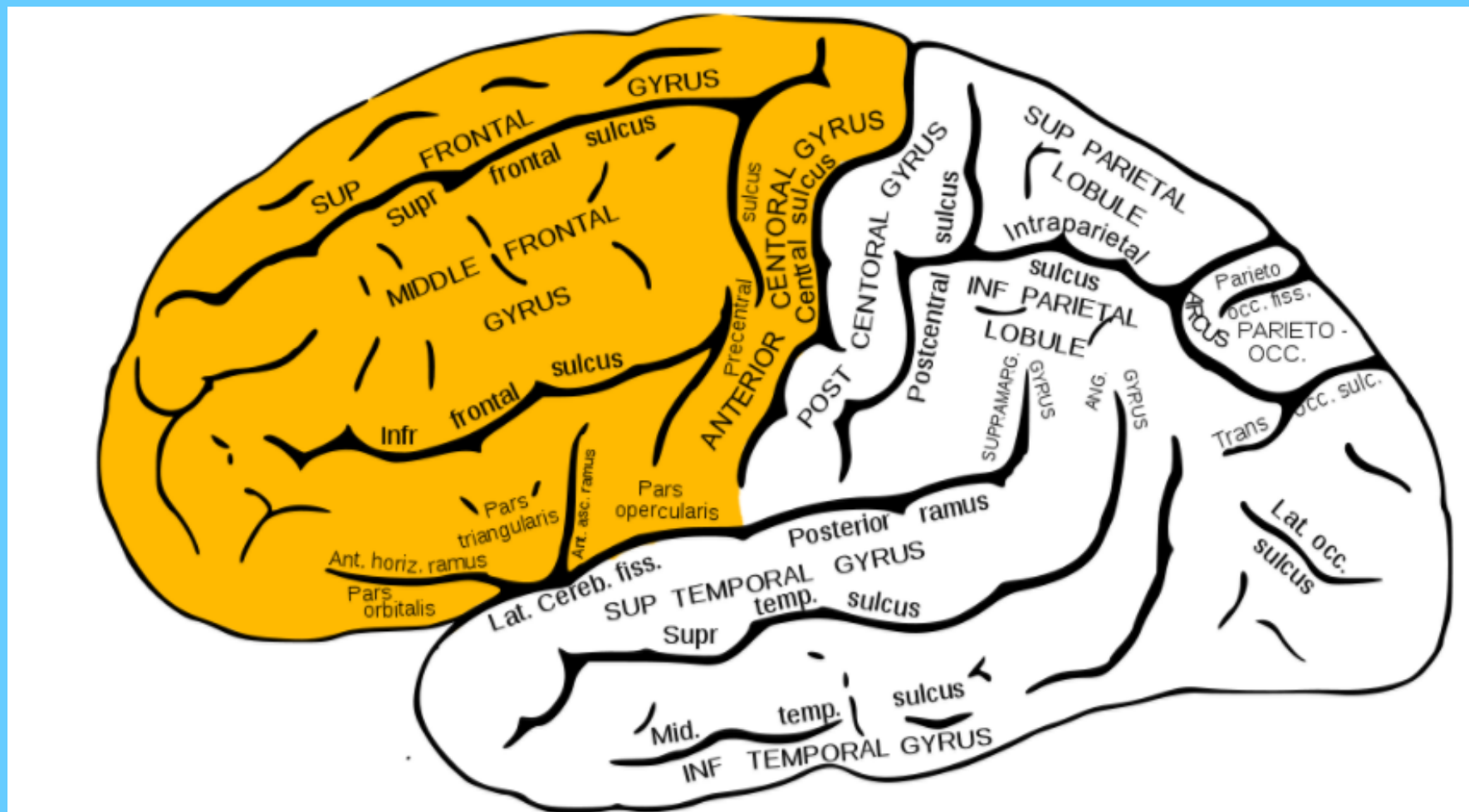
Brain Research, 2018, Available online 23 February 2018



# Generalized tonic clonic seizure

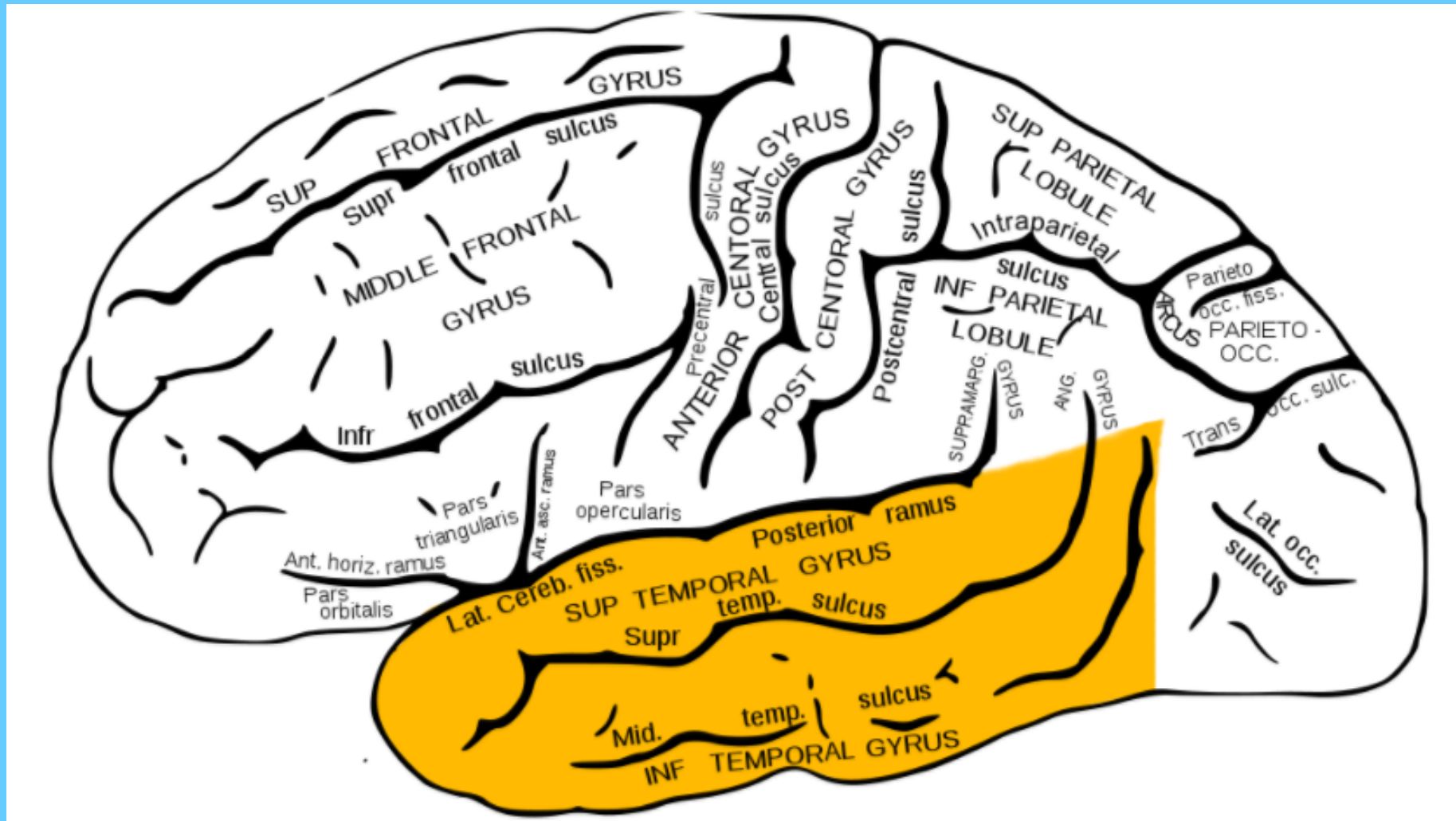
Courtesy ILAE:  
[epilepsydiagnosis.org](http://epilepsydiagnosis.org)

# Focal from Frontal lobe



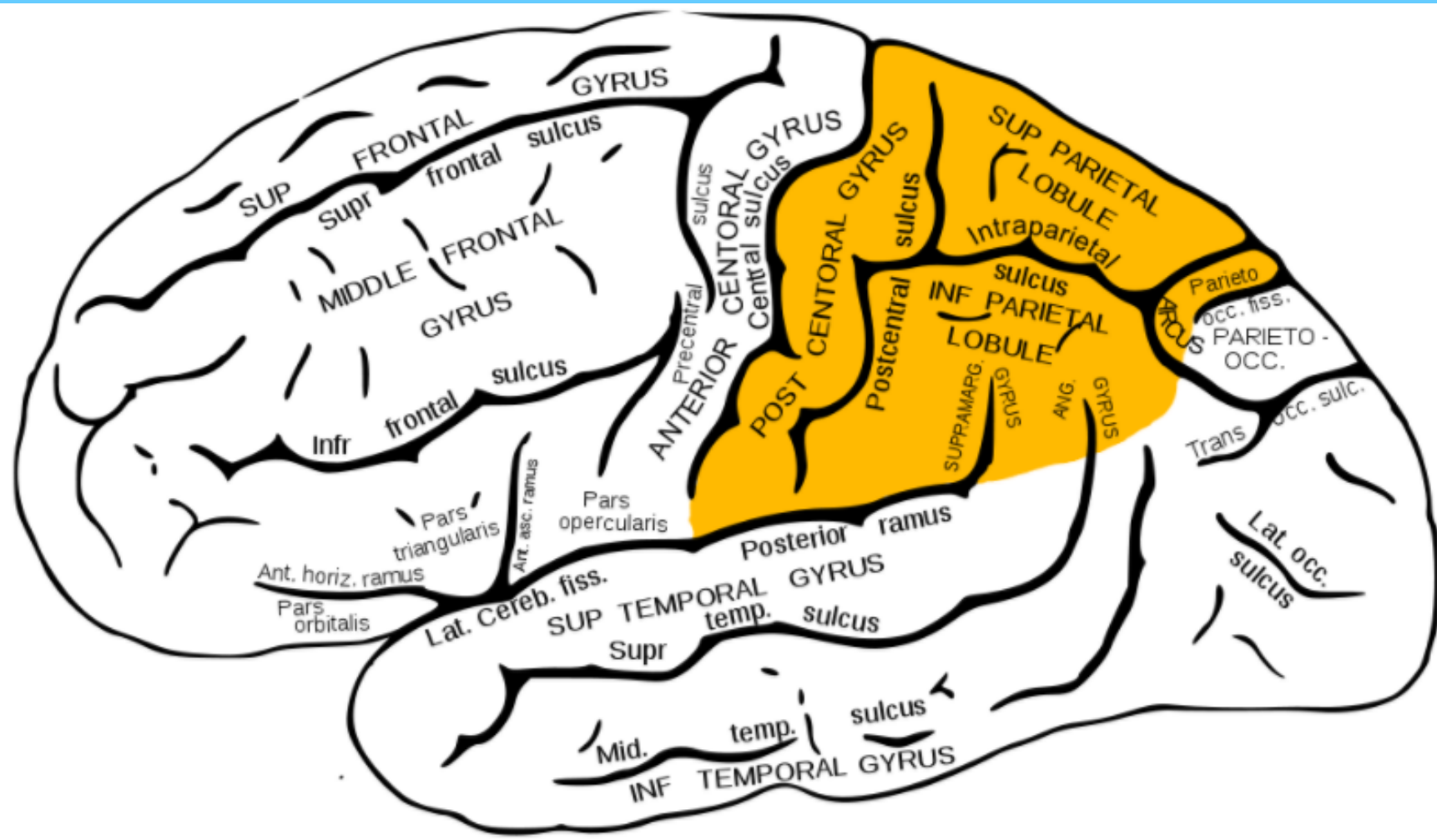
# Frontal lobe seizure

# Focal from Temporal lobe



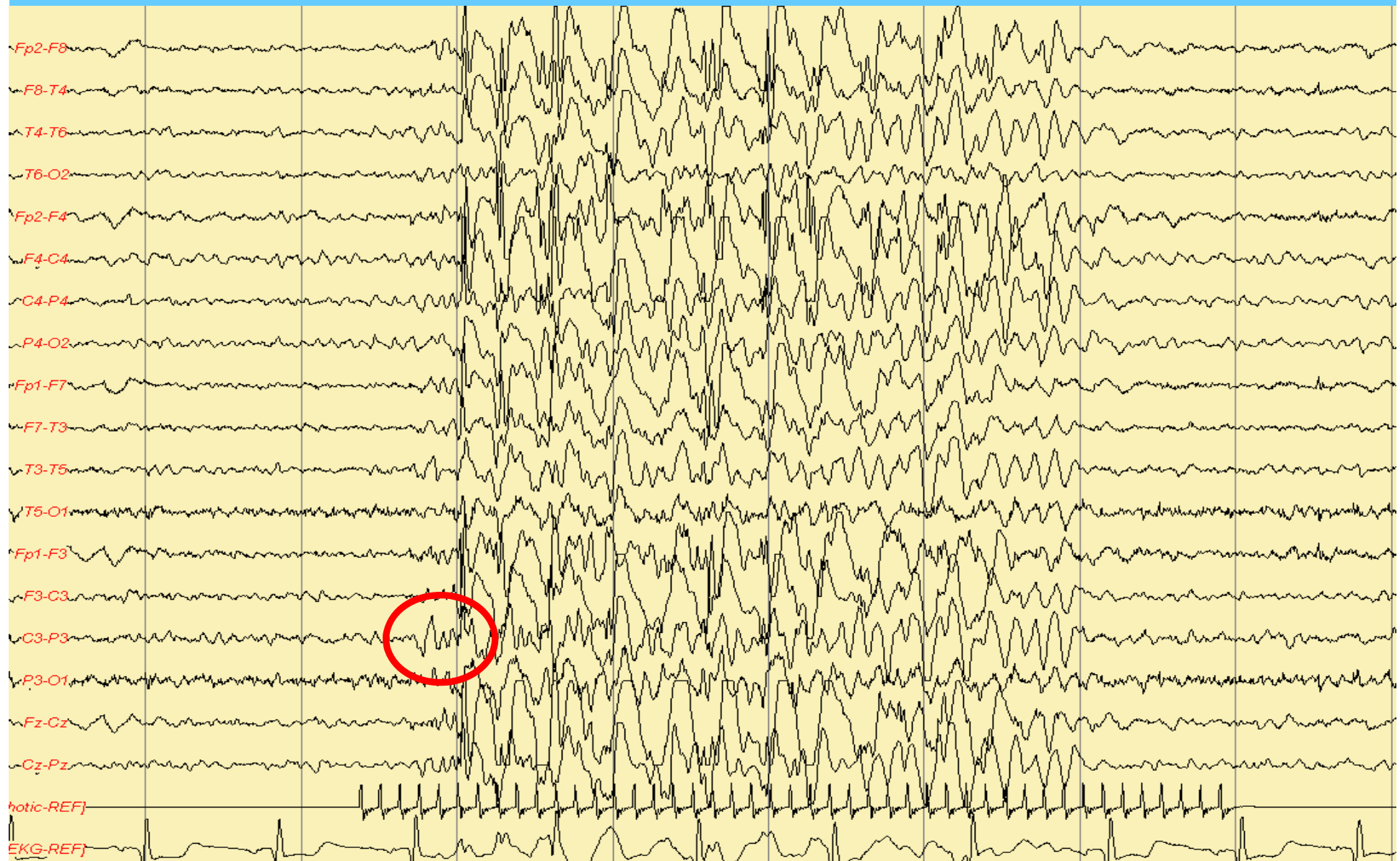
# Temporal lobe seizure

# Focal from Parietal lobe



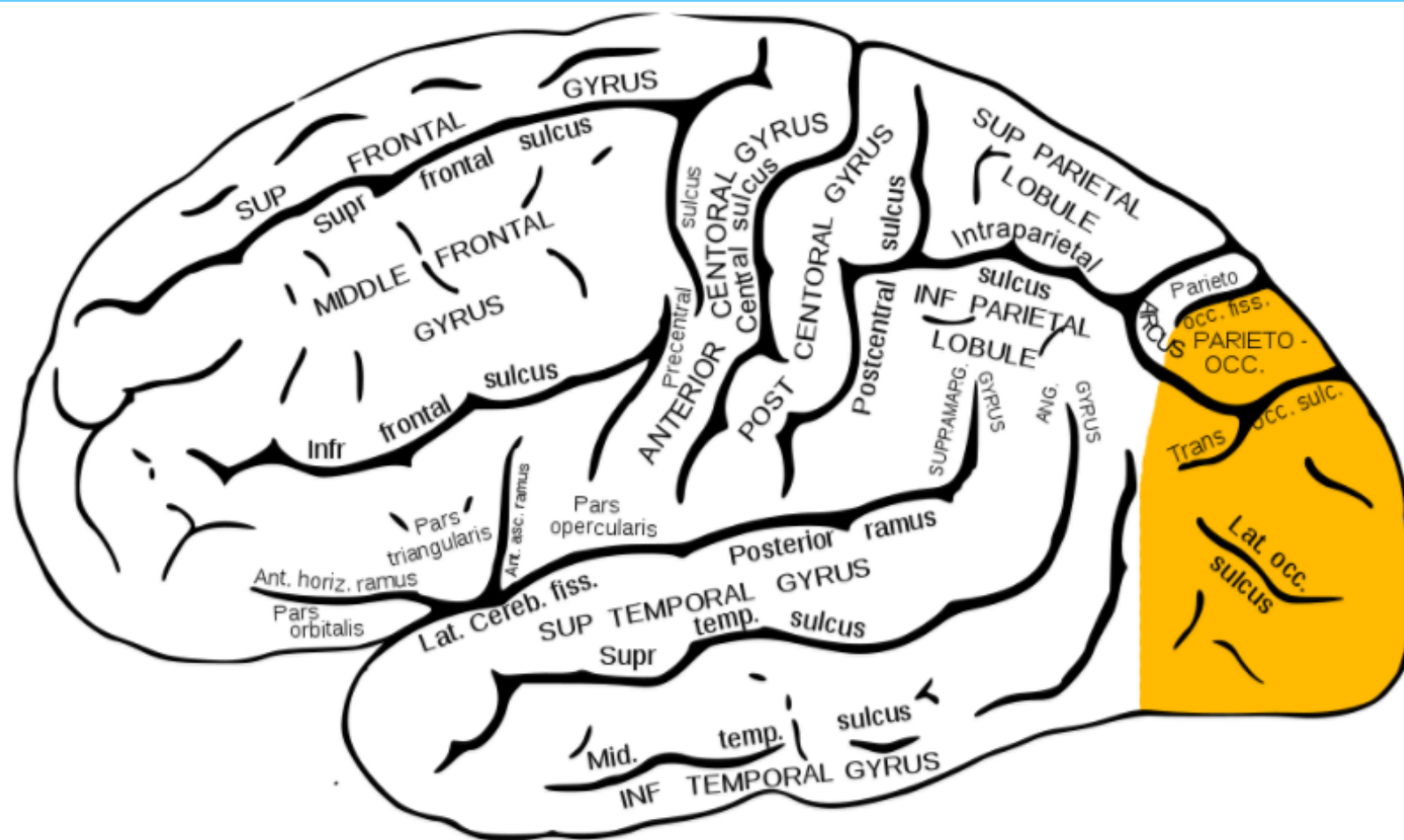
# Parietal lobe seizure

# 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!

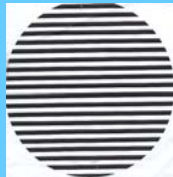
Mother has migraine

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

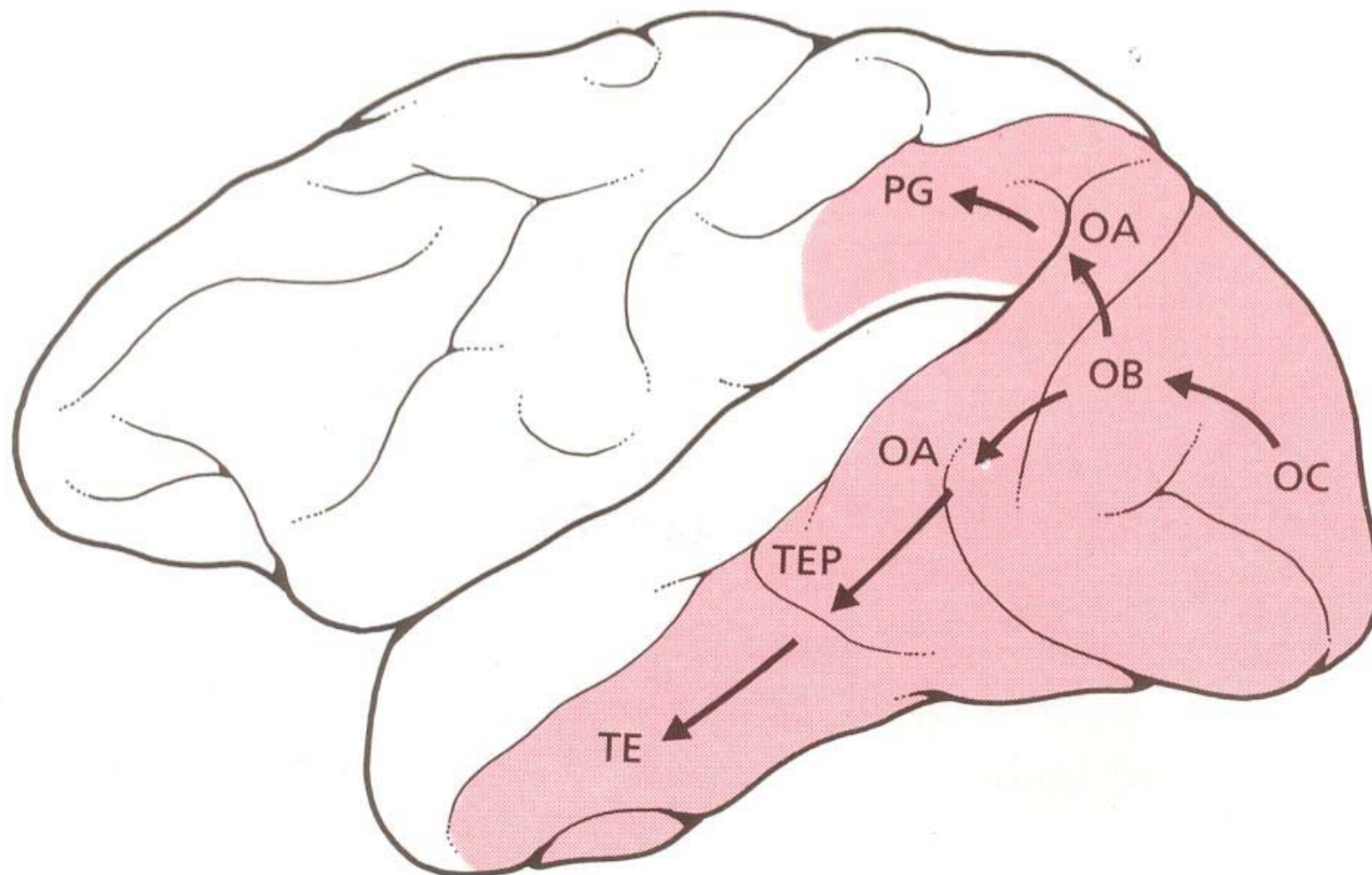
# EEG investigations of this 12 yr old teenager

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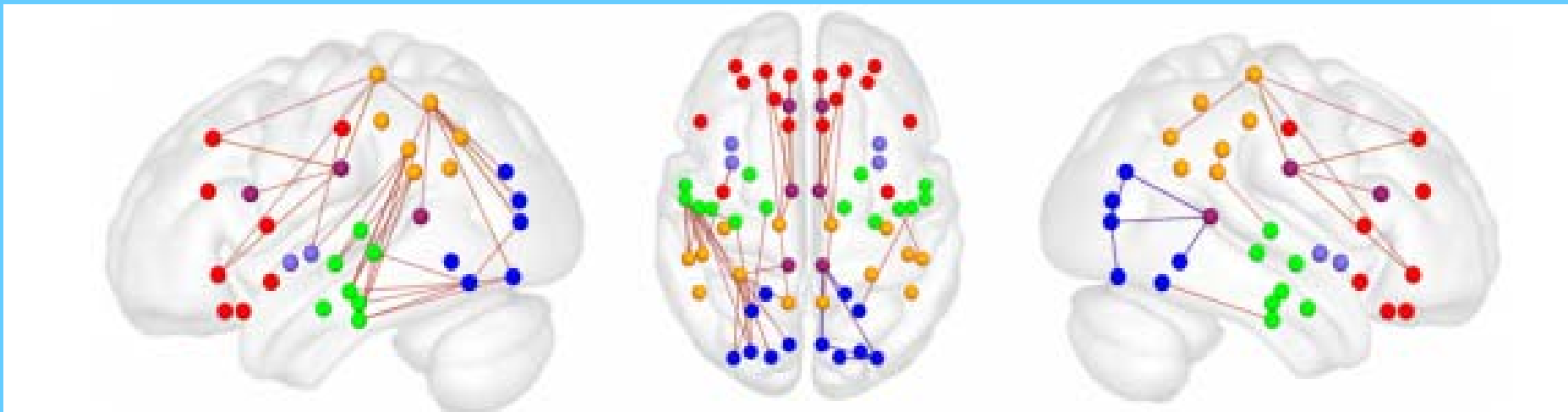
- Normal background
- Photic stimulation between 10- 40 Hz evoked generalized epileptiform discharges with some myoclonic jerks in his arms
- Black and white striped patterns gave occipital discharges
- TV with Pokemon gave a focal occipital seizure



# 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**

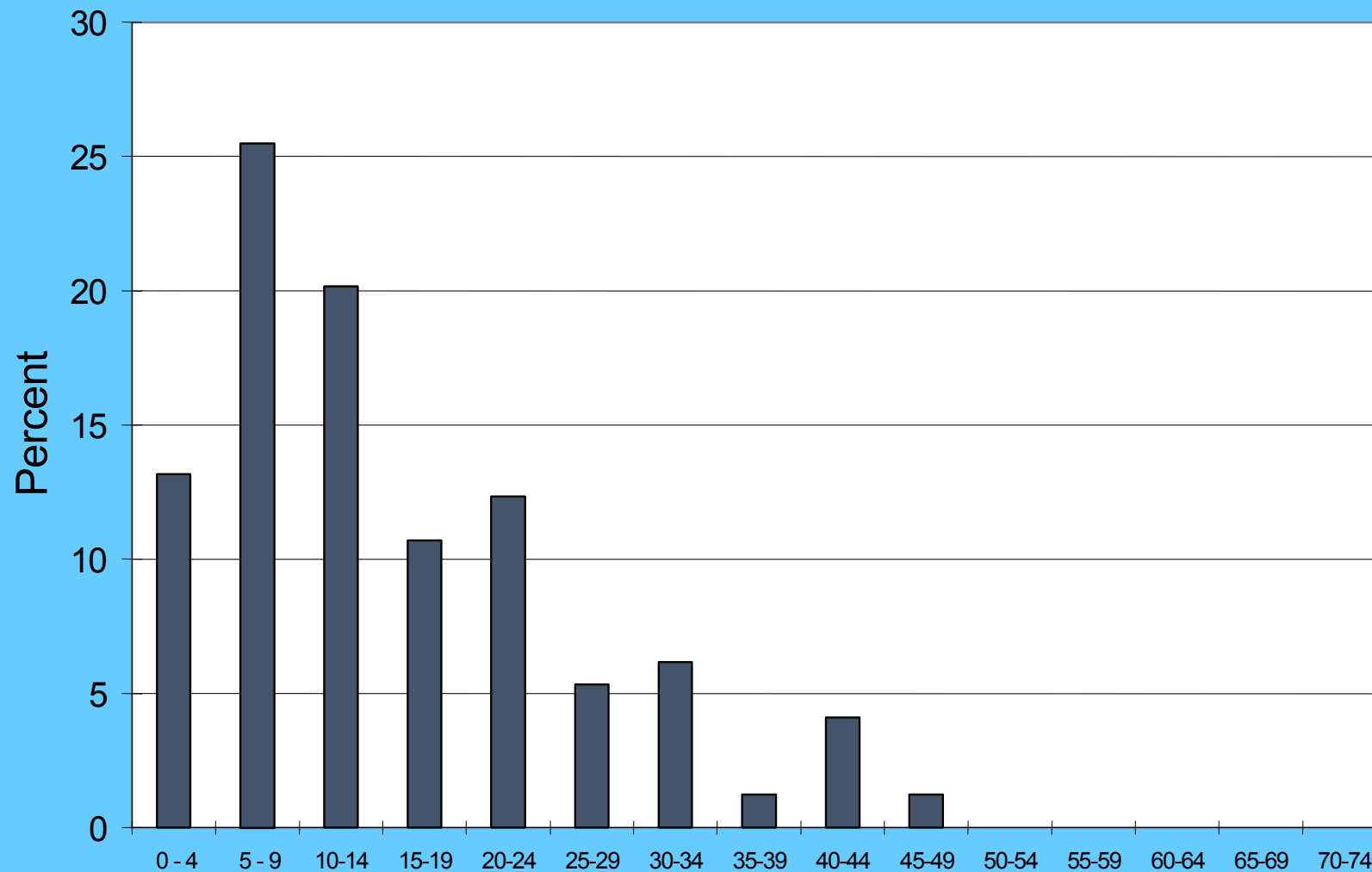
**Both**

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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