



# It's a Perfect Part of Me

Which Liner Suits You Best?

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The Basics:

# 3 Things to Know About Prosthetic Liners

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## 1. What is a prosthetic liner?

First things first! A prosthetic liner is the protective interface that sits between the skin of your residual limb and the inner socket wall of your prosthetic leg.

The liner is a crucial element of any prosthesis, designed to improve both fit and comfort. It allows the prosthesis to function smoothly, becoming a natural extension of your body.

With the right liner, you can enjoy the activities that are most meaningful to you — from everyday tasks to the passions that make life fulfilling. When your prosthesis fits well, it can open new possibilities and allow you embrace life to the fullest!

## 2. Why is it important to wear a liner?

Even though there are many different types of liners, they all share the same goal — to support you to live your life by providing protection, suspension, and pressure distribution, for your skin to stay healthy.

A good liner should support you as you walk so that the pressure on your residual limb is evenly distributed to leave you comfortable and free to go about your day.

As such, a well-chosen liner is essential for making your prosthesis feel seamlessly integrated with your body.

## 3. How did we start using prosthetic liners?

In 1971, Icelandic prosthetist Össur Kristinsson decided to design and manufacture a revolutionary amputee attachment system. Being an amputee himself, he felt there was a gap in the market for an effective border between the socket and the skin of the residual limb.

Kristinsson called it the Icelandic Roll-On Silicone Socket – Iceross. He was a pioneer in the manufacturing of silicone liners for prosthetics, and much of his original design is still used today.

Today, more than 50 years later, Össur remains an undisputed expert in the use and innovative application of silicone technology for prosthetic products.





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Now I realise  
how important it  
is to look for that  
perfect fit.

Anne





# Which Liner is Best for Me?

## The Many Types & Characteristics

### What Are the Different Types of Liners?

There are many different liner types! So which one is best for you, your needs, and your lifestyle?

Know that a well-chosen prosthetic liner is key to ensuring the prosthesis functions as a natural extension of your body. Selecting the right liner depends on a range of factors, including your activity level, comfort needs, and skin sensitivity.

This section will guide you through the different liner materials and their benefits, so you can select the one that best fits your needs.

Remember! Always talk to a certified prosthetist first before selecting your prosthetic liner. They can help you decide which liner is best for you based on your needs and lifestyle.

### Suspension Options





## for Prosthetic Liners

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How your prosthetic liner fits to your body depends on how it is suspended. There are different options to choose from.



1.

### Distal connection (Pin liners) For better control & safety

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#### Distal Connection

Liners with a distal\* connection attach to the prosthesis using a hook-and-loop system, cord retractor, or pin. The system is perceived by many users as a very safe and secure connection. These liners are suitable for short to medium-length limbs and low to medium mobility levels, often referred to as pin liners. These liners help stabilise soft tissue, providing better control and reducing movement during walking.

#### Benefits of Distal Connection

- **Improved Control:** Stabilises soft tissue for better prosthesis control.
- **User-Friendly:** Easy to handle, making it suitable for those with limited hand mobility.
- **Variety of Locking Options:** Includes features like “acoustic feedback” for secure fitting, “noiseless” options, or a “pull-in option” for convenience.

\*Distal = away from the body, at the end of the limb

\*\*Swing phase = phase in which the leg is not on the floor, but swinging through to the front.





## 2.

### Cushion

#### Increased support & comfort

**Cushion\* Technology** is mainly designed for below knee amputees and is compatible with all shapes of residual limbs and mobility grades. It is particularly beneficial for users with short residual limbs, distinctive limb shapes, or sensitivity at the end of the limb due to its distal\*\* cushioning.

This technology is ideal for managing major volume fluctuations or knee instability and provides additional support through a sealing sleeve.

#### Benefits of Cushion Technology

- **Gentle on Sensitive Skin:** It reduces the forces acting on the residual limb, lowering the risk of skin damage, especially for those with sensitive or previously injured skin.
- **Better Control:** The technology ensures good contact with the surface, helping you control the prosthesis better and feel more comfortable while wearing it.

\*Cushion = silicone pad at the end of the residual limb, without a distal connection

\*\* distal = at the end of the limb





### 3.

#### Seal-In® Great for active users

Seal-In technology is designed for a wide range of residual limb shapes and is particularly beneficial for active users. It is ideal for vacuum suspension without a sealing sleeve, especially for transtibial\* (TT) liners. The system can be used in combination with the Unity vacuum system.

##### Benefits of Seal-In® Technology

- **Less Movement:** The system reduces the up-and-down movement (pistoning) during walking to just 0.5–1 cm, making it more stable than other options.
- **Better Stability:** The special sealing lip helps keep the prosthesis securely in place, giving you more control.
- **More Comfort:** Direct contact with the socket makes the prosthesis feel lighter and more comfortable to wear.
- **Lower Profile:** The socket design requires less space which allows for more options for the built of the rest of the prosthesis.

\*TT = transtibial = lower leg

##### Seal-In® X5

The Seal-In X5 reliably maintains a vacuum thanks to five sealing lips.

##### Seal-In® X

A movable sealing ring available in various profiles permits the vacuum fitting to be individually adapted to your residual limb shape and length to generate an efficient vacuum.

##### Seal-In® V

Adapts to volume changes with its flexible sealing lip.

##### 4Seal®

Utilises four sealing lips to maintain the vacuum in the socket. It comes with easy glide coating without textile cover for easy donning and doffing.

##### HSM:

Offering security and freedom through a single seal ring.





## 4.

### Hybrid suspension Control, comfort & security in one

A hybrid suspension system is an innovative solution that merges the advantages of both mechanical and vacuum suspension methods. This combination offers you improved control and comfort, making daily activities more manageable and enjoyable.

#### Benefits of a Hybrid Suspension System

- **Improved Control:** Mechanical suspension securely holds the prosthesis in place with adjustable components, ensuring a stable fit.
- **Improved Comfort:** Vacuum suspension creates a tight seal, reducing unwanted movement within the socket for a more comfortable experience.
- **Easy Donning:** The design allows for straightforward application of the prosthesis, making it easier to put on and take off.
- **Secure Fit:** By integrating both systems, users benefit from a secure fit that enhances control during movement.
- **Empowerment:** With better control and comfort, you can engage confidently in your daily activities, enjoying a more active lifestyle.





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The best psychological  
rehabilitation is finding  
yourself in a new life!

Roman





## The Characteristics of Prosthetic Liners



### Conical Shape

This liner shape is intended for users with a conical residual limb.



### Umbrellan

The innovative knitted fabric integrated into the liner provides protection against external electromagnetic influences. It is designed to treat phantom pain for users requiring good stability and suspension.



### Tibiaguard

A soft silicone pad with a wave structure cushions the tibia\* region. The remainder of the liner consists of a thinner silicone layer. This combination of the two silicone layers with the wave function provides optimal padding and freedom of movement.

\*Tibia = shin



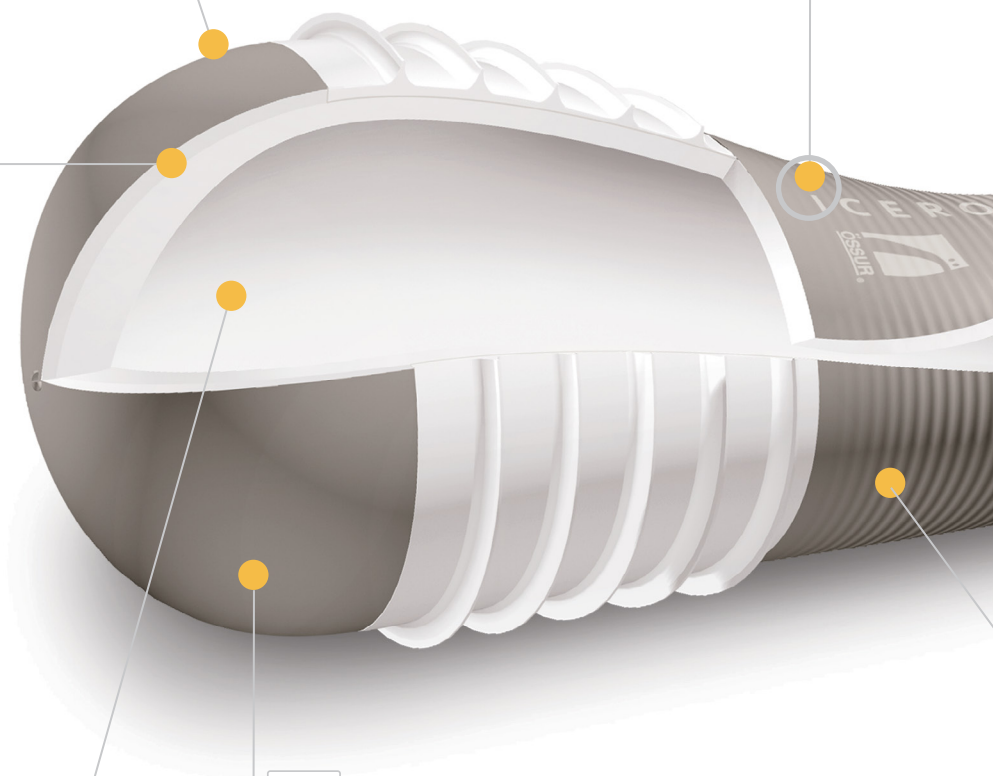
### Active Skin Care

Dermasil® silicone contains skin care substances such as Vaseline® and aloe vera. Vaseline prevents softening and breakdown of the skin caused by prolonged exposure to moisture (maceration) and keeps the skin from drying out. It also supports the formation of a protective layer on the surface of the skin (epidermis).



### Stabilising Matrix

This unique, integrated matrix allows the liner to stretch horizontally across the leg and limits the skin from stretching vertically up or down the leg, increasing the stability of the limb whilst also increasing skin comfort.







### Breathability

The ventilated structure of the liner reduces moisture collecting inside the liner.



### Fabric Cover

A cover is a special textile coating on the outer surface. It is very durable and therefore suitable for extended use and extreme demands.



### Two-Layer Structure

Two distinct silicone layers with different shore hardnesses make up the liner. The outer layer is stronger and the inner one is softer for improved comfort and protection of the skin on the residual limb.



### Silken Inner Surface

Thanks to the silken inner surface produced using microtechnology, the liner adheres to the skin without sticking.



### Easy Glide

Easy donning and doffing of the liner is assured by the special, gliding outer coating. Thanks to the coating's easy care properties, the liner with Easy Glide can be readily used for plaster casting, showering and bathing.



### Wave

The liner has a wave structure, i.e. silicone in a wave shape. This allow for comfortable stretching of the liner across the patella\* and controls folding of the liner in the sensitive area behind the knee.

\*Patella = kneecap

Note: Some of the illustrated features are optional and not included with every liner.



# Making the Most of Your Prosthetic Liner

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## Why Proper Liner Wear & Care Is Essential

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Wearing a prosthesis can affect your skin in high-stress areas:

- Your skin is exposed to pressure and friction within any prosthetic socket.
- This can also impact your skin's ability to regulate temperature.
- Increased perspiration and stress on your skin may lead to irritation and bacterial growth.

To prevent further stress on your skin, it's essential to clean and care for your skin and residual limb thoroughly. Properly cleaning and wearing your liner is also a key part of this routine.

To fully realise the potential of your prosthesis, the wearing and caring of a liner and caring of your skin is essential!

## Donning and Doffing: What's the Right Way to Wear a Prosthetic Liner?

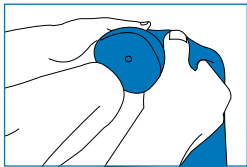
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Properly donning and doffing a prosthetic liner ensures a secure fit, preventing skin irritation and pressure sores. It also maintains hygiene, reducing infection risks. Correct procedures enhance comfort and prolong the lifespan. Just follow the steps, or watch the videos for donning and doffing for guidance to ensure you're putting on and taking off your prosthetic liner correctly, every time.



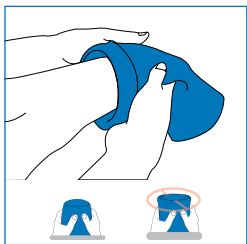


## Donning the Liner



### Step 1: Prepare the Liner

Start by turning the liner inside out so that the silicone layer is facing outward. Hold it firmly as shown in the illustration. Before you proceed, ensure that the inside of the liner is clean and dry, free from any debris that could irritate your skin. It's also important to clean the Össur liner thoroughly before using it for the first time to ensure optimal hygiene and comfort.

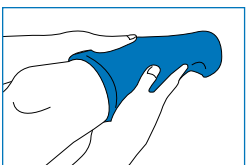


### Step 2: Position the Liner Cup

Next, expose the cup of the liner by opening the end as wide as possible. When you are wearing a liner for below knee amputation, bend your knee slightly.

Carefully position the liner cup at the end of your residual limb, making sure there is no air trapped between the limb and the liner cup. This step is crucial for achieving a secure fit and preventing discomfort during use.

Note: when you wear a liner with pin make sure that the pin is centrally placed on the end of your residual limb



### Step 3: Unroll and Don the Liner

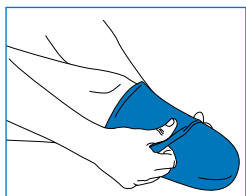
Once the cup is on place, gently unroll your Össur liner down your limb, being careful not to use your fingernails to pull or stretch it, as this could cause damage. Do not tug or pull the upper end of the liner when rolling it upwards as this can result in tension on the skin, causing blisters or rashes.

Once unrolled, make sure it's properly seated with no wrinkles or gaps and aligned correctly with your residual limb to ensure even pressure distribution. Take a moment to check for comfort and fit before moving on. Also check that there are no air pockets present. If there are then you should reapply the liner again. If you're using a Seal-In X liner (liner with a separate seal), pull the seal over the liner to the desired position.



## Doffing the Liner

Removing your prosthetic liner correctly is just as important as putting it on. Proper doffing techniques help ensure comfort and maintain the integrity of the liner. Here's a step-by-step guide to help you safely and effectively remove your liner. Watch the video or find below a step-by-step guide to help you safely and effectively remove your liner.



**Prepare Your Space:** Find a comfortable and clean area to remove your liner. Make sure you have everything you need nearby.

**Loosen the Liner:** If your liner has a locking mechanism or is secured with a pin, gently release it. If you used donning spray, you might find it easier to slide the liner off.

**Roll Down the Liner:** Start at the top of the liner and carefully roll it down towards your residual limb. Take your time to avoid pulling or tugging, which could cause discomfort.

**Remove the Liner:** Once the liner is rolled down, gently pull it away from your limb. Be mindful of any areas that may be sensitive.

**Clean the Liner:** After removing the liner, clean it according to the manufacturer's instructions. This helps maintain hygiene and prolongs the life of the liner.

**Inspect Your Skin:** Take a moment to check your residual limb for any signs of irritation or discomfort. If you notice any issues, consult with your healthcare provider.

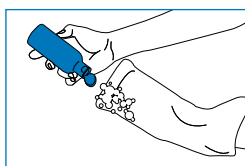


## Caring and Cleaning: How Should You Look After Your Liner?

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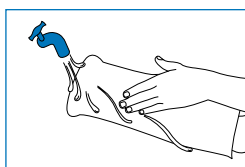
After removing your prosthetic liner, it's important to care for and clean it properly to ensure its longevity and hygiene. Just as donning and doffing are essential for comfort, maintaining your liner is essential. However, even with the best care, prosthetic liners should be renewed regularly to ensure optimal performance and hygiene.

Let's explore best practices for caring for your liner in the following section or watch the video.



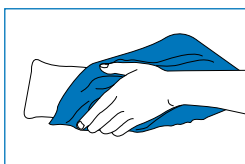
### Step 1: Remove and Wash the Liner

Start by removing the liner and turning it inside out so the silicone layer is exposed. Wash it in warm water using a mild, pH-neutral soap.



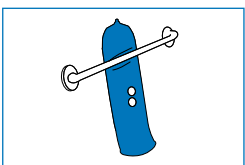
### Step 2: Rinse Thoroughly

After washing, rinse the liner carefully with warm water. This step is crucial to remove any soap residue, which can cause skin irritation. If preferred, the liner can also be machine washed at 40°C with a mild detergent, but avoid doing this daily to prevent wear on the fabric cover. Never use fabric softeners, bleach, or harsh cleaning products, as they can damage the liner.



### Step 3: Dry and Inspect the Liner

Once rinsed, dry the liner on both sides using a lint-free towel. This is a good opportunity to check for any damage or wear, like signs of tears, punctures or abrasions on the surface. As these issues can affect the liner's function and lead to skin problems. If you notice any damage, report it to your prosthetist promptly.



### Step 4: Prepare for Next Use

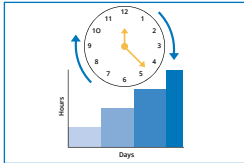
You can use your liner again immediately after washing; it doesn't need to dry overnight. Be sure to turn the liner back around with the fabric cover on the outside as soon as possible. Hang it up to air out, such as on a towel rack. Avoid exposing the liner to glass, carbon fiber, or other foreign particles, as these can cause skin irritation. Also, do not leave the liner turned inside out for extended periods or expose it to extreme heat or sunlight.

# Caring and Cleaning:

## How Should You Take Care of Your Residual Limb?

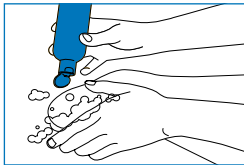
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Taking care of your residual limb is essential for maintaining skin health and comfort. Proper care helps prevent skin issues. Here are some key steps to ensure your stump remains healthy and well-cared for.



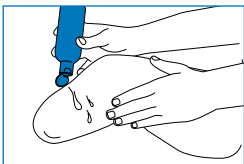
### Familiarisation

If you're wearing an Össur liner for the first time or have received a replacement, it's important to allow for a familiarisation period. Start by gradually increasing the time you wear the liner, adding an hour at a time. This helps your skin adjust to the new pressure. Feel free to take breaks as needed, and after the first week, you can wear your liner for as long as you like.



### Daily Cleaning

Daily washing of your residual limb is crucial for skin health. Use a mild liquid soap which is pH-balanced, fragrance-free, and dye-free. This ensures that your skin stays clean without causing irritation. Remember, a clean liner is the first step to a healthy limb!



### Hydration and Skin Care

Proper hydration is vital for healthy skin. Apply a moisturising lotion in the evening to nourish and soften your skin. However, avoid applying lotion just before putting on your liner, as this can cause it to slip. Additionally, drink plenty of water and consider using an anti-perspirant to manage sweating, which can also help prevent skin problems.

**Take Skin Problems Seriously:** If you notice any slight redness, apply a rash cream in the evening. For bacterial infections, stop using the liner immediately and consult your prosthetist or doctor if the issues persist or lead to open wounds. Remember, common household products like soaps, deodorants, and perfumes can worsen skin irritation, so choose your products wisely.







## A Perfect Part of Me

A liner that fits well isn't just about comfort; it's about empowering you to live life on your terms. Hear from individuals who have found the right liner for their needs and how it has become a key part of their daily lives. From pursuing passions to enjoying everyday moments, they'll share their personal stories about how the right liner has helped them live fully and embrace what matters most to them.





