

Sleep Deprived Encephalogram (EEG)

Information for patients, parents and carers

This information is written for children and young people attending for a Sleep Deprived Encephalogram (EEG).

What is the purpose of the test?

The brain's electrical activity fluctuates from second to second. A routine electroencephalogram (EEG) provides only a twenty minute sample of the brain's electrical activity, which is often sufficient. However, in some cases, it is necessary for an extended EEG recording that includes sleep.

How long will the test last?

A sleep deprived EEG can last anywhere **between 90-180 minutes**.

What is sleep deprivation?

Sleep deprivation means avoiding sleep and staying awake so that you feel tired.

Why does my child need a sleep deprived EEG?

Sleep deprived EEGs are used in a variety of circumstances, most often in the investigation of patients who have seizures or blackouts. They are more sensitive than a routine EEG and are useful to reveal information about your child's brain that is not available when they are awake.

What will happen during my child's sleep deprived EEG?

Firstly you will be asked some questions about your child's medical history and the test will be explained fully. You will also have the chance to ask any questions that you or your child have.

Next the clinical physiologist will measure your child's head and small metal discs (electrodes) will be placed at specific points on their head, similar to a Routine EEG.

Once the electrodes are applied, your child will be asked to lie on a bed and encouraged to make themselves comfortable. At the beginning of the recording your child might be asked to open and close their eyes every few minutes and then the lights will be turned off and they will be given up to one hour to fall asleep. The clinical physiologist will stay in the room during this time to monitor your child and their EEG.

After approximately one hour, your child will be asked to wake up. The clinical physiologist will then remove the electrodes and paste from their hair. You may want to wash your child's hair when you get home, as a small amount of paste may remain (this is easily removed with shampoo).

Is there anything my child needs to do before the test?

The main purpose of the sleep deprivation EEG is to maximise the chance of your child falling asleep during the recording. **It is very important that you keep your child awake until midnight and awaken them at 5am. We also ask that you keep your child awake until the test begins.**

Please ensure that your child eats something before the test. However it is important not to drink tea, coffee, energy drinks or any other drinks that may keep them awake.

Please ensure that your child's hair is clean and free of hair products.

Your child should continue to take any medication as normal.

Please complete the consent form on page 4 and bring it to your appointment.

Additional Information

A sleep deprived EEG will be recorded with your child lying on a bed, while they occasionally open and close their eyes and then fall asleep. In order to get as much information as possible, we may ask your child to perform an activation procedure to add some information to the EEG that we may not have seen when they are lying at rest. Such procedures consist of:

- A short period of deep breathing (**hyperventilation**)

We must inform you that such activation procedures, although carried out very carefully, carry a slight risk of provoking a seizure in a susceptible person. The risk is very small and has been estimated to be no more than 1 in 1000.

Hyperventilation (Deep Breathing): What does it involve?

Your child will be asked to breathe in and out through their mouth quite forcefully, as if blowing out a candle. Your child may be asked to do this for up to three minutes. During the exercise they may start to feel slight dizziness and/or pins and needles in their fingers, toes and face. This is a normal side-effect and **commonly goes away** a few minutes after completing the test.

Are all patients asked to perform Hyperventilation?

Patients will not be asked to perform hyperventilation if they are under a certain age and/or have certain medical conditions. The clinical physiologist will ask questions about your child's health (e.g. asthma, heart conditions) and will determine whether it is suitable for your child to take this part of the test.

Video recording

When we make an EEG recording of your child's brain activity, it is very important to relate this to your child's movements and/or behaviour at the time. We do this by recording a video of your child, which is used to help your child's doctor and other members of the medical team diagnose and treat your child's condition. You have the right to choose how the video recording of your child's EEG test may be used.

Clinical management: This means your child's video recording will be stored with their EEG and used by the clinical team involved in their medical care.

Specialist hospital teaching: We may show your child's recording to other hospital staff. This might take the form of presentation in lectures, tutorials and other professional presentations. The audience might include other professionals visiting the hospital for teaching. This level of consent could be important in obtaining the widest expertise.

Wider publication: This level of consent is requested when the recordings might be used in presentations, outside the hospital, such as international meetings.

It is important for you to be comfortable with the level of consent that you give. Please complete the provided consent form on page 4 before attending your appointment.

When will I get the results?

You will not get the results on the day of the test. The EEG is examined by a specialist consultant and a written result will be sent to your child's consultant/doctor. This process can take 1-4 weeks.

Keeping your Appointment

If you cannot keep your appointment, or have been given one that is unsuitable, please change it by phoning the number on your appointment letter. Your call will give someone else the chance to be seen and will help us keep waiting times to a minimum.

Public Transport and Travel Information

Bus details available from:

Lothian Buses on 0131 555 6363 www.lothianbuses.co.uk

Traveline Scotland on 08712002233 or www.travelinescotland.com

Train details available from:

National Rail Enquiries on 03457 484 950 or www.nationalrail.co.uk

Patient Transport

Patient Transport will only be made available if you have a medical/clinical need.

Telephone **0300 123 1236** *calls charged at local rate up to 28 days in advance to book, making sure you have your CHI Number available. Hard of hearing or speech impaired? Use text relay: **18001-0300 123 1236*** (calls charged at local rate). To cancel patient transport, telephone 0800 389 1333 (Freephone 24 hour answer service).

Interpretation and Translation

Your GP will inform us of any interpreting requirements you have before you come to hospital and we will provide an appropriate interpreter. If you are having this procedure as an existing in patient, staff will arrange interpreting support for you in advance of this procedure. This leaflet may be made available in a larger print, Braille or your community language.

Contact Information:

Paediatric Neurophysiology

Royal Hospital for Children and Young People

Telephone: 0131 312 1506

Department of Clinical Neurophysiology Consent Form for a Sleep Deprived EEG (For Children and Young People)	Addressograph, or Name DOB Unit No./CHI
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Please read the patient information leaflet 'Sleep Deprived EEG for Children and Young People v2.0' before you complete this consent form.

To the Healthcare professional: Please tick the box(es) below that are relevant to the patient for each area of consent:

1. Activation Procedures		
Hyperventilation <input type="checkbox"/> (deep breathing)	Sleep Deprivation <input type="checkbox"/> (staying awake as much as possible the night before the test)	
2. Electroencephalographic Data and Video		
Clinical Interpretation <input type="checkbox"/>	Teaching <input type="checkbox"/>	Wider Publication <input type="checkbox"/>

To the Patient, Parent or Guardian,

You have the right to change your mind at any time, including after you have signed this consent form.

I have read and understood the information in the patient information leaflet provided, including the benefits and any risks.

I agree to the procedure described in the patient information leaflet and mentioned above.

Signature of Patient/Parent/Guardian: Print name: Child's Date of Birth:	Date:
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Please sign this consent form before your appointment, unless you have any further questions which can be discussed at your appointment.

Please bring this consent form with you when attending your appointment.

For any queries please telephone: 0131 312 1506