

What is an EEG with back averaging?

i Information for patients
Clinical Neurophysiology



PROUD TO MAKE A DIFFERENCE

SHEFFIELD TEACHING HOSPITALS NHS FOUNDATION TRUST



Consent

We must obtain your consent for any procedure or treatment and the recording of a video beforehand. Staff will explain all the risks, benefits and alternatives before they ask for your consent. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.

What is an EEG with back averaging?

An EEG is a routine test carried out in specialist hospitals. The test records the electrical activity your brain produces whilst messages are sent to and from your body.

An EEG with back averaging also records the electrical activity produced by the muscles. These recordings are carried out on patients of all ages and abilities with a variety of symptoms.

What does EEG stand for?

It stands for Electroencephalograph:

- **Electro** - the electrical impulses that are being measured.
- **Encephalo** - the head.
- **Graph** - the way the results of the test are presented.

How does an EEG with back averaging work?

Brain waves are produced all the time and an EEG records these waves.

An EEG with back averaging also records the activity produced by muscles. This information is then analysed by the physiologist and a consultant. Patients referred for this test usually have symptoms of twitching and/or a tremor.

Sometimes you will be asked to have an additional investigation called a Long Loop Somato-sensory Evoked Potential (SSEP).

This looks at how messages travel between the brain and the muscles. A separate information leaflet will be sent for this test.

How will having an EEG help me?

EEG is used to help in the diagnosis of a variety of illnesses. How it will help depends on the problem that you have, for example twitching and tremors affecting one or more body parts.

The EEG may help us to find out the cause of your problem and help your doctor to decide what treatment might work best for you.

How long will I be at the hospital?

You can expect to be at the hospital for the majority of the day (9.00am and a 1.00pm appointment).

You can enter through the main entrances on A floor (out-patient block) or B floor (tower block) and take a lift to N floor (tower block).

Car parking is limited; please use public transport when possible. Park and ride sites are available across the city to links with bus and tram routes.

If you are a blue badge holder, limited spaces are available on-site and also in the car park where you can take a ticket on arrival and present it with your blue badge at the kiosk when leaving for the charge to be waived.

The postcode if you are using a SatNav is **S10 2JF**.



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Where is the test done?

The test is performed in a small recording room on N Floor (tower block) of the Royal Hallamshire Hospital.

Follow the signs for **Clinical Neurophysiology**.



The room contains a bed and EEG equipment. There will be a physiologist present and there is also room for you to bring someone with you if you wish.

Please note: (parents and guardians)

We have no provision for accompanying children to be supervised whilst you are having your EEG. If you have any problems arranging childcare, please ring the department to discuss this.

We are a teaching hospital and so on occasions you may be asked if you would consent to trainee staff performing the investigation under indirect supervision. Other healthcare professionals and students may sometimes ask to observe the test and again you will be asked if you give consent on these occasions. Refusing consent will not affect your treatment.

Is there anything I need to do before having the test?

You should make sure that you have something to eat before your test as the investigation takes a few hours. If your appointments are in the morning and afternoon it may be a good idea to bring your lunch with you.

We would advise you to wear loose clothing.

It is important that your hair is clean and free from hairspray or gel.

Please continue with any medication that you are currently taking. It is helpful to bring a list of your current medications with you.

What happens before the test?

To prepare you for the test, your head will be measured and then rubbed with a cotton bud and some abrasive paste. A questionnaire will also be filled in; this is an opportunity for you to tell staff what problems you have been experiencing.

A sticky paste is then used to make it easier for the 23 small discs that will be placed on your head to pick up the small impulses we are trying to record. A clip electrode is also applied to both ears.

Two stickers are placed on your shoulders / arms to record heart rate, further stickers will be placed on your face, neck, arms, abdomen and legs depending, on your symptoms, to record muscle movements.

Getting you ready for the test takes about 60 - 90 minutes.

You may ask any questions you have during this time.

What happens during the test?

The next part of the test takes about 30 - 40 minutes. You will not feel anything whilst the EEG is being recorded.

Please note, we routinely video these tests in case patients have any symptoms that we need to re-examine. Video clips of any symptoms are kept as part of your records. We will ask for your consent to do this. We also ask for your permission to use the video for teaching purposes; you will be asked to give consent separately for this purpose.

During the test we want you to be as comfortable as possible. Most people find that they are comfortable lying down.

Throughout the test, the physiologist will ask you to do various simple actions like:

- Opening and closing your eyes
- Raising your arms (to bring on your symptoms)
- Performing small tasks (to bring on your symptoms)
- A loud bang will also be presented to you on several occasions to assess if you startle.

What happens after the test?

Once the test is complete we remove the discs from your hair. A small amount of paste will be left in your hair but this is easily washed out with shampoo. You may wish to bring a hat or cap to wear.

When will I get the results?

You will not get your results on the day of the test because it takes time to analyse them and then go through them with a consultant.

The report will be sent to your consultant in 3 - 4 weeks.

Your consultant will then contact you to discuss the results.

Frequently asked questions

Are any needles involved?

No.

Can you read my mind?

No, we can only pick up electrical activity in your brain not any thoughts that you have.

What if I want more information?

If you have any questions after reading this leaflet please ring the Department of Clinical Neurophysiology, Royal Hallamshire Hospital on:

- **0114 271 3237**

Monday - Friday, 8.30am - 4.30pm



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