

# What is a sleep EEG?

Information and advice for patients and carers

## *Neurophysiology*

### **What is a sleep EEG?**

EEG stands for electroencephalogram. A sleep EEG is a recording of the electrical activity of the brain while you are awake and then asleep. It involves having small discs (electrodes) which record the activity attached to your scalp using paste. Your child may also be asked to breathe deeply or look at bright flashing lights at some point during the recording (these are called activation techniques).

As part of the test your child will also be video recorded as this can help to diagnose the condition; you will be asked to sign a consent form to allow this at the beginning of the test.

### **There are different types of sleep EEG recordings:**

- **Baby sleep EEG** – If your child is under 3 years old we will try to record the EEG during natural sleep. To help us achieve this please bring a dummy, bottle of milk, blanket or toy and do not let your child sleep before the test.
- **Sleep Deprivation EEG** – For this test your child will need to avoid sleeping or have less sleep on the night before the test. The amount of sleep your child can have will be detailed in the appointment letter.
- **Sedation sleep EEG** – On rare occasions your child's doctor may ask for a mild sedative (Melatonin) to be used to induce sleep or calm a child for an EEG. A single dose of Melatonin is unlikely to cause any side effects.

### **What are the benefits of a sleep EEG?**

The benefit of an EEG is that it will help your child's doctor to diagnose if there are any problems and he/she will then be able to advise any appropriate treatment if required.

### **What are the risks of an EEG?**

There is a small chance that your child may experience some reddening of the skin or soreness where the paste is applied. There is a small risk that some of the activation techniques or sleep deprivation can provoke their symptoms. In a few cases sleep deprivation can make some people's symptoms more frequent.

The risk of a sedation sleep EEG is that the effects of the sedation can last for several hours so your child may still be sleepy for a while after the test but this is not dangerous.

### **What are the risks of not having the test?**

If your child does not have a sleep EEG, this may delay their doctor finding out what is causing their symptoms and starting treatment.

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### **Are there any alternative tests?**

There is usually no alternative to this test that will give your child's doctor the information they need.

### **Preparing your child for the sleep test**

- Follow the instructions on your appointment letter for the amount of sleep your child can have before the test.
- Avoid giving your child drinks with caffeine before the test.
- Please bring along anything you think might help them to sleep – dummies, milk, special blankets or toys to aid sleep.
- Do not let your child sleep before the test e.g. on the journey to the hospital.
- Your child can eat and drink as normal before the test. Make sure they have something to eat within 1½ hours before the appointment as they are more likely to sleep if they feel full.
- Your child should arrive with clean, dry hair free from grease, hair spray and lacquers etc.
- Your child should continue to take any medicines as usual. Please bring a list of these with you to the appointment.
- Bring a comb or brush with you to tidy their hair after the test.
- If you don't feel that the appointment is at a suitable time of day for sleep i.e. you feel they are more likely to sleep in the afternoon, please contact us to rearrange.
- If you are concerned about the amount of sleep we have suggested your child should have please contact us to discuss this.

If you are unable to keep this appointment please contact us on 0121 507 4319 so that alternative arrangements can be made and the appointment can be given to another patient waiting for the test.

Before the test we will ask you if you have read and understood this information and whether you consent to go ahead with it. We will also answer any questions you have.

### **During the test**

The appointment will take around 2 hours. This is what happens:

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1. The person doing the test will start by measuring your child's head if they are co-operative.
2. They will then rub your child's scalp and stick some small discs to it using sticky paste.
3. The discs are then connected to the EEG machine by wires.
4. The recording will be taken over 1½ hours while your child sits on your lap or lies on the bed, relaxing and trying to sleep. They will be asked to follow commands such as "open/close your eyes", or perform some of the following 'activation techniques' as they may produce changes in the brain wave activity:
  - **Deep breathing** – Your child will be asked to breathe deeply for 3 minutes. To help them do this they may be asked to blow a windmill. This can cause a light-headed feeling or tingling of the lips or fingers but this is normal and will resolve by itself afterwards.
  - **Photic Stimulation** – Your child will be asked to look at a bright flashing light with their eyes open and closed, for a few seconds at a time. This is an important part of the test for people who may have seizures or black-outs caused by flashing lights. We will be looking at the EEG at all times and will stop the light immediately if they appear sensitive. This is done under very controlled conditions.

### **What does the test feel like?**

Your child will feel a cold rubbing sensation on their scalp when the discs are being applied, but there are no sensations during the recording. No needles are involved.

### **After the test**

After the test the discs will be removed with warm water. Your child's hair may be sticky and damp and some of the paste may be left in it afterwards; this will wash out and you will probably need to wash their hair after the test.

If your child has been sleep-deprived they will probably still feel sleepy after the test.

### **When will I get the results?**

You won't get the results straight after the test as the EEG has to be analysed. A full report will be sent to the doctor who referred your child for the test after about 2 – 3 weeks and they will discuss this with you at your next outpatient appointment.

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### Contact details

You will be able to ask any questions or tell us any concerns before the test is carried out but if you would like to contact us before your appointment please call:

### Neurophysiology

0121 507 4319

Monday – Friday, 9am – 5pm

### Further information

For more information about our hospitals and services please see our website [www.swbh.nhs.uk](http://www.swbh.nhs.uk) or follow us on Twitter @SWBHnhs.

### Sources used for the information in this leaflet

- National Institute for Health and Clinical Excellence, CG137 'The epilepsies: the diagnosis and management of the epilepsies in adults and children in primary and secondary care', January 2012
- Journal of Neurology, Neurosurgery and Psychiatry, 'EEG in the diagnosis, classification and management of patients with epilepsy', June 2005

If you would like to suggest any amendments or improvements to this leaflet please contact the communications department on 0121 507 5420 or email: [swb-tr.swbh-gm-patient-information@nhs.net](mailto:swb-tr.swbh-gm-patient-information@nhs.net)



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