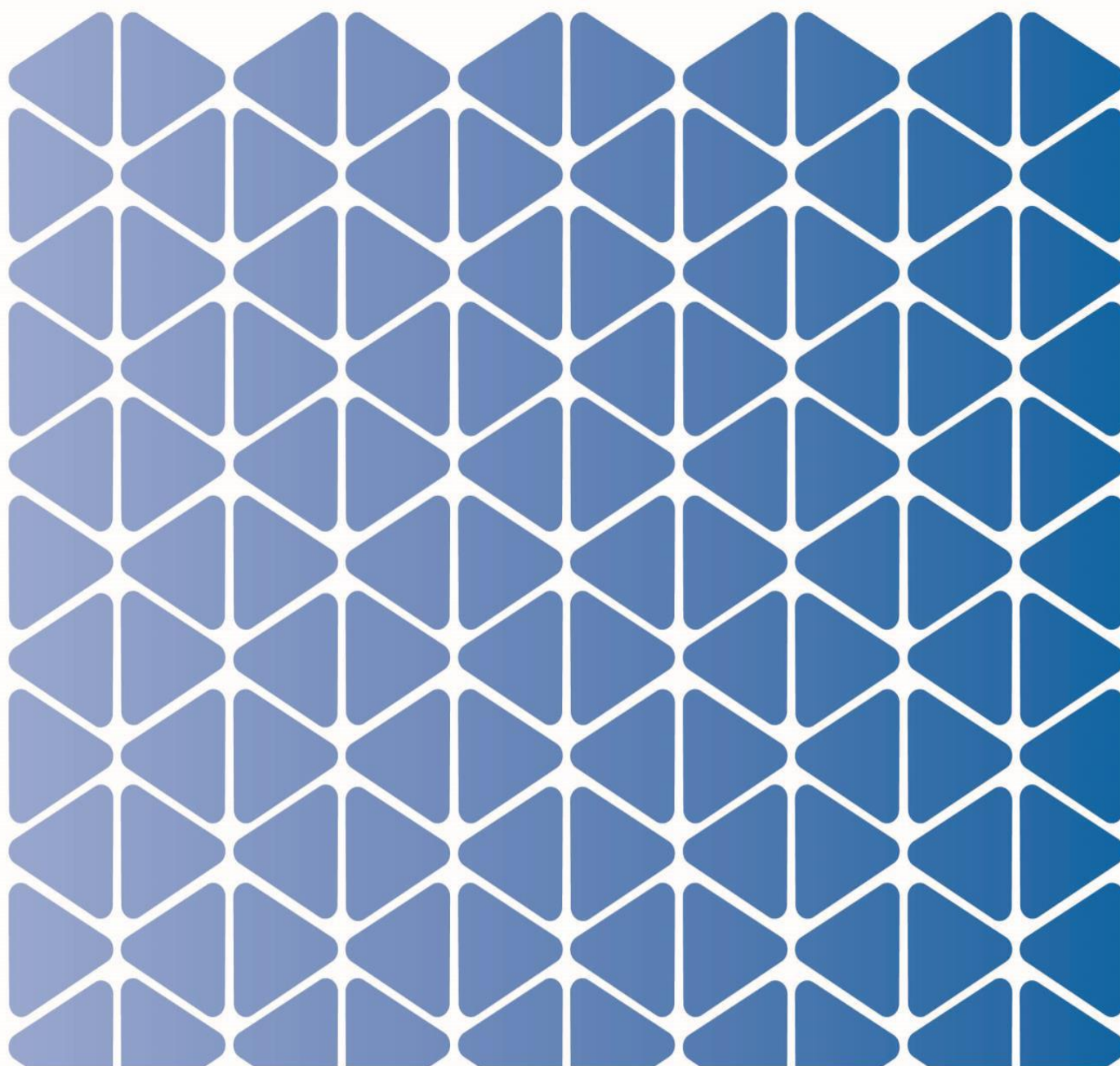


PATIENT INFORMATION**REPETITIVE NERVE STIMULATION
AND SINGLE FIBRE EMG****What you can expect**

What are RNS and SFEMG?

Repetitive nerve stimulation (RNS) and single fibre electromyography (SFEMG) are specialised tests to look for conditions affecting the neuromuscular junction, such as myasthenia gravis. In some individuals, there is a problem which affects nerve signals travelling across from the nerve to the muscle fibre. This results in variable weakness, which is often worse when you are tired. Drooping of the eyelid and double vision are also common symptoms, when the facial muscles are affected.

How to prepare for the test

- ❖ It is essential for you to confirm that you can attend this appointment, within 5 working days, by calling us on 01905 733532 between 8am – 4pm Monday to Friday. Failure to do so may result in the appointment being re-allocated.
- ❖ Ideally, you should prepare as you would for a standard EMG examination. Wear loose clothing. We may need to access the arm up to the shoulder and the legs up to the thighs, and if this is not possible then you may be asked to change into a gown.
- ❖ **Please notify us if you are taking pyridostigmine.** Ideally, this needs to not be taken 12 hours before the test, as it can lead to falsely normal results. Please discuss this with your referring doctor, to ensure that it is safe to stop the medication.
- ❖ You should take all other medications as normal.
- ❖ **Please notify us if you are taking a blood thinner such as warfarin or apixaban.** It should still be possible to perform the test, but if taking warfarin you will need to check your INR within 1 week before the test and call us with the result, to ensure it is not too high.
- ❖ **Please tell us if you have a bleeding disorder, or are known to have low blood platelets.** The test will not be performed if your blood platelets are less than 50,000/mm³; we will require a blood test 1 week before the examination to ensure that the platelets are at a safe level.
- ❖ Worcester Royal Hospital is a teaching hospital and there may be students observing or performing your test.

What to expect during the test

This can be a long test and you should expect to be in the department for up to 1 hour and 30 minutes. You may bring someone with you if you prefer. A history of your symptoms and brief examination will be performed prior to the test.

Some basic nerve conduction studies are performed first. The skin is prepared with an alcohol wipe. We stick recording electrodes to the skin and stimulate the nerve using electrical pulses. A faint tapping is felt initially, which becomes stronger. This may make your muscles twitch. Once a sufficient response is seen, the stimulus is stopped. We look at the size and shape of the response, as well as the speed it is travelling, and compare with our range of normal values. Nerves will usually be tested in one lower and upper limb.

Repetitive nerve stimulation is performed next. The procedure is similar to a standard nerve conduction study, but 10 electrical pulses will be delivered in quick succession. Muscles tested are usually in the hand, shoulder or face. This can be more uncomfortable than a standard nerve conduction study, and you should notify us at any point if it becomes too uncomfortable and you want to stop. You will be asked to exercise the muscle at full force, before repeating the stimulation. You will then have a period of rest, before repeating the stimulation again. This may be repeated several times in the same muscle to look for the effect of fatigue.

Single fibre EMG examination is then performed. This will usually be performed in one of the small muscles around the eyebrow initially, as this is where abnormalities are most likely to be found. A very fine needle is inserted into the muscle and you will be asked to gently close your eye. Recordings of the muscle's electrical activity will be made. The needle will be removed and reinserted to check several different areas of the muscle. We are looking for very small muscle fibre readings and it can take a long time to find the information that we need.

Sometimes, it is difficult to contract the muscle in the right way, or it may be too weak. In these cases, we may need to perform stimulated SFEMG. An additional very small needle is inserted into the face about halfway between the ear and the eye, to stimulate the facial nerve. You will feel regular electrical pulses stimulating the nerve, and it will make your eyelid twitch. The study is continued until sufficient data is obtained. Usually, at least 2 muscles are sampled; either from the muscles around each eye, or the forehead.

If you have symptoms in your arms and legs, a muscle in your arm or leg may also be studied.

Depending on the abnormalities which are found, we may then go on to perform standard electromyography in further muscles, usually in an arm and leg on one side.

How will I get the results?

The results take a long time to analyse and you should not expect a result immediately following the test. The report will be typed and sent to your referring doctor, usually within 2 weeks.

Directions to the department

The Neurophysiology department is located on Level 0 (River Level) at the Worcester Royal Hospital. As you enter through the main entrance take the lift or stairs opposite down one floor. The entrance to the department is in the lobby area opposite the River Court Restaurant.

Unfortunately, we cannot see people who are more than 20 minutes late. It can take a long time to park, so please give yourself plenty of time to get here.

What are the risks?

- ❖ The risks are similar to those for routine EMG.
- ❖ The most common side effect (more than 1 in 10 people) is mild discomfort or bruising after the test. This usually eases off after a couple of days. This is more likely to occur if you are taking a blood thinner.
- ❖ Less than 1 in 100 people may feel faint during the examination.
- ❖ Very rarely, there is a risk of infection due to needle insertion. This occurs in less than 1 in 10,000 cases. Sterile needle electrodes are used and the skin is wiped with a disinfectant wipe prior to insertion to minimise this risk. Needle insertion into a limb affected by lymphoedema is usually avoided.
- ❖ Very rarely, there is a risk of bleeding into the muscle requiring treatment. This occurs in less than 1 in 10,000 cases, and is usually seen in patients who take a blood thinner or have a bleeding disorder.
- ❖ RNS and SFEMG are safe in pregnancy.

Generally, EMG and NCS is a safe and well-tolerated procedure. You should be able to drive or return to work after the test. If you have any particular concerns that are not addressed in this leaflet, please feel free to call us to discuss before your appointment on 01905 760697.

Further information about the test is available at:

www.ans.uk.org/tests

www.bscn.org.uk

If your symptoms or condition worsens, or if you are concerned about anything, please call your GP, 111, or 999.

Patient Experience

We know that being admitted to hospital can be a difficult and unsettling time for you and your loved ones. If you have any questions or concerns, please do speak with a member of staff on the ward or in the relevant department who will do their best to answer your questions and reassure you.

Feedback

Feedback is really important and useful to us – it can tell us where we are working well and where improvements can be made. There are lots of ways you can share your experience with us including completing our Friends and Family Test – cards are available and can be posted on all wards, departments and clinics at our hospitals. We value your comments and feedback and thank you for taking the time to share this with us.

Patient Advice and Liaison Service (PALS)

If you have any concerns or questions about your care, we advise you to talk with the nurse in charge or the department manager in the first instance as they are best placed to answer any questions or resolve concerns quickly. If the relevant member of staff is unable to help resolve your concern, you can contact the PALS Team. We offer informal help, advice or support about any aspect of hospital services & experiences.

Our PALS team will liaise with the various departments in our hospitals on your behalf, if you feel unable to do so, to resolve your problems and where appropriate refer to outside help.

If you are still unhappy you can contact the Complaints Department, who can investigate your concerns. You can make a complaint orally, electronically or in writing and we can advise and guide you through the complaints procedure.

How to contact PALS:

Telephone Patient Services: 0300 123 1732 or via email at: wah-tr.PALS@nhs.net

Opening times:

The PALS telephone lines are open Monday to Friday from 8.30am to 4.00pm. Please be aware that you may need to leave a voicemail message, but we aim to return your call within one working day.

If you are unable to understand this leaflet, please communicate with a member of staff.