

Neurophysiology department

Your child's nerve conduction studies (NCS)/ Electromyography (EMG) test

Information for parents, guardians and carers

What's an NCS/EMG test?

An NCS test examines the electrical function of your child's nerves in their arms and/or legs. Small metal wires called electrodes will be placed on their skin. These release tiny, very mild electric shocks to stimulate the nerves. The test measures how fast the electrical impulse moves through their nerve.

An EMG test examines the electrical activity produced by your child's muscles. For this test a small needle would be inserted through their skin into their muscle and will measure the electrical activity of their muscles

Both tests last about 20-30 minutes each, depending on the number of nerves/muscles that needs to be tested.

Both tests help find the presence, location, and extent of diseases that damage the nerves and muscles.

How can I prepare for an NCS/EMG test?

- We usually perform these tests on the arms and legs, so we suggest that your child wears loose, comfortable clothing for their appointment.
- Your child can eat and drink as usual beforehand.
- Please continue to give your child their usual medication unless you have been told otherwise. Please tell your doctor before the test if your child is on anti-coagulation medication e.g., warfarin/heparin
- Please tell the doctor before the test if your child has a heart pacemaker or an implanted cardiac defibrillator (ICD)
- You are welcome to bring your child's favourite toy, book, or something to watch or listen to on a tablet or mobile phone.

What happens during the test?

- Your child and you will be called in by the consultant neurophysiologist who will explain the test and get your verbal consent.
- The study will be carried out by a consultant neurophysiologist who will attach small surface pads on your child's arms and/or legs. The nerves will be stimulated using small electrical impulses which can feel like a pulsing sensation and can make your child's muscles twitch slightly. The pulse feels like a 'tapping' or 'pins and needles' sensation. Most children are fine with this, although some children may find this unsettling. It will not hurt your child, but it might feel a bit strange. Several different nerves are usually tested, although the pulses last for a short time and there are no side effects.

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- EMG test: The test will be performed by a consultant neurophysiologist who will insert a small, fine needle into your child's muscles. This will feel like a pinprick and may cause a small amount of bleeding where the needle's been inserted. The recording is taken while the muscle is relaxed and when it is tensed, so we will ask your child to relax and tense their muscles.
 - Once the test is finished, the pads/needles will be removed and the area will be gently cleaned.
 - The results for the procedures will be analysed and a report will be sent out to your child's consultant in about a week. Your child may have a follow-up appointment already booked with their referring consultant. If not, please arrange a follow-up appointment after the test. The consultant will explain your child's results at the follow-up appointment.

What's the risk of complications following the test?

- There are no known side effects to the NCS test, and your child will be able to continue with their usual activities after the test.
- After the EMG test, there is a small chance of bruising in the area where the needle was inserted, and of the muscles feeling sore for a short time after the test. If you are concerned about the changes, please contact your GP.

Contact Us

If your child is unable to attend his/her appointment or have any questions or concerns, please contact us on:

Neurophysiology Department St Marys Hospital: 020 331 26628

We are open Monday-Friday 8-4 pm

How to find us:

St. Marys Hospital: Mary Stanford Building, **Entrance B**, 1st floor (opposite the chapel)

Nearest train stations:

- Paddington Station: approximately four to five minutes' walk from the station

*Please arrive on time for your appointment. If you are running late, please contact us, otherwise we may have to cancel or rebook your appointment.

How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3313 0088** (Charing Cross, Hammersmith and Queen Charlotte's & Chelsea hospitals), or **020 3312 7777** (St Mary's and Western Eye hospitals).

You can also email PALS at imperial.pals@nhs.net The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street
London W2 1NY

Email: ICHC-tr.Complaints@nhs.net

Telephone: **020 3312 1337 / 1349**

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:
imperial.communications@nhs.net

Wi-fi

Wi-fi is available at our Trust. For more information visit our website: www.imperial.nhs.uk

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