

# Young person's ambulatory EEG investigation

## Information for patients

Clinical Neurophysiology Department



This information is available in different languages and formats. For more information please contact:

**The Clinical Neurophysiology Department**  
Queen's Medical Centre Campus  
B Floor, West Block  
Direct line 0115 9709146

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### What is an ambulatory EEG?

Your brain sends millions of messages around your body to tell it how to do stuff like breathe, talk, walk and read. The EEG is a special test that lets us look at your brain while it is working.

### What happens when I have an EEG?

We measure your head from front to back, then side to side, and all the way around to see how BIG it is. Then we draw little crosses on your head with a very soft, special crayon. These crosses tell us where to stick small magic cameras on your head. The wires from the magic cameras look like long coloured hair. They are stuck on by tickling your head with a cotton wool bud, and then using some gooey paste and some skin glue to hold them on. All of the camera wires are connected to a little box, a bit like a CD player, that fits in a rucksack.

### Now the wires are on, what next?

Now you usually get to go home with the magic cameras and the recording box. You can eat, sleep and play like you do normally but we ask that you don't get the cameras or the recording box wet. While the cameras are on we get you to keep a diary of your day. This helps us when we look at your EEG. Don't worry, we will ask your parents or carers to help you do this. When we have recorded enough information from your brain, we will take all the magic cameras off your head and clean all the gooey paste out of your hair. It will still need a wash when you get home though!

## INFORMATION FOR YOUR MUM, DAD OR CARER

(It is not that we don't want you to know this bit, it can just be a bit boring!)

### What does EEG stand for?

ElectroEncephaloGraph

Electro – stands for the electrical impulses being measured

Encephalo – stands for the brain

Graph – stands for the way the results of the test are presented

### How does an ambulatory EEG work?

Everyone produces brainwaves (electrical impulses in the brain) all of the time. EEG electrodes attached to the head record these waves. "Ambulatory" means walking, and an ambulatory EEG allows your child to play and sleep as normal while attached to a small recording device that can be worn on a harness around the waist or in a rucksack. This is connected to the electrodes on their head.

### Is having an EEG safe?

The test records ongoing brain activity that everyone produces naturally; therefore, there is very little risk. There may be some discomfort as the electrodes are applied, but the recording itself is painless and there are no after effects.

### How will the investigation help my child's diagnosis?

Ambulatory recordings will enable us to analyse the changes in your child's brain during the day and night. This may help us find out the cause of the problem and so help your doctor to decide what treatment would work best for your child.

### Where is the test done?

The equipment is connected to your child in a small room within the Clinical Neurophysiology department at the Queen's Medical Centre campus in Nottingham.

### Will my child have to stay in hospital for this test?

Generally they will be allowed home with the equipment but you will have to bring your child back to see us the following day to have the equipment removed. Very occasionally some patients are asked to remain in hospital for observation, but you would be informed of this prior to your child's appointment.

### Does anything need to be done before having the test?

Yes. Before the test you should make sure that:

- your child's hair is clean and free from any hairspray, or other hair care product
- you continue to give your child any prescribed medication **unless otherwise directed**
- your child wears tops that button down the front, for example shirts and blouses, to make it easier when they are getting dressed and undressed with the equipment attached

**Please ensure your child arrives promptly for the appointment.**

### What happens before the test?

Your child's head will be measured, and electrodes placed in certain positions, using paste. As these have to stay on for some time, it is necessary to glue each electrode on to your child's head with a special skin adhesive. This stops any electrodes falling off when they move around. If at any time during the preparation you would like to ask us any questions, feel free to do so.

Once all electrodes have been secured they are plugged into a small recorder box. This is worn on a belt around your child's waist, or in a rucksack. This box is then checked to ensure all the equipment is working correctly. You should expect the whole process to take approximately one hour.

The electrodes are attached to metre-long wires that are plugged into the recorder. These wires are tied or plaited together to make one 'ponytail' but there are concerns this could get wrapped around the neck particularly at night when your child sleeps, particularly if they toss and turn. In the interests of safety we advise the recorder stays attached to your child at all times to minimise this risk.

### **What happens during the test?**

We will give you a diary to take away with you. We ask you to keep a record of any attacks your child has, when they eat, sleep or any other events of note. This will be fully explained during your appointment.

### **What should I do if my child feels an attack coming on?**

It is important that you press the "event" button. Once the attack is over, we ask that you fill in the event sheet. It is very important that you note down the time of the attack so we may be able to better analyse the responses recorded.

### **What if my child doesn't have an attack?**

We will try to record long enough to capture an attack. In some instances this may mean we ask your permission to extend the recording.

### **What if some electrodes come off?**

Don't worry! If one electrode falls off it is usually easy to spot and can be stuck on again as best you can. However, if more than one electrode comes off and it is not easy to see where they go back on, just leave them off. This is safer than putting them back on in the wrong place.

### **What happens after the test?**

Once completed, we remove the electrodes. This is usually with a solution to dissolve the glue and then we will clean away the paste with some warm water. Some of the glue will be left in your child's hair but this will come out after you have washed and conditioned their hair a few times.

### **Will my child feel anything during or after the test?**

No, the test is completely painless and has no side or after effects.

### **Are there any needles involved?**

No!

### **Can you read my child's mind?**

No – we pick up electrical activity, not any thoughts they may have.

### **When will I get the results?**

You will not get the results on the day of departure because it takes time to analyse them. A report will be sent to your child's consultant, who will then contact you and/or your child's GP. This process takes at least four weeks.

## Further information

If you have any further questions or queries please feel free to contact the Clinical Neurophysiology Department, Queen's Medical Centre, Derby Road, Nottingham NG7 2UH, or call us on 0115 9709146. Whoever answers the call should be able to help.

The Clinical Neurophysiology Department is wheelchair accessible.

## Feedback

We appreciate and encourage feedback. If you need advice or are concerned about any aspect of care or treatment please speak to a member of staff or contact the Patient Advice and Liaison Service (PALS):

Freephone (City Hospital campus): 0800 052 1195

Freephone (QMC campus): 0800 183 0204

From a mobile or abroad: 0115 924 9924 ext 65412 or 62301



Minicom: 0800 183 0204

E-mail: [pals@nuh.nhs.uk](mailto:pals@nuh.nhs.uk)

Letter: NUH NHS Trust, c/o PALS,

Freepost NEA 14614,

Nottingham NG7 1BR

If you wish to contact us formally please write to:

The Chief Executive

Nottingham University Hospitals NHS Trust

Derby Road, Nottingham, NG7 2UH

Telephone: 0115 924 9924

[www.nuh.nhs.uk](http://www.nuh.nhs.uk)