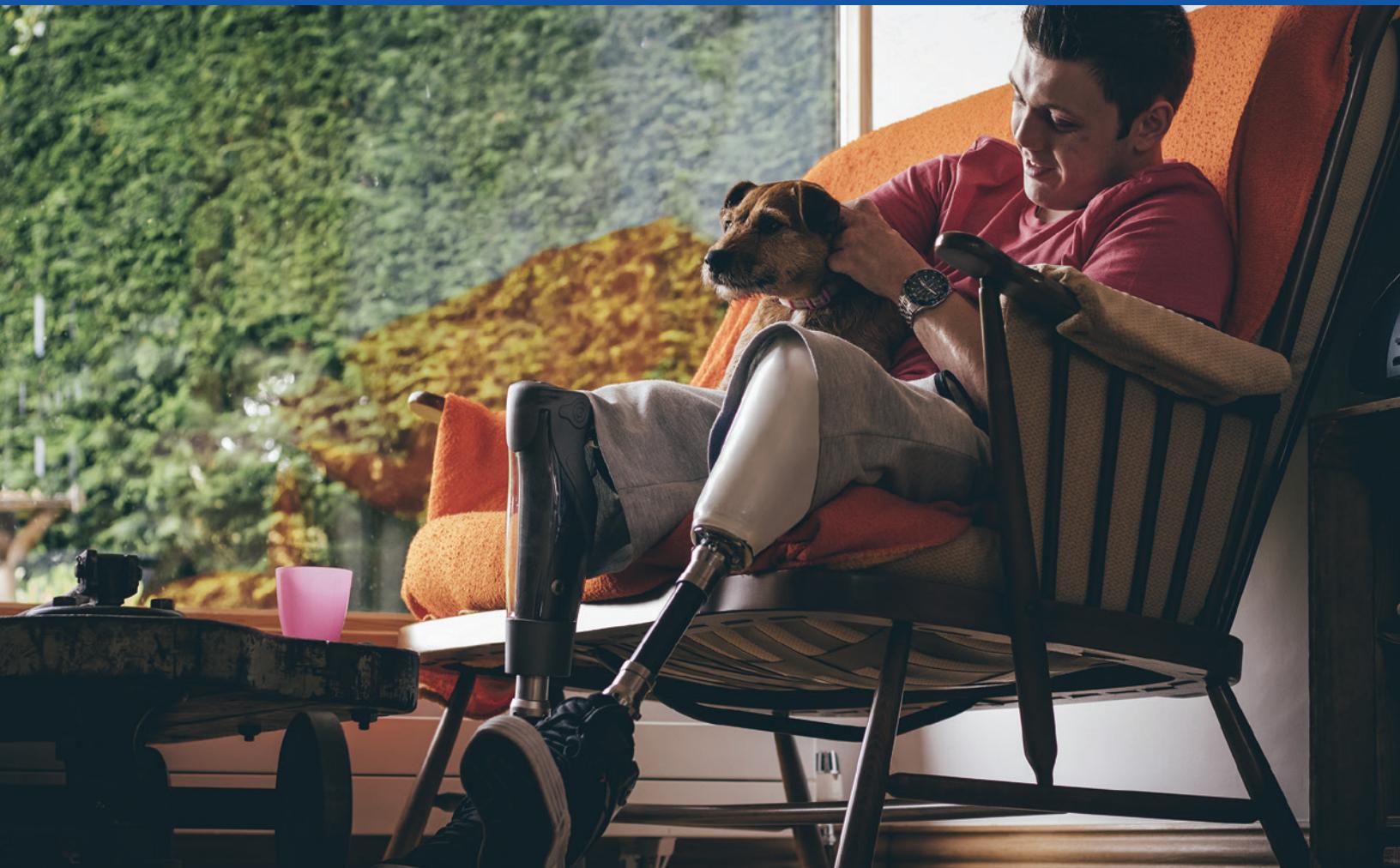




# Above-Knee Prosthetics



**Preparing Your Residual Limb for Prosthetic Use**

866-365-2674

[WWW.AUGUSTAPROSTHETICS.COM](http://WWW.AUGUSTAPROSTHETICS.COM)



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## Who We Are

Roy R. Rice III (Tripp) founded AOPI in 1999. AOPI's focus is and always has been patient satisfaction. Tripp's father and grandfather were both prosthetists. They taught him that every person he treats is unique. Every patient will have different goals.

*"Our prosthetic devices are custom built. Every single one. No one has the same fingerprint and no one has the same prosthetic needs. It's our job to ensure that our patient's will be able to do what's important to them. We guarantee every patient's satisfaction. The only way we can do that is to listen carefully to every individual we treat and take the time to build the most appropriate device for that specific person."*

*– Roy R. Rice III (Tripp)*

## What We Do

AOPI specializes in providing prosthetic limbs for people with limb loss. From children born with limb discrepancies, to high-activity athletes who sprint on blades, to senior citizens that just want to walk through the grocery store again, we provide the devices that help make them whole again.



We believe in the importance of providing care in a "family atmosphere". The loss of an upper or lower limb usually affects more than just the patient. Limb loss affects the entire family. Our practitioners' consultations and appointments include not just the patient but as many of that patient's family members that want to be involved with the prosthetic process.

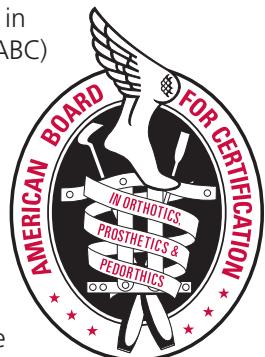
*"Treating patients and all of their care givers with the dignity and respect they deserve is the cornerstone of our practice. We understand the dynamics involved in providing exceptional patient care. Our goal is to help everyone involved move forward and get on with their lives in the most caring, professional, and timely manner possible."*

*– Roy R. Rice III (Tripp)*



## We are ABC Accredited and Licensed

The American Board for Certification in Orthotics, Prosthetics and Pedorthics (ABC) Accreditation Standards are the benchmark for ensuring quality orthotic, prosthetic, and pedorthic patient care facilities. The ABC only accredits patient care centers that demonstrate an exceptional level of care and client service. We are evaluated every three years to ensure we are keeping up with the profession and to maintain our accredited status. We are proud to be an ABC accredited practice!



## Our Facility and Team

AOPI has a state-of-the-art fabrication laboratory on-site. We oversee the entire fabrication process in house and guarantee that our devices are consistently constructed to meet the highest standards. We can make socket adjustments as well as alignment and component changes during your appointment.

Our team of healthcare providers are all state licensed and nationally certified. We attend continuing education and professional development meetings and courses so that our entire staff is up-to-date on the latest advancements in prosthetic technology and patient care.



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# Welcome

This information will help you learn about limb loss, teach you some important terms and explain what comes next. Always remember, the most important member of your rehabilitation team is you!

There is an entire team of healthcare professionals dedicated to helping you. Your team's roster will depend on the size and type of healthcare facility you are at. Some of the potential team members:

- Surgeon
- Occupational Therapist
- Rehab Nurse
- Social Worker
- Physician
- Psychologist
- Physical Therapist
- Case Manager
- Prosthetist
- Personal Trainer

Learn who they are, write down their names and keep their business cards handy. Your team is here to help you reach your fullest potential.

It is important that you read and understand your insurance policy's prosthetic coverage section. Reimbursement and coverage can vary significantly from policy to policy even within the same company. We deal with health insurance every single day. If you are confused or just feeling overwhelmed, please reach out to us. We understand prosthetic coverage and we are happy to share what we know about it. We can help you choose the best policy for you.

It is traumatic to lose a limb. We are all here to help you. Please ask questions. Ask a lot of questions. You need to play an active role in your rehabilitation. You are unique. Your care should be unique. So, tell us about your hopes, your dreams, and your goals.

There will be problems and challenges ahead. We can overcome them together.

**“The only place that you will find success before work is in the dictionary,”**  
**– Vince Lombardi.**

## Managing Change

You will survive this. It is natural to feel discouraged, worried, helpless and dependent after an amputation. Sometimes you must let go of what you have lost, appreciate what remains and look forward to what will happen next.

Take comfort in the fact that you are not alone. There are over two million people living with limb loss in the United States, with 185,000 lower extremity amputations added to that number every year. By 2050 an estimated 3.6 million people in this country will be living with limb loss.

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You are the same person you were before your amputation. You are just going to have to do things differently. In most cases **above-knee amputees (AK)** can enjoy their lives much like they did before the loss of their limb. You will be able to return to the activities you enjoyed. But it's going to take some work. We will provide you with the tools to accomplish your goals but you will have to provide the strength and resolve to use these tools to the best of your ability.



It is natural to grieve for the loss of your limb. Talk about it. The loss is real and your feelings are understandable. Grief is nothing to be ashamed of. Talk to us, your doctors, your friends, your family, and when you are ready, other amputees. There are wonderful support systems and groups already in place made up of people who have suffered similar losses.

## Preparing for Your Prosthesis

A **prosthesis** is the device that's going to replace your leg. It's going to be custom made just for you. Your height, weight, activity level, the size of your **residual limb** and your lifestyle will all be taken into consideration.

Your health will determine when you get fit for your prosthesis and how effectively you will be able to use it. The stronger you are the better.

The prosthetic process can only begin once your wounds and suture lines are closed and all drainage has been eliminated.



Your **residual limb** is what remains of your leg on the amputated side. Your **sound limb** is the non-amputated side. The stronger both limbs are, the more successful you will be with your prosthesis. There are five things you should do immediately following surgery to prepare your residual limb for prosthetic use:

- 1. Limb Hygiene and Care**
- 2. Volume Control – Reduce Swelling**
- 3. Prevent Muscle Contractures**
- 4. Get Strong**
- 5. Improve Mobility**

# Preparing Your Residual Limb for Prosthetic Use

## 1. Limb Hygiene and Care

You need to inspect your residual limb every day. Keep it clean and dry to prevent infections and skin problems.

- Wash your hands thoroughly before handling your residual limb. Also make sure that anyone else that touches your limb (doctors, nurses, therapists, etc.) wears gloves and washes their hands.
- Wash your residual limb with mild soap and water every day.
- Use a clean washcloth and softly scrub the entire limb.
- Use a mirror for the areas you can't see, like the back of your leg.
- Completely dry your residual limb.
- If you are wearing a shrinker sock or using an elastic bandage make sure they are clean and dry.
- Eat a healthy diet to facilitate the healing process.
- Stay hydrated.
- DO NOT smoke.

Immediately following surgery your residual limb is going to be sensitive. Since your residual limb is going to be bearing the weight of your body it is important to desensitize it.

- Massage your entire residual limb every day. Start gently and gradually increase the pressure – as much as you can bear but being extra careful until your suture line is healed.
- Flex the muscles in your affected limb. It helps to close your eyes and visualize moving your phantom limb throughout the normal range of motion. It will feel strange, but it's important. Controlling the muscles in your residual limb may be uncomfortable at first, but the end results will justify the effort.
- DO NOT use lotions or hand creams. Lotion will soften the skin. Your skin needs to be tough so it won't break down inside your prosthesis.

As your tolerance increases you should be vigorously massaging the area. The less sensitive your residual limb is the easier it is going to be for you to start walking.

Call your doctor immediately if the area around your sutures becomes infected. You should be concerned if:

- the incision opens
- the incision becomes hot, red, swollen
- you see pus
- you notice a bad odor
- you have an increase in pain, tenderness or sensitivity

## 2. Tissue Shaping – Reduce Swelling

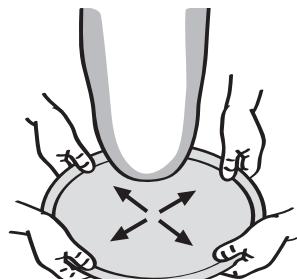
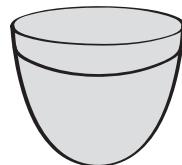
The timing of when you can be fit with a prosthesis will depend on how you manage the volume of your residual limb. Preparing your residual limb to fit into a prosthesis is called **tissue shaping**. Your residual limb is going to change in shape, size, and volume during your post-op recovery and throughout your life.

Your residual limb will be swollen from the surgery. The swelling (**edema**) usually occurs toward the amputation site. An elastic bandage or shrinker sock will be applied to reduce and control this swelling. These **compression dressings** are designed to apply more pressure at the bottom of the limb than at the top.

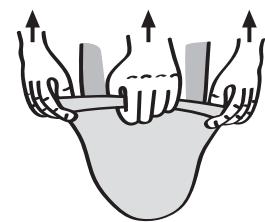
### Shrinker Sock

A **shrinker sock (shrinker)** is an elastic sock designed to reduce swelling and help shape your limb. It is important to pull the shrinker up tightly and have total contact with your skin. You cannot have any empty space at the bottom of the shrinker. The goal is to squeeze excess fluid out of the limb by applying circumferential pressure. The pressure should be greatest at the bottom of the limb and gradually decrease towards the top.

**The best way to put on a shrinker is with two sets of hands.**



Stretch out the material so the shrinker is flat.



Place the flat shrinker against the residual limb and in one motion pull the material up the limb.



**DO NOT leave empty space at the bottom of the shrinker.**

Shrinkers must have total contact with your skin, or the end of your residual limb will fill the empty space.

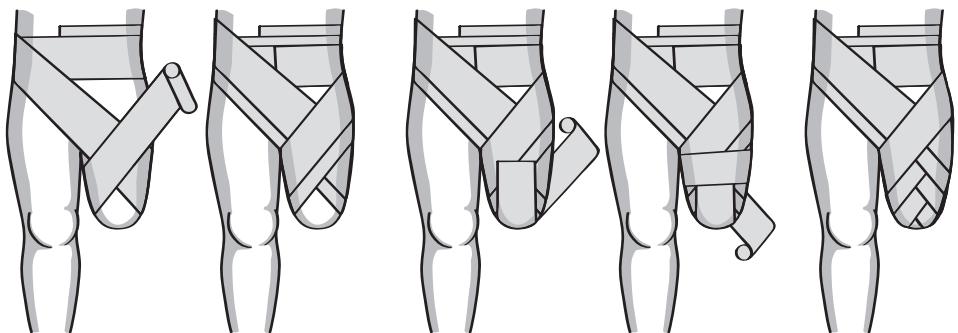
## Elastic Bandage

Elastic bandages need to be applied in a specific manner to maintain appropriate compression. The greatest pressure needs to be applied at the bottom of your limb and reduced as the wrap moves up your residual limb.

Elastic bandages get loose over time. It will be necessary to rewrap an elastic bandage around your residual limb several times throughout the day. Your **physical therapist** will teach you the proper method for wrapping your limb. It will take practice to get it right.

New amputees should be wrapping and rewrapping their residual limb four or five times per day.

A double or triple length six-inch wide elastic bandage with good elasticity will work best. The bandage needs to be applied with about 75% of the maximum stretch, so it should be taught, but not tight.



**DO NOT use the metal clips that come with the bandage.** The clips destroy the fabric and elasticity. Use medical grade adhesive tape instead.

Your bandages need to be clean and dry. Replace them if they are wet, soiled or if they lose elasticity. You should inspect your residual limb between wraps. Call your doctor right away if your sutures pull out or if there's excessive redness, draining or pain.

## 3. Prevent Joint Contractures

Contractures are relatively easy to prevent but very difficult to correct. A **contracture** is the shortening and hardening of muscles, tendons, or other tissue. Contractures can lead to deformity and rigidity of joints. They can cause permanent restriction of movement making it significantly more difficult for above-knee amputees to walk. Preventing muscle contractures will be stressed in **physical therapy**.

Above-knee amputees must try to prevent hip flexion contractures. These can occur from sitting or lying in bed for too long. Your hip flexors are a group of muscles that connect the top of your residual limb to the lower back, hip and groin. A **hip flexion contracture** can cause the residual limb to rotate up and outward making a prosthetic fitting very difficult (Figure 1). Since the hip muscles attach to the spine, a contracture can also lead to increased fatigue and discomfort in the lower back. Early prosthetic use will be much more successful without contractures.

Whenever you are in bed you should avoid putting pillows under your residual limb. It should be flat and parallel to your sound limb (Figure 2). You can stretch your hip flexors and prevent contractures while in bed. Roll over once in a while and lie on your stomach (**prone position**). A reasonable schedule is to lie prone for 30 minutes three times a day. If lying on your stomach is uncomfortable then try lying on your side with your residual limb on top of your sound side or just behind it (Figure 3).

### Lying Down



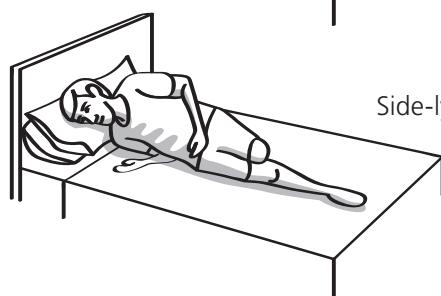
**Figure 1**

Flexion-abduction contractures  
frog-leg position



**Figure 2**

Keep residual limb flat on the bed and parallel to remaining leg.



**Figure 3**

Side-lying alternative to prone position:  
keep residual limb in line with or slightly behind your sound limb.



## Your Prosthetist

Your prosthetic care will be provided by a team of rehabilitation professionals. Your prosthetist is specifically educated in the comprehensive management of people with limb loss or deficiencies. Our clinical team has years of expertise in the challenges you may face from pre-operative consultation to post-operative care to long term issues. The design, construction, fitting and maintenance of prosthetic limbs, is actually a small piece of the service that we provide. Prosthetists are required to have advanced education and their patient care facilities must be accredited. Our clinicians are nationally certified prosthetists.

Our patient care facilities are accredited by the **American Board for Certification in Orthotics, Prosthetics & Pedorthics** (ABC). The ABC has been accrediting prosthetic facilities since 1948 and they are a Medicare Deemed Authority. The ABC accreditation ensures the office you are treated at follows the practices of fundamental business organization and strives for excellence in patient care.

It is important that you choose the right prosthetist to design, build and fit your leg.

Your prosthetist is the person you will see whenever your leg needs to be adjusted, fixed or replaced.

**Location** – You will have to go to your prosthetist's patient care facility. More often at first and less as time passes. Location is important to consider, especially if transportation is an issue.

**Qualifications** – Make sure the person treating you is a certified prosthetist and that their office is accredited. Ask about their education and their patient care facility. Do some research on the prosthetists that you are considering. Look at their achievements, professional affiliations, and charities they support.

**Compatibility** – Clear communication is important to your care. You need to be comfortable talking to your prosthetist and confident that the person treating you understands your needs and how you are feeling. The relationship with your prosthetist should grow into a strong one.

**Availability** – Some patient care facilities have more than one prosthetist. Make sure to ask if the person you're speaking with will be providing your care. If not, ask to meet that person.

**Insurance** – How much is your prosthetic limb going to cost? How long does the coverage last? How much will have to come out of your pocket? Your prosthetist should be able to explain your prosthetic coverage in detail.



## 4. Get Strong

Physical therapy is a key component of your recovery. You need to keep the muscles in both your residual and sound limb strong and limber. You need to strengthen your arms and core. The stronger you are the easier it will be to use your prosthesis. Make sure to continue the exercises you learn in physical therapy even after you have been discharged. You have been immobile. It is time to get your strength back.

Physical therapy will become progressively more challenging. We have useful information on exercises as does your therapist.

## 5. Improve Mobility

It is important to be able to do the basics like sitting up, maintaining balance and rolling over. How well you move around without a prosthetic device directly impacts how well you will move with one. If simple tasks are difficult, you may struggle with your prosthesis.

Independence is critical. You need to be able to get up and down from the floor by yourself. You need to be able to walk with an assistive device like a cane or walker. It's wonderful to have people that can help you but it's important that you are able to rely on yourself. Try to keep yourself in the best shape possible and maintain a consistent weight. Changes in your weight can affect the fit of your prosthesis.

# Your Prosthesis

Your physician and prosthetist will determine when it's time for you to be fit with your **prosthesis**. They will decide when you get it and how your prosthesis will be built.

There are three primary factors that will determine the types of components and level of technology used in your prosthesis.

1. Functional ability
2. Lifestyle
3. Insurance coverage

Your abilities will depend on how you deal with the loss of your limb and your current physical capacity. Many people in the prosthetic field can tell you that a person's abilities are determined more by how they adjust to the loss of their limb than by how much of their leg was amputated. Your physician and prosthetist need to predict your activity level and your potential before they can work on your **definitive prosthesis**. They must justify your potential to your health insurance provider before any work can be started.

## Making Your Prosthesis

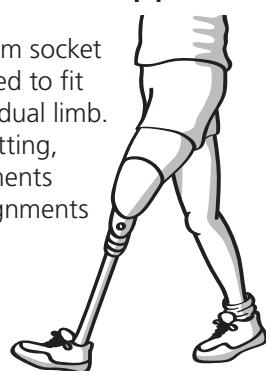
A plaster cast impression of your residual limb will be captured.



A positive mold of the residual limb will be fabricated.



A custom socket is created to fit the residual limb. Initial fitting, adjustments and alignments follow.



Medicare created a system that has been adopted by most insurance companies to assess the "functional level" of an amputee. This system was designed to make sure that people get the prosthetic components that are most appropriate for their activity level. These are called "**K Levels**". Your prosthetist, physician and physical therapist should work together in determining your K Level.

Your health insurance determines what services and benefits will be covered. It's important to understand that your physician, prosthetist and insurance company will be making decisions on your behalf based on your policy, unless you are paying cash.

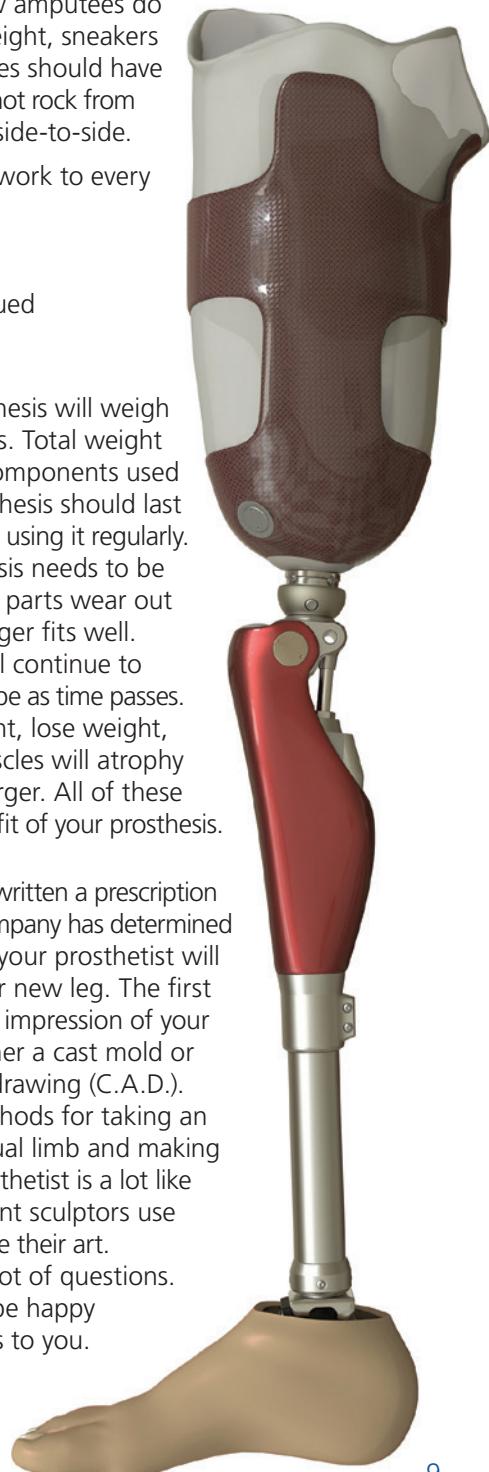
# Building Your New Leg

Here are some helpful suggestions:

- Bring shorts, bathing suit, body suit or a thigh length skirt when you see your prosthetist. Your prosthetist is going to need access to your leg.
- Always wear clean underwear when you see your prosthetist.
- Please bathe prior to your visit.
- Bring a PAIR of shoes (1 left, 1 right) to your prosthetic fitting. You need well-made shoes that fit properly. Your shoes should not be worn out on one side or the other. New amputees do best with lightweight, sneakers that lace up. Shoes should have flat bottoms and not rock from front-to-back or side-to-side.
- Bring your paperwork to every appointment:
  - insurance cards
  - prescriptions
  - government issued identification

An above knee prosthesis will weigh between 6-15 pounds. Total weight will depend on the components used to build it. Your prosthesis should last several years if you are using it regularly. Oftentimes a prosthesis needs to be replaced not because parts wear out but because it no longer fits well. Your residual limb will continue to change in size and shape as time passes. You might gain weight, lose weight, some of your leg muscles will atrophy and others will get larger. All of these have an effect on the fit of your prosthesis.

Once your doctor has written a prescription and your insurance company has determined what they will cover, your prosthetist will begin fabricating your new leg. The first step will be taking an impression of your residual limb with either a cast mold or a computer assisted drawing (C.A.D.). There are several methods for taking an impression of a residual limb and making a socket. A good prosthetist is a lot like a sculptor and different sculptors use different tools to create their art. Ask questions. Ask a lot of questions. Your prosthetist will be happy to explain the process to you.



# Socket

Your socket is the most important part of your prosthesis. Socket technology is changing at a rapid rate. The material used in the design will be what your prosthetist deems is most appropriate for you. The primary objective is to create a safe and stable anchor for your prosthesis while comfortably fitting your changing residual limb.

Changes to your limb should become less dramatic as time goes by. However, gaining or losing even a little bit of weight or a change in the size of your muscles can affect the fit of your socket. These changes can throw off your alignment and how your weight is distributed. Both are important issues. How your prosthetic leg is aligned beneath you influences the way you walk. How your body weight is carried within your socket will affect comfort, safety and stability.

Your socket needs to be checked regularly. More at first, less as time goes on. Once you become an experienced prosthetic user your socket should be checked every six to twelve months.

It is very important to keep your socket clean. It will get hot, dark and moist in there. Fungus and bacteria flourish in a hot, dark, moist environment. Keep your socket clean! Keep your liners and socks clean, too.

**Prosthetic Socks** come in different materials and thickness. Most prosthetic systems are designed to be used with them. You are going to add or remove socks for your prosthesis to fit well. If you have a salty meal your residual limb may swell a bit – in this case, you will have to remove a couple of socks. If you get dehydrated, you will probably have to add socks for your socket to fit snugly.

Prosthetic socks need to be kept clean. You should wear clean socks every day.

**Gel Socks** have extra gel at the bottom of the liner which helps reduce shock and vibrations.

- nylon reinforced toe
- stretch fabric conforms to irregular shapes
- contains medical grade mineral oil
- important to follow washing instructions

Handy tip! Since prosthetic socks come in many shapes, sizes and thicknesses, take a picture of the label with your phone or save the packaging. When your socks need to be replaced, having the product number makes it simple to order new ones.

**Prosthetic Liners** are the protective interface worn directly over your residual limb. Liners are usually made of silicone, or a soft flexible cushioning material like polyurethane. Some liners are infused with medical grade mineral oil. Liners help keep your limb firmly in the socket and reduce friction, making the prosthesis more comfortable and stable.

## The Purpose of a Prosthetic Sock

- protect the skin
- absorb and wick perspiration
- provide cushioning
- compensate for shrinking and swelling
- adjust the fit of the socket



## Adjusting the Fit of the Socket

1. If the socket is too tight, reduce sock ply.
2. If the socket is too loose, add sock ply.
3. Keep socks handy because changes in volume and perspiration will occur throughout the day.

Prosthetic socks are worn **over** your liner.

- **Liners** relieve the skin of shear forces
- Liners are locking or cushion depending on socket construction
- Liners come in thicknesses of 3mm, 6mm, or 9mm
- Liners are covered in a durable, high performance fabric
- Liners provide distal end encapsulation

## Shoes



You can wear whatever shoes you want, as long as they fit properly. But, you must let your prosthetist know what kind of shoes you want to wear **before** they begin building your prosthesis. Please bring us a few pairs of your favorite shoes when you are being fit for your prosthesis. You will have better balance with a lower heel.

Shoes are an important part of your prosthesis. It is all about the heel height. Your prosthesis is going to be designed for a specific heel height. Changing the height of your heel will change the alignment of your prosthesis which will change the way you walk. It's certainly possible to go from flats to heels, or boots to sneakers with your prosthesis but your prosthetist needs to know this before your leg is built, not after. There are specific prosthetic feet and components that can be ordered to accommodate the shoes you love, want or need to wear.

Both of your feet, your prosthetic side and your sound side, should fit snugly into your shoes. You may need to use a long-handled shoe horn to get your shoe on your prosthetic foot. Your shoes will need to fit properly and remain secure on both of your feet as you walk.

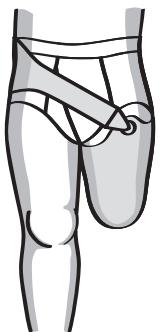
# Suspension

**Suspension** is how your socket stays on your residual limb. There are different methods to achieve the most appropriate suspension. It depends on the shape and size of your residual limb, finger dexterity and the preference of your prosthetist. Each method has pros and cons.

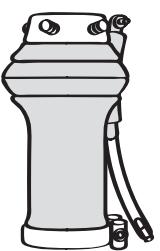
## Types of Suspension

### Pelvic Bands / Soft Belts –

A flexible band that encircles the pelvis and helps stabilize the prosthesis.

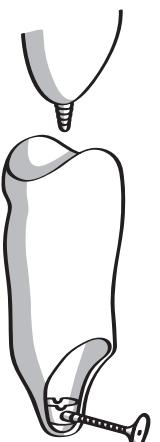


**Vacuum** – A seal is created with a sleeve around the top of the socket, then a vacuum pump removes the air between the socket and the liner. Vacuum helps your socket stay on your limb, which reduces friction, regulates volume changes and improves circulation.

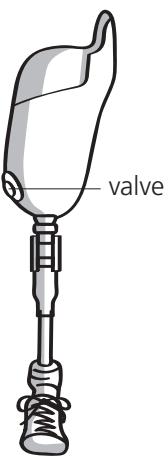


### Mechanical Suspension –

A liner with a pin is worn over the residual limb and attached to the socket with a lock. A lanyard system can also be used. The lanyard is a strap that pulls the liner into the socket. The lanyard also connects the socket to the liner, which helps reduce rotation and shear.



**Suction** – Suction suspension utilizes a valve built into the bottom of a prosthetic socket. The valve allows air to escape when inserting your liner-covered limb into the socket. Think about placing one garbage can inside another and being unable to pull them apart. Suction provides uniform suspension inside the entire socket.



# Prosthetic Foot

Prosthetic foot technology is impressive. The appropriate foot for you depends on what you want and need to do. Walk, run, dance, work, swim, golf, water ski? There are more than one hundred different prosthetic feet available. That is why sharing your hopes and dreams with your prosthetist is so important. They need to figure out what foot is going to be best for you. Your age, height, weight, size of your residual limb, foot size, goals, occupation, hobbies and activity level all need to be considered.

## Types of Prosthetic Feet

### Basic Prosthetic Foot –

It provides a high degree of stability. It's durable, inexpensive, and requires very little maintenance.



### Energy Storing Foot –

It is like a spring. When a spring is compressed it stores energy. When that energy is released the coils "spring" back. Energy storing feet work the same way. When you step down and the heel strikes the ground, the foot compresses and stores energy. That energy is released when the foot pushes off. The foot will actually "lift" your body to help produce a more normal gait.



### Microprocessor-Controlled Foot (MPC) –

It has computer sensors that react to your environment. The sensors read your body weight and balance, as well as take into consideration if you're on level ground or a ramp and respond accordingly. An MPC Foot is expensive and requires a high degree of maintenance but is the best choice for mimicking an actual human foot.



# Frequently Asked Questions

## What does a prosthetic limb cost? Who pays?

A prosthetic device is custom-built for you. The cost will depend on the components that are used and the type of device you get. Your insurance coverage will also be a factor.

It is important that you read your insurance policy's prosthetic coverage section. We can help you with selecting plans that are more favorable to your specific needs. Often insurers will tell you that something is "covered." However, "coverage" and "reimbursement" are different. For example your out-of-pocket cost would be double with a plan that is covered and reimbursed at 60% compared to an 80% reimbursement policy.

How your prosthetic limb gets paid for depends on factors such as your age, employment status, and insurance coverage; unless you are paying for the device yourself.

**Medicare / Health Insurance** coverage will depend on your policy. Look under the **Durable Medical Equipment** section of your plan. That's where you will find what's covered and what's not covered regarding prosthetic devices. If you are eligible for Medicare, your secondary or supplementary plan may cover that portion not paid for by Medicare.

**Vocational Rehabilitation** (VR) is a major division of the Department of Labor and Employment Security. All 50 states have coordinated programs of vocational rehabilitation and independent living to help people with disabilities find work, achieve independence and integrate into the community. If your amputation makes it impossible to return to your line of work, you should check with your local Division of Vocational Rehabilitation. Providing artificial limbs, job training, job referral and job placement are among the available services.

**Local Foundations** established by charities or religious organizations can be helpful. Ask your prosthetist for recommendations.

## Will my prosthesis hurt?

Your prosthesis should fit snugly but not leave a permanent mark on your body. Your device should not hurt you. Wearing a prosthesis will be an adjustment, but it should never cause pain. If you have any pain, contact your prosthetist. From time to time, it will be necessary to adjust your prosthesis to accommodate changes to the shape of your body and residual limb.

## Will I need to use a walker or cane?

Everyone is different. Some people walk immediately, others may take longer. Your physical therapist will probably have you progress through a series of assistive devices as your strength, balance, endurance, confidence and motivation improve.

## What is Phantom Limb Sensation?

Most amputees experience a sensation coming from the part of their body that is no longer there, the missing limb. The feeling is absolutely real. It can start immediately following surgery and come and go throughout your life. It generally gets better over time and the symptoms can be managed. The sensation is usually felt in missing toes and is often described as the tingling "pins and needles" experienced when your foot has "fallen asleep". Phantom limb sensation can also feel like your foot or toes are swollen, itchy, or burning. How long the sensation lasts is different for everyone – from minutes to days.

Phantom sensation is being researched – there is a lot to learn. It is believed that the brain is misinterpreting signals from the spinal cord and central nervous system. Certain activities can trigger phantom sensations. It's different for everyone. For some people it's a change in the weather, having a cigarette, or becoming constipated or depressed. It is important to note what triggers your phantom limb sensation. Tell your doctor and prosthetist about when it happens and what you think might have caused it. We can work together to figure out the triggers and come up with strategies to avoid them.

There are several different treatment options available for phantom pain. Medications like muscle relaxers, non-steroidal anti-inflammatories, and anti-depressants can all be used. Alternative therapies like massage, acupuncture, mirror therapy and virtual reality are used to successfully "rewire" the brain. A combination of treatments often provides the most help.

It is believed that the longer a prosthetic limb is worn on a daily basis the less likely you are to experience phantom limb sensation.

## How often should I check my residual limb?

Every day. Use a mirror to see the back and bottom of your limb. If you have vision problems, ask for help. Call your prosthetist or physician if you notice a blister, or signs of infection. Stop wearing your prosthesis until you have been checked out. Go to your doctor or have your prosthetist examine and make adjustments to your prosthesis. Listen to what they have to say.

## What changes do I have to make to my home?

It depends on your amputation and your home. Most hospitals and rehabilitation facilities will arrange for a home evaluation. They will make recommendations as to what type of equipment or modifications you might require. Swim legs and devices specifically for showering are available. Shower chairs and grab rails are a good idea. Make sure they are installed correctly. Stools and bathtub seats are also cost-effective solutions.

## **Can I go back to work?**

It depends on your general health and what kind of work you do. Many amputees have jobs and are able to continue in their professions. Some people switch to a different area in the same field while some folks need to be trained for something new. Your local Department of Vocational Rehabilitation can give you an evaluation. This may be a good time to further your education and look into a different career. Most schools have programs for disabled students and encourage attendance.

## **Can I travel?**

Absolutely! You should plan ahead and do your homework. Security at airports is challenging for everyone. Before you get in the security line make sure you have all of your documents in hand. You should know in advance how you are going to get around large airports and if you will require a wheelchair. Most trains, hotels and cruise ships have handicap accessible accommodations. If you are traveling out of the country make sure you know what you are getting into before you get there. Developing countries will have a lot less to offer amputees and people with mobility issues than industrialized destinations.

## **Will I be able to play sports?**

You name the sport, there is probably an amputee participating in it. Sports, exercise and recreation should be an important part of your life. Tell your prosthetist what you like to do! Your leg can be built or modified to accommodate your lifestyle. Fishing, golf, swimming, jogging, bowling, skiing, basketball...you can do it all. There are organized leagues and groups available for amputees for most activities. Go play and enjoy your life.

## **Can I drive?**

Yes, if you were driving before your amputation. In some cases you might need adaptive equipment installed in your car. If your left leg has been amputated and you have an automatic transmission you should not need any modifications whatsoever. Hand controls can be installed on the steering wheel if you are a double (**bilateral**) amputee – and the gas pedal can be moved if you lost your right leg. Ask your prosthetist about how and where your car can be modified.

You should not have to buy a new car, but, if you are thinking about it, most major automobile manufacturers offer rebates on conversions. Be sure to ask when you are car shopping.

## **Will I get a handicapped parking permit?**

Yes, you should qualify for handicapped parking. The Department of Motor Vehicles will have all the information. If you don't drive and will be a passenger, you can still get a handicapped parking permit that can be used in any car.

## **What's going to happen to my sex life?**

Being concerned about the appearance of your body is normal. Will your partner still find you attractive? Being positive and avoiding feeling sorry for yourself will play an important role. As you become more comfortable with the 'new you', you will begin to feel more like yourself. Be courageous and talk to your partner or psychologist about what you are feeling.

## **What is a devotee?**

A "devotee" is a person who is sexually attracted to the disabled. Be wary of anyone that shows unusual interest in the fact that you're an amputee or asks for pictures of your residual limb. Devotees regularly troll the internet looking for new amputees. Please pay attention when you are online and especially when using social media. Be careful of what you share and with whom. Please feel free to talk to us about this. The Amputee Coalition and support groups are great resources for learning more.

## **What should I know about the internet?**

There is a lot of helpful, informative, and fascinating prosthetic information online and on social media. However, there is also a great deal of misinformation. Keep in mind there are prosthetic manufacturers, patient care facilities, and durable medical equipment suppliers fighting for your clicks and attention. Not every amputee is an expert in prosthetics and wound care. Be careful of what you share and with whom. It is important to remember: Just because it is online does not make it true.

## **Are there support groups and programs for amputees?**

You bet there are. There are several wonderful organizations nationwide that run community-based support group programs. The Amputee Coalition of America is a great place to start looking for information.

You should absolutely get involved with a support group. They are a great place to meet with other people going through the same life changing event as you. It's a great opportunity to learn from your peers and share your challenges and successes.



# Glossary

**Atrophy** – decrease in the mass of a muscle, partial or complete

**Bilateral Amputee** – amputations to both legs

**Definitive Prosthesis** – the device replacing a missing limb that's designed for long term comfort, fit, alignment, function, cosmetic appeal and durability.

**Devotee** – a person who is sexually attracted to the disabled.

**Edema** – the medical term for swelling

**Energy Storing Foot** – a prosthetic foot designed to store and release energy, like a spring

**K Levels** – a system created by Medicare, also used by most insurance companies, to categorize the functional levels of amputees.

- **Functional Level 0 (K0)** – *the patient does not have the ability or potential to ambulate or transfer safely with or without assistance and a prosthesis does not enhance quality of life or mobility.*

- **Functional Level 1 (K1)** – *the patient has the ability or potential to use a prosthesis for transfers or ambulation on level surfaces at fixed cadence. This is typical of the limited and unlimited household ambulator.*

- **Functional Level 2 (K2)** – *the patient has the ability or potential for ambulation with the ability to traverse low level environmental barriers such as curbs, stairs or uneven surfaces. This is typical of the limited community ambulator.*

- **Functional Level 3 (K3)** – *the patient has the ability or potential for ambulation with variable cadence. This is typical of the community ambulator who has the ability to traverse most environmental barriers and may have vocational, therapeutic or exercise activity that demands prosthetic utilization beyond simple locomotion.*

- **Functional Level 4 (K4)** – *the patient has the ability or potential for prosthetic ambulation that exceeds basic ambulation skills, exhibiting high impact, stress or energy levels. This is typical of the prosthetic demands of the child, active adult or athlete.*

**Knee Flexion Contracture** – inability to fully straighten the knee

**Physical Therapy** – the treatment of disease, injury, or deformity by physical methods such as massage, heat treatment and exercise rather than by drugs or surgery.

**Preparatory Prosthesis** – the temporary prosthetic device that is used after surgery. It is generally not a finished prosthesis and is designed to last three to six months.



**Prone Position** – lying flat, face down

**Prosthesis** – an artificial device that replaces a part of the human body (plural is prostheses)

**Prosthetic Liner** – the protective interface worn directly over your residual limb

**Prosthetic Socks** – cotton, wool or acrylic blend socks worn on the residual limb or over the prosthetic liner to accommodate changes in limb volume.

**Prosthetist** – a medical professional specifically educated and trained in the design, construction, fitting and maintenance of prostheses (prosthetic limbs).

**Residual Limb** – the remainder of a limb (arm or leg) after an amputation

**Shrinker Sock** – elastic socks designed to reduce swelling and help shape your residual limb

**Socket** – the component of the prosthetic device in direct contact with your body, the shell that encases your residual limb.

**Sound Limb** – non-amputated side

**Suspension** – how your residual limb stays in your socket.

**Tissue Shaping** – preparing your residual limb to fit into a prosthesis





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