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Muscle Biopsy

Information for patients, family and carers



The National Hospital
for Neurology and Neurosurgery





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Your neurologist has recommended that you have a muscle biopsy to help make a diagnosis of your condition; this may also help decide what the best treatment is for you. This booklet has been written by the Neuromuscular team at The National Hospital for Neurology and Neurosurgery. Our aim is to explain what a muscle biopsy is, how it is performed and what you are likely to experience. If you have any questions about this procedure please contact a member of our team.

What is a muscle biopsy?

A biopsy is a procedure in which a small sample of tissue is removed. This tissue is examined under a microscope for abnormalities that may reveal important information about your condition. In a muscle biopsy a small sample of muscle approximately half a centimetre in diameter is removed for examination. This is usually taken from the quadriceps muscle (upper, outer thigh muscle) but other muscles are sometimes selected by your doctor including the biceps or triceps (arm muscles) or the calf muscle.

How can a muscle biopsy help?

A muscle biopsy can help in diagnosing conditions associated with muscle weakness. By looking at the muscle tissue under a microscope and doing other additional laboratory tests the cause of the muscle



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weakness can often be determined.

Sometimes a muscle biopsy is useful for investigating some rare conditions that do not directly cause muscle symptoms; for example a muscle biopsy may be carried out when investigating heart problems or rare brain disorders. It can also help in the diagnosis of conditions causing inflammation of the blood vessels (called vasculitis).

A muscle biopsy will often give your doctors further information so that they can advise you better about the cause and likely course of your condition. However, you should be aware that there are no guarantees that this procedure will be helpful.

What are the risks of a muscle biopsy?

All operations have risks and your doctor will discuss the risks of a muscle biopsy with you. The commonly occurring ones are:

Problems that may happen straight away

The most common problem is pain at the site of the biopsy after the local anaesthetic wears off. In most cases this will stop in a few days to weeks.

A small amount of bleeding or discharge from the wound may occur for two or three days. Swelling and bruising often occurs but should go away in a few days.



On extremely rare occasions an allergy to the medicines or dressings used may develop. If this happens treatment may be required in or out of hospital.

Problems that may happen later

Infection (although rare) may occur as with any wound. However it is more likely to occur if you have diabetes or you are taking medicines called steroids. When infection develops, wound healing may be slow and poor. A wound infection may require prolonged wound dressing and antibiotics and you may be left with a larger scar.

Problems that are rare

Some people experience ongoing pain at the biopsy site or persisting numbness overlying the scar. Occasionally it is necessary to use medicines or other techniques to ease ongoing pain.

On very rare occasions, swelling and bruising at the wound site may remain for weeks after and it is possible that a hard lump (haematoma) may develop under the skin. This is generally accompanied by pain around the biopsy area.

What will happen if I choose not to have a muscle biopsy?

The choice to have a muscle biopsy is yours. However, decisions about future treatments may depend upon the



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biopsy result, especially if long term or potentially toxic treatments are being considered. We would not wish to give you such treatments without good evidence that it is right for you. If you are uncertain about any aspect of the procedure, the reasons for it, the benefits or the possible risks and complications, please speak to your doctor.

What alternatives are available?

Before considering a muscle biopsy your doctor will have gathered as much information as possible through blood tests (including genetic blood tests) and electrical studies. An MRI scan of the muscles may sometimes be helpful. In some cases, a biopsy of skin or other body tissues can help.

Before the biopsy we will ask you to sign a consent form. The consent form confirms that you agree to the procedure and understand what is involved.

A senior member of the team caring for you will explain all the risks, benefits and alternatives. If you are unsure about anything that has been said to you, please do not hesitate to ask.

What happens during a muscle biopsy?

The doctor performing the biopsy will not usually be the doctor looking after you, but will be a trained surgeon.



The procedure is performed in an operating theatre.

The surgeon doing the biopsy will ask you to lie on your back or will position you so that the muscle the biopsy is to be taken from is easy to access. The surgeon will sterilise the area with iodine or other cleaning solution. A local anaesthetic (numbing medicine) will be injected around the area which initially causes a stinging sensation.

Once the area is numb, a five centimetre incision (opening) is made through the skin.

The surgeon then identifies the muscle before taking the biopsy. Sometimes patients experience a 'pulling' or 'pressing' sensation as the biopsy is taken and some patients find this uncomfortable.

Stitches are used to close the skin and a dressing is applied.

What should I expect after a muscle biopsy?

After the surgery the biopsy site will be covered with a sterile dressing and a bandage. The dressing should remain in place for three to five days and it is important that you keep the wound and dressing dry.

Generally stitches dissolve and do not need to be removed, but sometimes a stronger type of stitch is used, which will need to be removed. You will receive instructions as to which type of stitch you have.

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If the muscle biopsy has been taken from your leg you should rest for three hours afterwards ideally with your leg raised on a pillow to prevent swelling and complications and to aid healing. If possible, on your journey home you should avoid walking and you should be able to keep your leg raised, for example by sitting in the back of a car with your leg resting on a pillow on the seat.

After 24 hours it is important to maintain mobility but try to avoid a lot of exercise or too much walking for one week.

If the biopsy was taken from the arm the main principles of care listed above still apply.

The Neuromuscular Nurse Specialists will be able to advise you further regarding exercise and wound care.

When and how will I receive the results of my muscle biopsy?

An initial report of the findings from the muscle biopsy is usually available four weeks after the procedure. This initial report is often sufficient but sometimes if additional special tests are required this report will take longer.

A preliminary result of your muscle biopsy may be available in seven days, and if appropriate, treatment could commence before a full report is available.

Your doctor will contact you to discuss the result either immediately or at an appointment in the clinic.



What should I do if I have a question or I am concerned about the biopsy wound?

If you are at all concerned about your wound please seek medical advice.

If you experience excessive pain, swelling, bleeding or drainage from the biopsy site or have any other concerns regarding your wound please see your family doctor (GP) or the practice nurse. If your GP is closed contact your local out of hour's service that deputises for your GP or go to your local Accident & Emergency department. The on-call Neurology Registrar covering The National Hospital for Neurology and Neurosurgery can be contacted by the treating Accident & Emergency physician through the switchboard.

For non urgent enquiries you can contact the Neuromuscular Nurse Specialist on 0845 1555 000 / 020 3456 7890 extension 83682 / 83009 between 9am and 5pm Monday to Friday. During working hours our answer phone is checked at least twice each day. Please leave a message with your name and a contact number and we will get back to you as soon as possible.



Contact details

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For further information

Centre for Neuromuscular Diseases
www.cnmd.ac.uk

The Muscular Dystrophy Campaign
www.muscular-dystrophy.org

The Myasthenia Gravis Association

Telephone: 01332 290219 or visit www.mgauk.org

UCL Hospitals cannot accept responsibility for information provided by other organisations.



Space for notes or questions



If you would like this document in another language or format, or if you require the services of an interpreter, please contact the Clinical Nurse Specialists directly.

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