

Routine EEG

Information and advice for patients, parents and carers

Clinical Neurophysiology

What is an EEG?

An EEG is a recording of the electrical activity of the brain. The benefit of the test is that it will help your doctor to diagnose if there are any problems and they will then be able to advise any appropriate treatment if required.

Please read this leaflet as a simple guide to the test.

To prepare for the test

- The electrodes/discs will go over the whole head and need to have good contact with the scalp. Please arrive with clean, dry hair free from grease, oil, gel or hair styling products.
- If you have very thick, curly or afro hair it may be easier for us to place the wires and to clean the paste out afterwards if the hair is loosely plaited.
- We need to get to the scalp, so please remove any hair extensions or other coverings that will stop us being able to put the discs on the skin. Hair oil or chemicals can block the signal we are trying to record so please don't use these for 2 days before the test.
- Natural hair is easier for the EEG but please call us if you have any questions.
- Your hair will be sticky after the test, but this washes out.
- Damp cotton wool will be used at the end of the test to remove most of the wax we use.

What must I do?

- Please ensure you have something to eat within 1½ hours before your appointment.
- Continue to take any medicines as usual. Please bring a list of your current medication if you have any.
- Read the leaflet before your appointment.

What happens during an EEG?

The test takes an hour. The person doing the test will start by measuring your head, so they know where to stick some small discs. They will then rub the head with some gel and a cotton bud and attach the discs to the head with some wax.

What do I feel during the test?

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

The recording will be taken while you relax, either sitting or lying down, and takes about 20 minutes. You will be asked to follow commands such as "open/ close your eyes".

After the test the discs will be removed with warm water. Your hair may be sticky, damp and some of the paste may be left in your hair afterwards. This is water-soluble, will wash out and you will probably need to wash your hair on the day of the test. Please bring a comb or brush with you to tidy your hair after the test.

Usually, you will be able to return to home or school/work and continue to go about your normal daily activities.

A video recording is part of the EEG and is helpful in the diagnosis of your conditions. You will be asked to sign a consent form for this.

Activation techniques

During the EEG we may ask you to do some additional tasks called activation. These will be explained at the time:

- 1. Deep Breathing:** This may produce changes in your brain wave activity that could help in diagnosis and is therefore a useful part of the test. You will be asked to breathe deeply for 3 minutes. It can cause a light-headed feeling or tingling of the lips or fingers, but this is normal and will pass soon afterwards.
- 2. Photic Stimulation:** You will be asked to look at a bright flashing light with your eyes open and then closed, for a few seconds at a time. This is an important part of the test for people who may have seizures or blackouts caused by flashing lights. We will be always looking at the EEG and will stop the light immediately if you appear sensitive. This is done under very controlled conditions.
- 3. Sleep:** A recording during sleep can sometimes be helpful therefore, if you are drowsy during a routine EEG, you allowed to drift off to sleep for a few minutes.

Consent

Before the test we will ask you if you have read and understood this information and whether you consent to go ahead with the activation techniques. Please contact the department if you have any concerns or discuss it with the person doing your test at the time of your appointment.

When will I get the results?

You won't get the results straight after the test as the EEG has to be analysed. This will take 2-3 weeks and will be sent to the doctor who referred you. They will discuss this with you at your next outpatient appointment.

Are there any side effects?

There is a minor chance of a skin reaction (reddening, soreness), to the paste used.

Are there any risks?

On extremely rare occasions, in some people the activation techniques (deep breathing and photic stimulations) can provoke an attack. These will happen during the EEG. There will be no risk after the test.

Are there any alternatives to an EEG?

No there is usually no alternative test.

How to contact us

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 us on 0121 507 4319 Monday-Friday 9am-5pm. If you are unable to attend your appointment, please contact us on the same number.

References

National Health Service (2024) Electroencephalogram. Available at <https://www.nhs.uk/conditions/electroencephalogram/> [Accessed: 27 August 2024].

The British Society for Clinical Neurophysiology. (2024) My EEG Investigation. Available at: https://www.bscn.org.uk/content_wide.aspx?group=patients&page=patient_eeg [Accessed 27 August 2024].

Neurophysiology EEG protocols (2022) Neurophysiology department City Hospital. Available: RXK_Neurophysiology-Shared.

Other useful sources of information

EPILEPSY ACTION: <https://www.epilepsy.org.uk/info/diagnosis/eeg-electroencephalogram>

EPILEPSY FOUNDATION: <https://www.epilepsy.com/diagnosis/eeg>

[Websites accessed: 27 August 2024]

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