



## Manchester Royal Infirmary

# Sleep Deprived EEG

Neurophysiology Department  
0161 276 4564





## What Is Sleep Deprivation?

Sleep deprivation means avoiding sleep and staying awake so that you feel tired. It is a method of increasing the sensitivity of a routine EEG.

## What Is A Sleep Deprived EEG?

- EEG stands for electroencephalogram.
- An EEG is a simple and painless test in which the electrical activity of the brain (sometimes called brain waves) is recorded from the scalp.
- Usually EEGs are recorded over 20 minutes while you are awake, however, in some circumstances we need to record your EEG while you feel drowsy and are asleep. In these cases a Sleep Deprived EEG is required.
- A Sleep Deprived EEG involves staying awake for a full night, and then coming to an appointment at the Neurophysiology Department in the morning. During the appointment your EEG will be recorded for around one hour while you are drowsy and/or sleeping.

## Why Do I 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 (fits) or blackouts. They are more sensitive than routine EEGs and are useful to reveal information about your brain that is not available when you are awake. They are also useful when you have attacks at night time.

### **Sleep Deprivation**

**The main purpose of sleep deprivation is to maximise the chance of you falling asleep during the EEG recording. Ideally you should stay awake all night before your appointment. However if you feel unable to stay up all night, staying up late and getting up early as possible to ensure you are still tired should suffice.**

**(A maximum of 4 hours is advised)**

**When you are sleep deprived you may be more likely to have a seizure (fit). It is therefore important that you do not drive on the day of the test and that someone accompanies you to and from the appointment. It is also advisable that someone stays with you for the rest of the day after the test, until you have chance to sleep properly.**

**Please make sure that you read this leaflet carefully and understand it fully. If you have any concerns or questions contact the Neurophysiology Department on 0161 276 4564 as soon as possible.**

# The Sleep Deprived EEG Test

## Before The Sleep Deprived EEG

You should deprive yourself of sleep for the night prior to the test. This means that **you should limit your sleep to a maximum of 4 hours.**

You must not drink or take any tablets that contain caffeine in them (for example coffee, tea, cola, pro plus tablets) to help you stay awake.

## During The Sleep Deprived EEG

- The test will be performed by a Clinical Physiologist and will take around 2 hours. During the test you will be sitting in a comfortable, reclining chair in a quiet room.
- Firstly, you will be asked some questions about your medical history (mainly about your symptoms and medication) and the test will be explained fully. You will also have chance to ask any questions that you have.
- Next, your head will be measured and small metal disks called electrodes (see picture) will be placed at specific points using a special type of paste. In total, 23 electrodes will be applied. Stickers will also be attached to each of your hands so that your heart rate can be recorded. This process will take around 15 minutes.
- Once all of the electrodes have been applied a baseline EEG will be recorded for 10 minutes. For this you will be asked to get comfortable and sit quietly in a relaxed state. You will be asked to open your eyes every few minutes, but for most of the time you will be asked to keep your eyes closed.



- Part way through the baseline EEG you may be asked to perform a deep breathing exercise. This is called an Activation Procedure and can help reveal further information about your brain. (This is explained more fully on page 7).
- After the deep breathing exercise is complete the chair will be laid back and the lights in the room turned off. You will be given up to 1 hour in which to fall asleep. The Clinical Physiologist will stay in the room during this time to monitor you and your EEG.
- After 1 hour you will be woken up and given around 10 minutes to wake up fully.
- Finally you may be asked to look at a flashing strobe light. This is (like the deep breathing exercise) called an Activation Procedure and can reveal further information about your brain. Again, this is explained more fully on page 7.
- At the end of the test all of the electrodes will be removed and your head cleaned. Because of the paste used in the test your hair / scalp may feel a little sticky, but it will come out when you wash your hair.

## Video

a video is routinely recorded as part of the EEG test. This is helpful for the doctor to look at when reporting you EEG.

## After The Sleep Deprived EEG

There are no direct side effects from the Sleep Deprived EEG, however you should be very careful until you have chance to sleep properly, because lack of sleep can make some types of seizures more likely. **Do not** drive on the day of the test and it is advisable that someone stays with you for the rest of the day after the test until you have chance to sleep properly.

## **Activation Procedures**

One or two activation procedures may be performed during the EEG, depending on your age and symptoms.

### **Deep breathing**

The first procedure is a deep breathing exercise. You will be asked to take deep breaths for about three minutes. This can cause light headedness or tingling in the fingers and lips; this is normal and will quickly pass when your breathing returns to normal. Occasionally, certain types of seizures may be provoked by the deep breathing exercise; however the Clinical Physiologist will closely monitor you and your EEG at all times.

### **Flashing lights**

The second procedure involves looking at a bright flashing light and opening and closing your eyes. This is an important part of the test because some types of seizures and blackouts may be caused by flashing lights. Very rarely, in people who are very sensitive to lights, this may cause a seizure, however, again, the Clinical Physiologist will closely monitor you and your EEG and will stop the light if you appear to be sensitive.

Both of these procedures will again be fully explained by the Clinical Physiologist during your EEG, and any concerns you may have can be discussed with them.

## **Frequently asked questions**

### **Will I get the results straight away?**

No it takes some time to review your sleep deprived EEG and this is done by a consultant Neurophysiologist. A report of the findings will be written and sent to the doctor who referred you. This doctor will then contact you with a follow up appointment and discuss the results with you there.

### **Will I feel anything?**

You will feel the skin being rubbed with a cotton bud before the electrodes are put on your head, but otherwise, you will not feel anything.

### **What if I have a seizure during the test?**

It is very unlikely that you will have a seizure during the test. If this does happen you will be properly looked after in the department, and you will be able to see one of the doctors at the hospital if you are particularly concerned or unwell.

### **Is the test safe?**

Sleep deprived EEGs are widely used tests with proven value. Though there are risks associated with being sleep deprived when you have seizures, we take precautions and offer advice aiming to minimise these.

### **What if I don't fall asleep?**

I really you will fall asleep during the test. If not, the test is usually still worth while, because often sleep deprivation itself may bring out EEG changes even if you remain awake.



## Further Information About Sleep Deprived EEGs

The department is open Monday to Friday between 8.00am and 5.00pm. If you require further information about Sleep Deprived EEG or neurophysiology then feel free to call us on **0161 276 4386** or **0161 276 4564**. Alternatively you could consult:

**Hospital website:** [www.cmft.nhs.uk](http://www.cmft.nhs.uk)

**NHS direct website:** [www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)

## Getting To The Neurophysiology Department

- The Neurophysiology Department is located on the **Ground Floor** in the Manchester Royal Infirmary.
- The closest entrance to the department is **MRI Entrance 2** located on the hospital Boulevard.
- There are two multi-storey car parks at the hospital (Hathersage Road and Grafton Street). You should allow 10 to 15 minutes to get from the car parks to the Neurophysiology department.
- Parking for patients who require access to Drop-off areas (30 minutes maximum) is also available. These areas are barrier controlled and accessed from the Hathersage Road entrance, which is signed "Access for Drop-off and Blue Badge Holders only".
- If you require ambulance transport to the hospital then you should arrange this with your GP as soon as you know your appointment date.

## Zero Tolerance Policy

We are committed to the well-being and safety of our patients and of our staff. Please treat other patients and staff with the courtesy and respect that you expect to receive. Verbal abuse, harassment and physical violence are unacceptable and will lead to prosecutions.

## Smoking

Smoking is only permitted within the external designated smoking areas. You may be putting others at risk if you smoke in non-designated areas. The Manchester Stop Smoking Service can be contacted on Tel: (0161) 205 5998 ([www.stopsmokingmanchester.co.uk](http://www.stopsmokingmanchester.co.uk)).



## No Smoking Policy

The NHS has a responsibility for the nation's health.

Protect yourself, patients, visitors and staff by adhering to our no smoking policy. Smoking is not permitted within any of our hospital buildings or grounds.

The Manchester Stop Smoking Service can be contacted on Tel: (0161) 205 5998 ([www.stopsmokingmanchester.co.uk](http://www.stopsmokingmanchester.co.uk)).

## Translation and Interpretation Service

These translations say "If you require an interpreter, or translation, please ask a member of our staff to arrange it for you." The languages translated, in order, are: Arabic, Urdu, Bengali, Polish, Somali and simplified Chinese.

اذا كنت بحاجة الى مترجم، او ترجمة، من فضلك اطلب من احد موظفينا ترتيب ذلك لك

اگر آپ کو ایک مترجم، یا ترجمہ کی ضرورت ہے، تو برائے کرم ہمارے عملے کے کسی رکن سے کہیں کہ وہ آپ کے لیے اس کا انتظام کرے۔

আপনার যদি একজন দোভাষী, অথবা অনুবাদের প্রয়োজন হয়, দয়া করে আমাদের একজন কর্মীকে বলুন আপনার জন্য ইহা ব্যবস্থা করতে।

Jeśli Pan/Pani potrzebuje tłumacza lub tłumaczenie prosimy w tym celu zwrócić się do członka personelu.

Haddii aad u baahantahay tarjubaan, fadlan waydii qof ka mid ah shaqaalahayga si uu kuugu.

如果你需要翻译或翻译员, 请要求我们的员工为你安排



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