

# BSUH Paediatric Guidelines

## Use of EEG

AUTHORS: Dr John Trounce

PUBLICATION DATE: December 2005

REVIEW DATE: December 2008

---

### GENERAL POINTS

- The value of the EEG in paediatrics is predominantly to classify rather than diagnose epilepsy. Accurate classification aids treatment decisions and prognosis.
- The EEG is not a screening tool.
- Information provided in the referral may influence interpretation.
- It is important to be aware that people with definite epilepsy may have repeatedly normal EEGs and conversely that interictal EEG abnormalities may be seen in individuals who have never had a seizure.
- The yield from sleep EEGs in children with partial epilepsy, some of the symptomatic generalised epilepsies and on occasions idiopathic generalised epilepsy is significantly higher than from awake EEG alone. If in doubt, discuss your request with the neurophysiology department.
- Drugs may modify the EEG appearance.

### WHEN IS AN EEG INDICATED?

(1) After the first afebrile seizure?

- To provide syndrome diagnosis if possible e.g. benign partial epilepsy.
- To guide future treatment choices e.g. JME
- Some advocate **waiting until after second seizure** before arranging EEG (currently this is a common strategy.)

(2) In monitoring efficacy in treatment?

- Infantile spasms
- Landau Kleffner (LKS) and epilepsy with electrical status epilepticus in sleep (ESES)
- In status epilepticus

- (3) In the presence of acute encephalopathy of unexplained aetiology.
- (4) In the presence of unexplained global deterioration in cognitive performance (dementia) or specific cognitive decline e.g. auditory agnosia (LKS).
- To exclude non convulsive status
  - To exclude electrical status in sleep (ESES)

## REFERENCES

Verity CM

The place of the EEG and imaging in the management of seizures  
Archives of Disease in Childhood 1995; 75:552-562

Fowle A and Binnie CD

Uses and abuses of the EEG in epilepsy  
Epilepsia 2000; 41:510-518

Ajmone Marsan C, Zivin LS

Factors related to the occurrence of typical paroxysmal abnormalities in the EEG records of epileptic patients  
Epilepsia 1970;11:361-381

Tennison M, Greenwood R, Lewis D, Thorn M

Discontinuing AEDs in children with epilepsy  
NEJM 1994; 330:1407-1410