

Multi-grip Prosthetic Hands and Digits

Information for patients, carers
and relatives



This leaflet gives information about upper limb prosthetics and the assessment process.

All individuals with upper limb absence are entitled to an assessment by their regional prosthetic team. This team consists of a consultant in rehabilitation medicine, occupational therapist and a prosthetist.

The team will assess your “occupational needs”; the tasks you need and want to do on a day to day basis.

The team may suggest a number of different ways in which you can manage these tasks; this may be by using a piece of equipment, a prosthesis or an alternative way of doing a task.

Currently, there are a number of different prostheses available on the NHS:

- **Cosmetic** - an artificial hand with no moving parts, to restore the appearance of a hand. It can be used in a limited way, for example holding items against your body.
- **Body powered** - a hand, hook or device that opens and closes using straps and body movements.
- **Single grip myoelectric** - an artificial hand that is controlled with small electrical signals from the user’s muscle contractions. These signals are picked up by electrodes placed inside the artificial hand’s socket (worn on the user’s residual limb, sometimes known as the stump). A battery inside the artificial arm then powers the hand. These hands can open and close with only one grip, using the thumb, index and middle finger.

- **Hybrid** - a prosthesis with both mechanical and myo-electric components.
- **Custom made device** - this could be a bespoke device made to help you carry out a particular task, for example driving or playing sports.

In August 2022, NHS England published a policy about multi-grip myoelectric control prosthetic hands and digits as a treatment option for congenital upper limb difference and upper limb amputation.

What is a Multi-grip Myoelectric Hand?

- Operated the same way as a single grip myoelectric prosthesis, however the fingers and thumb move independently of each other, allowing a choice of different grips and gestures.
- The fingers have an individual motor which allows them to conform around an object giving greater security when holding an item.
- The increased number of grips may allow users to undertake a wider variety of tasks.
- These hands tend to be heavier than single grip myoelectric hands.
- They are not suitable for heavy manual tasks and some are unable to get wet.
- There are several multi-grip prosthetic hands available, each with different features. The team will work with you to understand which hand is best suited to the activities you wish to do.

What are Multi-grip myoelectric digits?

- Myoelectric digits are operated the same way as the hand, however these are suitable for individuals with finger and/or thumb absence at or below the knuckle level.
- Battery packs are worn around the forearm.

Who is eligible for a multi-grip hands and digits?

- Adults and some children (depending on size), with single or double upper limb absence or difference.
- Individuals with an identified "occupational need/s" that cannot be addressed by the available alternative options.

What will I be required to do?

- You must be able to tolerate a socket (the part of the prosthesis which holds onto the remaining part of your arm).
- Together with the occupational therapist, you will need to be able to identify suitable muscle contractions and participate in training to ensure consistent and competent myo-electric control.
- You must have used a single grip myoelectric hand for the past 12 months (this does not apply to electric digits).
- You will need to be committed to the continued training, assessment, trialling of different hands and a follow-up process (including the completion of outcome measures to check your ability to carry out tasks both before and after fitting).

- To be committed to the care and maintenance of the prosthesis, in line with warranty requirements.

What is the assessment process?

- If you are a new patient to the service, you will need a referral from your consultant or GP.
- Existing patients can request an eligibility screening appointment, during which the full process will be discussed in detail.
- A number of further appointments will take place with the occupational therapist to carry out a detailed assessment of your function and to identify specific goals.
- If existing prosthetic solutions are not suitable, then a trial/s with different multi-grip hand or digits will be carried out.
- Information will be collected throughout the trials to identify whether the hand or digits allow you to be more independent in your day to day tasks.

Useful Link

www.england.nhs.uk/publication/clinical-commissioning-policy-multi-grip-prosthetic-hand-all-ages/

If you think you might be eligible or would like further information about multi-grip prosthetic hands or any other upper limb prosthetics or treatment, please contact the prosthetic multi-disciplinary team at Seacroft Hospital on

Tel: (0113) 206 3866 or

Email: leedsth-tr.p-oadmin@nhs.net

Please note: Individuals wishing to be considered for hand transplant need to have considered all available upper limb prosthetics as part of the assessment process



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