

Clinical Neurophysiology Department

Your Child's Sleep-Deprived EEG

Information for parents and carers

This leaflet provides you with information about your child's sleep deprived EEG. We hope this leaflet answers any questions that you may have. This leaflet will not replace discussions between you and your child's care team, however it aims to help you understand more about what is discussed. If there is anything that you do not understand, please ask your child's care team.

What is an EEG?

An electroencephalogram (EEG) is a test that records the electrical activity of the brain. The nerve cells in the brain produce tiny electrical signals and these signals (also called brain waves) can be recorded via electrodes (small disks) placed on the scalp.

The EEG will provide useful information to help your doctor to diagnose and manage your child's complaint or condition.

The test is safe and painless. We can perform this test on all ages, including newborn babies.

Why a sleep deprived EEG?

Sleep deprived EEGs 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.

Recording the brain waves during drowsiness and sleep can give us additional information. This may be particularly important when a routine EEG has been either normal or revealed some suspicious, non-specific electrical activity in the brain.

Sleep deprivation simply means reducing the amount of sleep the night before the test to help your child to become tired and fall asleep more easily during the EEG.

Preparing for the test

- **Sleep deprivation guidelines:**

Children under the age of sixteen should sleep up to **five hours only** on the night before the test, i.e. go to bed at 12am and wake at 5am. We ask that you keep your child awake until the test begins.

For babies and infants, sleep deprivation may not be necessary as they may be able to fall asleep naturally during the test.

- ~~Please ensure your child is wearing comfortable clothing. You may also bring a comforter or any other items that may encourage sleep.~~
- The person bringing your child to the EEG should have 'Parental Responsibility' (i.e. have legal rights, responsibilities, duties, power and authority to make decisions for the child).
- Please ensure your child's hair is clean and free from hair products such as gel or hairspray.
- Your child can continue to take their medication as normal.
- They can eat and drink as normal.
- Please bring a list of your child's current medication with you to the appointment.
- You may wish to bring a brush/comb to tidy their hair or a hat to cover their hair after the test.

The test

- You will be greeted at the department by the Clinical Scientist/Physiologist performing your child's test.
- We will then explain the EEG in detail and you and your child will have the opportunity to ask questions. We will ask you some questions about your child's medical history, known family history, current clinical events/symptoms, and current medication.
- During the test, we will take a video recording to assist with our brain wave analysis. We also record a video so that, in the rare event that your child has one their typical symptoms or events during the test, this can be documented for the medical team. This will be explained to you in further detail at the appointment and we will ask for your consent to film.
- We may ask your child to do a deep-breathing (hyperventilation) for about three minutes. Depending on your child's age and cooperation, we may use a windmill for this exercise. This exercise can produce short-term changes in the brain waves that could help us make a diagnosis.
- We may also ask your child to look at some flashing lights during the test. This is to monitor any brain wave changes in response to the light.
- Please note: Very rarely, hyperventilation or flashing lights can trigger abnormal brain waves or a seizure. This is not our aim and if this happens during the test, the exercise will be stopped immediately and appropriate care given.
- Once the test has been explained and consent has been provided, electrodes will be applied to the head using a sticky paste. This can take a while and your child will need to stay fairly still during this time.

- ~~A few additional electrodes may also be applied to the chest or shoulders to monitor the heart rate.~~
- Your child can sit on your lap or lie down on the bed during set-up and the recording.
- Your child will be left undisturbed so that they can fall asleep.
- The EEG recording will typically last 40-60 minutes. Your appointment will last approximately 90 minutes in total.

After the test

- After the test, we will remove the electrodes from your child's head and clean the hair to remove the paste. You will need to wash your child's hair following the test to remove any excess gel and paste. Your child can go to school or nursery after the test.
- The results of the investigation will be analysed and a full report will be sent to your child's referring Consultant within one week. The results will not be available to you on the day.
- Your child may have a follow-up appointment already scheduled with their referring Consultant or an appointment may need to be arranged following the test.

Are there any risks or complications?

- There are no common side effects to an EEG – the electrodes simply read the electrical activity in the brain. It is not painful or invasive.
- Your child may be a little sleepy following the test.
- If, for any reason, we are unable to apply all the electrodes on the day, there will be an opportunity to re-attempt this using sedation.

Additional information

If your child has any additional needs we will likely have been notified by the medical team in advance, however please feel free to call us to discuss any concerns. Please also contact us if you have any further questions.

CBeebies "Get Well Soon Hospital" series has an episode about having an EEG – Series 2, Episode 5 at www.bbc.co.uk/iplayer/episode/b09204fx/get-well-soon-hospital-series-2-5-eeeg - this may be useful to watch before the test if your child is of an appropriate age.

Contact us

If you are unable to attend your appointment or have any questions or concerns about your appointment please contact us on:

Clinical Neurophysiology Department, St Marys Hospital: 020 331 26628

We are open Monday to Friday 8am-4pm

How to find us:

All paediatric EEGs are performed at:

St. Marys Hospital: Level 1, Mary Stanford Wing (opposite the chapel)

Nearest train stations:

- Paddington Station: Approximately 4-5 minutes walk from the station
- Edgware Road station: 7-8 minutes walk from the station

Local buses: 7, 23, 27, 36, 205, 332, 436

Please arrive on time for the appointment. If you are running late, please call us otherwise we may have to cancel or reschedule the test.

How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3313 0088** (Charing Cross, Hammersmith and Queen Charlotte's & Chelsea hospitals), or **020 3312 7777** (St Mary's and Western Eye hospitals). You can also email PALS at imperial.pals@nhs.net The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street
London W2 1NY

Email: ICHC-tr.Complaints@nhs.net

Telephone: **020 3312 1337 / 1349**

Alternative formats

~~This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team: imperial.communications@nhs.net~~

Wi-fi

Wi-fi is available at our Trust. For more information visit our website: www.imperial.nhs.uk

Clinical Neurophysiology
Published: June 2022
Review date: June 2024
Reference no:
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