

Procedure Information Sheet – Nerve Conduction Test

Hosp No. :	HKID No.:
Case No. :	
Name :	
DOB :	M / F
Adm Date :	
Contact No.:	

1. Introduction

- 1.1. Nerve conduction test (NCT) and Electromyography (EMG) are diagnostic procedures to assess the health of the muscles, the nerve cells (motor neurons), the pathway of the nerves and the junction between the nerves and the muscles. While the nerve cells transmit electrical signals that cause the muscles to contract, the NCT and EMG translate these signals into graphs, sound and numerical values that a specialist can interpret. NCT and EMG result can reveal nerve or muscle dysfunction or problems with nerve-to-muscle signal transmission.
- 1.2. A nerve conduction test (NCT) measures how quickly it takes for a nerve impulse to travel along a nerve. If the nerve is trapped, damaged or diseased, then these signals will be slow.
- 1.3. Purposes of NCT:
 - 1.3.1. To assess nerve damage following an injury.
 - 1.3.2. To check for damage to nerves, caused by conditions such as diabetes.
 - 1.3.3. To test for conditions affecting the nervous system.
 - 1.3.4. To check for 'trapped' nerves - conditions such as carpal tunnel syndrome.
 - 1.3.5. Help diagnose the cause of pain, cramping, numbness, or weakness.

2. Procedural Preparation

- 2.1. Keep your hands and feet warm, especially in cold weather, as nerves conduct messages more slowly when cooled so this could affect the results of your test.
- 2.2. Avoid cigarettes, coffee, tea, and soft drinks for 2 to 3 hours before the test.
- 2.3. Wear loose comfortable clothing so that limbs can be exposed during the test.
- 2.4. Do not wear jewelry.
- 2.5. Shower on the day of the test if possible. Do not use any cream on your skin as this can interfere with the recording.
- 2.6. Inform doctor if you have a pacemaker or defibrillator, special arrangement may be required.

3. Procedure

- 3.1. Your skin will be cleaned.
- 3.2. NCT:
 - 3.2.1. Electrodes will be tapped on the skin along the location of nerves, usually on your muscles of upper and/or lower limbs depending on where you are experiencing symptoms.
 - 3.2.2. The stimulator produces small electrical pulses, which feel like a sharp tapping sensation. The process will be repeated for a number of times on different nerves.
 - 3.2.3. The time it takes for the muscle to contract in response to the electrical pulse is recorded. The speed of the response is called the conduction velocity.
 - 3.2.4. NCT may take from 15 minutes to 1 hour or more, depending on how many nerves and muscles are being studied.
- 3.3. EMG:
 - 3.3.1. In some circumstances, you may need to do EMG, which is decided by the doctor. During EMG, a needle electrode is inserted directly into a muscle to record the electrical activity in that muscle. Doctor will assess whether there is any spontaneous electrical activity when the muscle is at rest, i.e. the activity that isn't present in healthy muscle tissues, and the degree of activity when you slightly contract the muscle. You will be given the instructions on resting and contracting a muscle at appropriate times. If you concern about discomfort or pain.
 - 3.3.2. Neurologist will report NCT and EMG, the test results will be explained in details by your case doctor.



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4. **Possible Risks and Complications**

- 4.1. During NCT, the amount of electricity that passes through you is very small. The test can be uncomfortable, and some may experience a slight increase in their feeling a few minutes after the test, and the feeling will then be decreased. The NCT test will not cause you any harm.
- 4.2. EMG is a low-risk procedure, and complications are rare. There is a very small risk of bleeding, infection and nerve injury where a needle electrode is inserted.

5. **Remarks**

- 5.1. The above-mentioned procedural information is not exhaustive. Talk to your doctor if you have further enquiry on NCT and/or EMG.

6. **Reference**

- 6.1. Patient Information Factsheet: Nerve Conduction Studies. University Hospital Southampton, National Health Service (NHS) Foundation Trust.
- 6.2. Health Information: Nerve Conduction Studies. Trusted Medical Information and Support.
- 6.3. Nerve Conduction Study. Mount Sinai Hospital.
- 6.4. Health Information: Electromyogram and Nerve Conduction Studies. Queen Mary Hospital, Hong Kong.

I acknowledged the above information concerning the operation or procedure. I have also been given the opportunity to ask questions and received adequate explanations concerning the condition and treatment plan.

Patient/ Relative Signature: _____

Patient/ Relative Name: _____

Date: _____

