

# Nerve Conduction Studies and EMG

At Spire Cambridge Lea Hospital, expert Neurophysiologist [Dr Andrew Michell](#) carries out testing to help diagnose nerve problems including EMG. The treatment and studies are carried out in a clean and safe private hospital environment.

## What are nerve conduction studies and EMG?

They are tests of the peripheral nerves and muscles that are commonly used to help diagnose weakness, numbness and other symptoms. The term EMG (electromyography) is often used by clinicians to refer to both nerve conduction studies and EMG. There are many causes of weakness or numbness, so sometimes these tests need to be interpreted alongside scan results or other investigations. Not all of the conditions that have an abnormal EMG are serious.

## What happens before the investigation?

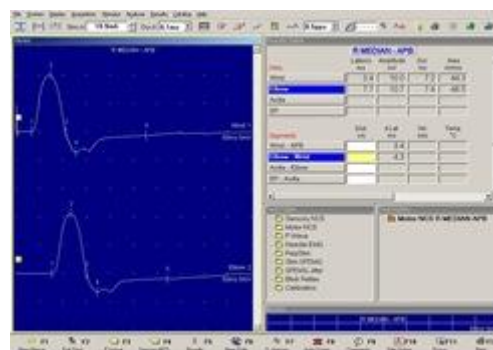
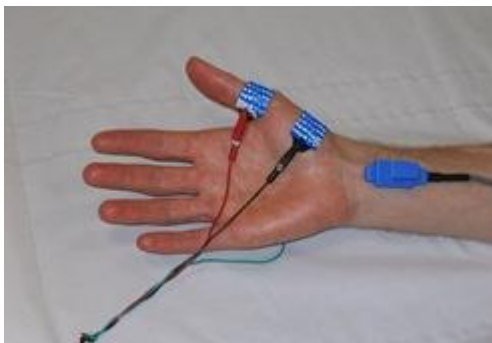
There are no special precautions required. It is helpful to wear loose fitting clothing as Dr Michell will generally need to examine your arms or legs. Please avoid moisturising creams for the day of the test as they can interfere with the recordings. A partner or family member is very welcome to accompany you during testing.

### Dr Michell will need to be aware if:

1. If you have a pacemaker or implanted cardioverter or cardiac defibrillator
2. If you are taking warfarin or heparin medication
3. If you have an increased risk of bleeding or infection

## What will happen during testing?

Nerve conduction studies are generally performed first. Small sticky electrodes are attached to the skin to measure the ability of your nerves to conduct electrical signals. A very short electrical pulse is applied to the nerve (lasting a split second – in fact less than one thousandth of a second) and the response is recorded. During this you feel a tapping sensation which is over very briefly. Dr Michell records the size, shape and speed of responses from nerves that go to supply muscles and others from the skin.



Sometimes Dr Michell will also need to perform EMG using a single very fine sterile electrode inserted into the muscle to record the electrical activity when it contracts. The electrode is very thin, like an acupuncture needle, electrical stimulation is not used at all – it is simply recording. It is only used on one patient so cannot

transmit infection. You generally feel a scratch when the electrode is inserted but the needle is very small and with experience this can be made as painless as possible.



The whole consultation generally takes about 30 minutes, but testing takes only part of this time.

### Are there any risks?

There are no side effects or complications following routine nerve conduction studies. After an EMG the muscle may feel slightly itchy or ache for a few minutes, and you may notice a small bruise. It is a very safe procedure, and infections have not been reported. You can return to your normal activities immediately after the investigation. Should you be concerned about pain, swelling or bruising please contact Dr Michell via his secretary (07762 430 754) or your GP.

### Results

The results of the investigation are sent to the referring consultant within a couple of days. It is often possible to discuss preliminary results at the time of testing. However, in many instances the overall interpretation of the results needs to be performed by the consultant that referred you for the test, who will have access to other investigations such as scans or blood tests.