

Electroencephalogram (EEG)

What is an electroencephalogram?

An electroencephalogram (EEG) is a test that records the electrical activity of the brain. The procedure involves small metal discs with thin wires called electrodes which are placed on the scalp. The electrodes will then send signals to a computer to record the 'brain waves'.

Normal 'brain waves' make a recognisable pattern. Through the EEG, the neurologist can look for abnormal patterns that indicate seizures or other neurological problems in your child.

The EEG test comprises of two types of recording: awake and asleep. The entire test normally takes 1-2 hours depending on how cooperative your child is and how fast he/she can fall asleep.

Why do an EEG?

The main purpose of EEG is to diagnose and monitor seizure disorders. An EEG can also help monitor seizure treatment and localise the site of seizure activity in the brain.



How to prepare for the EEG?

- Wash hair thoroughly the day before and do not apply any hair products, e.g. hair oil/gel.
- Sleep deprivation is encouraged before the test. Allow your child to sleep 2 hours later than his/her normal bedtime and wake up 1-2 hours earlier. Avoid any naps thereafter especially during the journey to the hospital. This will enhance natural sleep to occur and avoid the use of sedative.
- Bring along your child's favourite item such as pillow, blanket or soft toy to help him/her relax and fall asleep.
- For infants, please bring along his/her milk feeds. Your baby can be fed while the 'awake' recording is performed to reduce movement artifacts and keep the infant calm during the recording.

What happens during the test?

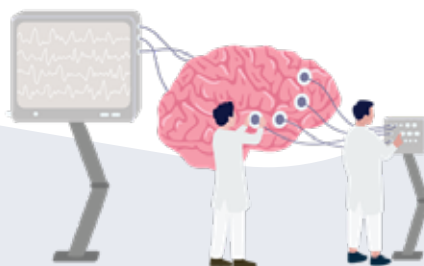
1. After explaining the procedure, the medical technologist will measure your child's head and mark the scalp with a non-permanent marker.
2. The marked areas will be cleaned with a cotton bud before the electrodes are attached to the scalp with a 'sticky' paste (not an adhesive).



3. After all the electrodes (approximately 26-32) have been attached, your child will be asked to relax and follow simple instructions given by the technologist. The 'awake' recording will commence.
4. The technologist will monitor the brain waves on a computer while your child lies quietly on the bed. Any movement or talking is discouraged as it will affect the recording.
5. For children who are old enough to follow instructions, he/she will be asked to:
 - Open and close their eyes a number of times during the recording
 - Look at bright and flashing lights (photic stimulation)
 - Do some rapid deep breathing for 3 minutes (hyperventilation)
6. After the awake recording is done, your child will be required to fall asleep briefly (15-20 minutes) for the 'asleep' recording. If your child is unable to fall asleep after 30 minutes, he/she will be given a mild form of oral sedative syrup to drink. If your child is unable to cooperate despite medication to induce sleep, the technologist will check with the neurologist-in-charge to decide if the test is to be postponed and rescheduled.

For babies and infants, you can carry your child in your arms during the entire procedure. If there is difficulty attaching the electrodes, he/she will have to be put to sleep first. The 'asleep' recording will thus be performed first. After which, you will need to wake your child up for the awake recording.

Your child's motions may also be recorded with a digital video camera to capture any events that occur during the test so that the neurologist will have an accurate visual record to complement the EEG.



Frequently Asked Questions

1. Is the EEG harmful to my child?

The EEG does not hurt. Your child will not feel any electrical sensation. However, some children might find the placement of the electrodes uncomfortable and he/she may become upset having to sit or lie down still during the EEG.

2. How long is the EEG test?

Generally, the procedure lasts 1-2 hours. However, the duration of the entire test depends on how cooperative your child is and how long he/she takes to fall asleep.

3. Are there any side effects?

There are no side effects from the EEG. However, if your child requires sedation to fall asleep, he/she may be sleepy for a few hours after the test. There is also a small possibility that your child may be allergic to the sedative. You will be asked about your child's drug allergy before any sedative is administered.

4. Can my child continue to take his/her medicines before the EEG?

Unless your child is required to do a blood test on the same day as the EEG, you can continue to give his/ her medicine.

5. Can the 'sticky' paste used during the test be washed off easily?

All gels and creams, including the paste, used during the EEG test are hypoallergenic and are water-soluble. Once the test is completed, the technologist will remove the electrodes and wipe the paste away with water. You will need to shampoo your child's head at home.

6. What if my child is still unable to fall asleep despite being given the sedative?

There is a possibility that despite sleep deprivation and sedation, your child may not fall asleep. This can be due to a few factors such as a new environment or your child's fear of the EEG test. If your child normally takes afternoon naps, it may be suitable to arrange for an afternoon appointment. Otherwise, another EEG appointment might be given. Please note that children with developmental delay or autistic behaviour may have greater difficulty falling asleep for the EEG test.

7. When will the results be known?

You will receive the EEG results on your next appointment with your doctor. Please note that the EEG technologist will not discuss the results with you.

8. What if I am unable to keep the appointment?

As EEG appointments are usually arranged in advance, we would encourage you to keep to your original schedule. However, if you need to cancel or reschedule your appointment, please call us at least 3 days in advance at 6772 4123 (Mon - Fri, 8.30am – 5.30pm).

Reminders

1. Wash your child's hair the night before the test. Do not apply hair products.
2. Let your child sleep 2 hours later the night before and wake up earlier on the test day. Do not let him/her sleep on your way to the EEG lab.
3. Bring your appointment card and EEG request form.
4. Bring his/her favourite items such as pillow and/or toys. For infants, bring milk feeds.

+ For more information, please contact:

Paediatrics Neurology Diagnostic Lab

KTP-NUCMI, Level 4
Operating Hours:
8.30am - 5.30pm
(Mon-Fri)

Appointment Line :
6772 4123



About the National University Centre for Women and Children

National University Centre for Women and Children (NUWoC) is a national university specialist centre that aims to empower women, children and their families to lead healthier lives. We provide comprehensive medical and surgical services ranging from pre-conception to child and maternal health.

NUWoC comprises the Department of Obstetrics & Gynaecology (O&G) and Khoo Teck Puat – National University Children's Medical Institute (KTP-NUCMI) of National University Hospital. It focuses on the right-siting of appropriate services in the community and builds complementary services in National University Health System's (NUHS) centres of excellence – Ng Teng Fong General Hospital and Alexandra Hospital.

Through a generous gift from the Estate of Khoo Teck Puat, KTP-NUCMI established an integrated outpatient facility with medical, diagnostic and rehabilitation services for children. We are also the only public specialist centre in Singapore that offers paediatric kidney and liver transplant programmes.

For more information about us, visit www.nuh.com.sg/NUWoC

Children's Emergency (24-hr)

Location NUH Main Building, Zone F, Level 1
Contact +65 6772 5000

KTP-NUCMI

Location NUH Main Building, Zone E, Level 2
(Accessible via Kent Ridge Wing, Zone C, Level 2, Lift Lobby C)
Operating Hours 8.30am – 5.30pm (Mon to Fri), 8.30am – 12.30pm (Sat)
General Enquiry +65 6772 5736
Appointment Line +65 6908 2222
Email ktpnucmi_appt@nuhs.edu.sg

9a Viva-University Children's Cancer Centre

Location NUH Medical Centre, Zone B, Level 9
Operating Hours 8am – 5.30pm (Mon to Fri)
Appointment Line +65 6772 5030
Email cbccappt@nuhs.edu.sg

NUH Children's Urgent Care Clinic @ Bukit Panjang

Location Junction 10, #01-22
Operating Hours 9am – 11pm daily (including public holidays)
General Enquiry +65 6219 1538
Email childreucc@nuhs.edu.sg

NUH Child Development Unit @ JMC

Location Jurong Medical Centre, Level 2
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6665 2530 / 2531
Email cdu@nuhs.edu.sg

NUH Child Development Unit @ Keat Hong

Location Keat Hong Community Club, #03-01
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6769 4537/4637
Email cdu@nuhs.edu.sg

Clinic A22 NUWoC Children's Clinic @ NTFGH

Location Ng Teng Fong General Hospital
Tower A – NTFGH Clinics, Level 2
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6908 2222
Email appointment@nuhs.edu.sg

National University Hospital

5 Lower Kent Ridge Road, Singapore 119074

OneNUHS Hotline: (65) 6908 2222

OneNUHS General Enquiries: contactus@nuhs.edu.sg

OneNUHS Appointments: appointment@nuhs.edu.sg

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