

Electrical examination of muscles and nerve tracts

(Electroneuromyography, ENMG)

Purpose of the Examination

The examination is used to diagnose diseases of the peripheral nervous system and muscles. A common reason for the examination is a pain caused by a disturbance in nerve functions. These conditions include, for example, a back pain radiating down the leg (sciatica), and the compression of the median nerve in the wrist (carpal tunnel syndrome or canalis carpi syndrome). Other reasons include various muscle diseases and nerve injuries.

Preparing for the Examination

- Dress sufficiently so that your feet and hands are warm when you arrive to the examination. Please wear short underwear, if you have any back or lower limb symptoms examined.
- Wash your feet and hands well before arriving at the examination. If your face is examined, the skin on your face must also be clean. Avoid oiling your skin on the examination day, as excess oil on your skin will make the examination more difficult.
- Please bring along any possible earlier examination results for previous ENMG examinations from, for example, other examination units or the private health sector.
- You can take any regularly taken medicine as you normally would. You can also eat and drink normally before the examination.
- If you take a blood thinner medicine, such as Marevan, Pradaxa, Xarelto, Eliquis, Lixiana, please inform the physician before the examination. Please inform the physician as well if you have been diagnosed with an increased bleeding risk. **If you take Marevan, please check your latest INR result before the examination.**

Please fill out the attached pain and symptom chart carefully and hand in both pages when arriving to the examination. It is also possible to fill out the form when you arrive on the department. In that case, please arrive around 10 minutes before the appointment time stated in your invitation letter so that you have time to complete the form.

Examination Process

The examination lasts from 40 minutes to an hour and a half. The measurements are usually taken from your feet, hands, or your face, depending on your condition. You will rest on a bed during the measurements.

The examination normally consists of two parts:

Examining your nerve function

Small measurement probes are attached on the surface of your skin above one or more muscles or sensory nerves. After this, the nerve is stimulated by small electrical impulses. The examination equipment records the flow of the impulse through your peripheral nerves. The result provides information about your nerve conduction velocity, and the size of your nerve or muscle potential.

Examining your muscle function

During this phase of the examination, the physician inserts a thin needle to each muscle examined (a prick comparable to an acupuncture needle). The needle records the electrical activity of the muscle.

After the Examination

The needle prick might cause a bruise, which will heal over time. On the evening of the examination day, you might feel some after effects in the insertion points, but they will pass over time by themselves. You can take one tablet of non-steroidal anti-inflammatory drug (NSAID) to treat any possible pains.

A clinical neurophysiologist will analyse the examination and write a report. The report is directed to the clinic that ordered the examination. They will inform you of the examination results and any possible follow-ups.

You can find illustrated ENMG examination instructions comprehensible for children (in Finnish) at <https://hoito-ohjeet.fi> using the search term "Retki hermojen maailmaan".

Name: _____ Personal identity number: _____

Pain and symptom chart

This form is intended for printing. The form contains sections to be filled in.

Please fill out the attached form carefully and hand in both pages when arriving to the examination. The purpose is to map your symptoms for which you have been directed to the investigation. It is also possible to fill out the form when you arrive on the department. In that case, please arrive around 10 minutes before the appointment time stated in your invitation letter so that you have time to complete the form.

PAIN – red colour

Intensity of the colour describes the strength of the pain: Intense pain with dark colour and milder pain with lighter colour.

TINGLING AND PRICKLING – yellow colour

Pins-and-needles sensation in hands and feet caused for example by sitting cross-legged for a long time. Often it feels like ants or skin or sparkling water on the skin. Pure stiffness is not the same as tingling.

NUMBNESS – blue colour

Do You Have:	Yes	No
Pacemaker, cardiac valve prosthesis		
Tendency for bleeding or bruising		
Rheumatoid arthritis or other connective tissue disease		
Artificial joint(s)		
Infection (current, skin)		
Cholesterol medication		
Marevan/ Pradaxa/ Primaspan medication		
Diabetes		
Renal disorder		
Thyroid disorder		
Allergy for anaesthetic agents		
MRSA, Hepatitis, HIV		

Name: _____ Personal identity number: _____

Length: _____ Weight: _____

Colour all the symptomatic areas which including areas which are not the actual cause of your visit. Please be precise when colouring that the right and left sides or front and back sides will not get mixed.

