

Prosthetics – a guide to choosing, fitting and styling the right one for you

Ensuring that a prosthesis is correctly fitted and suitable for the individual is crucial to restoring independence and ensuring that amputees can complete day-to-day tasks, whatever they may be. Taking the time to speak with specialists in order to understand how the prosthesis is fitted and why certain options may be best for certain individuals is crucial in achieving independence.

Choosing a prosthetic – types available for different purposes

For arm amputees

As an arm amputee, the choice of the type of artificial limb is centred around whether the limbs need to be passive or more functional. Passive arms do not have the ability to grasp items. However they can be much more aesthetically appealing than more functional arms.

A functional arm is normally either body-powered or it is electric (often myoelectric). Cable operated hands and hooks are known as body-powered. These are operated by using a cable and harness system. By incorporating the back and shoulder muscles, a cable is pulled and this will either open or close the hand.

A myoelectric limb functions by picking up impulses from the muscles and feeding these to electrodes, from the amputee's residual limb. These impulses are then translated by the prosthesis and the artificial hand can correspondingly open or close.

Less common than myoelectric arms, but still used today, are electric arms, which can function by turning a switch on or off. The hand will then either open or close.

For leg amputees

As a leg amputee, you may be fitted with either one of two types of limb.

The first potential is an exoskeletal prosthesis. This has a hard outer shell made primarily of plastics and laminates. For the exoskeletal limb, the strength derives from the outer lamination and the shape of the cosmetic itself. Typically exoskeletal limbs are very durable; however the weight of the prosthesis is often heavier than an endoskeletal design.

Endoskeletal, or modular prosthesis, have a tube or pylon frame that acts as if it were a skeleton. This pylon will be internal to the artificial limb. Normally these will have a soft foam cover over the prosthesis, which is shaped to more accurately replicate the look of the missing limb. These are normally lighter weight, for example aluminium or titanium, and will often have interchangeable fixtures such as knees and feet.

Trialing / Fittings

Once an amputee's residual limb has healed and the swelling has reduced, they will be ready for the fitting of their first artificial limb.

For arm amputees

As an arm amputee, wearing a t-shirt to their first fitting will make the process easier. Likewise, if they are a leg amputee then they should wear shorts, and bring a complete pair of shoes to ensure that the artificial limb fits

their shoes.

Depending on the amputee's situation they may first of all be fitted with a temporary artificial limb. Before this happens the clinical team will ensure that the residual limb has fully healed. The benefit of a temporary limb is that it allows the amputee to get used to the addition to their body. As a leg amputee, the temporary fixture will also give the individual a chance to learn to walk.

For leg amputees

A leg amputee may be fitted with a passive prosthesis as a first limb – this will have no grip function. The benefit of the fitting is that it will let the amputee adjust to the additional weight, and it will help with balance.

The amputee may wish to wear the fitting for short burst throughout the day, when they first receive it. They can then gradually increase their time that they wear it for. Physiotherapy exercises will be important in strengthening their residual limb, and this in turn will allow them to wear the limb for longer periods.

It is key when having additional limbs fitted that the amputee considers how and when the artificial limb will be used. For example if they live an active life, it may not be conducive for them to have a more aesthetically pleasing acritical fitting, which is not very functional. Discussions about these types of issues should be brought up with the prosthetist, so that the best decision can be made.

Cosmetic vs Functional

There is a balance to be struck between the cosmetic look of the prosthetic limb, and how functional it is. For example, a leg amputee who leads an active life may not prioritise a highly detailed cosmetic covering. This is because it can be incredibly expensive and may be weaker and more susceptible to damage.

As an arm amputee, hooks can be very useful because of their natural pinch or grasp function. However they are not as natural in appearance when compared with a passive or myoelectric hand.

Amputees can also have specific artificial limbs made for certain activities. For example an arm amputee who is an avid cyclist, may have a simple ring attached to the handlebars of their bike, which they may then use whenever they cycle.

If you have any questions for our specialist amputations team, please get in touch..

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