Leg Amputation: A Before and After Guide

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Losing a leg is a major life event. The physical toll is immense, as is the potential emotional impact on both the patient and their family. But there is help available.

This guide serves as a gateway to various resources to help with both pre-surgery preparation and post-surgery recovery. For answers to questions not covered here, feel free to contact our information specialists. They will provide you with free personalized support and resources tailored to your specific situation.

Surgery Preparation and Recovery

It is important that the patient is armed with knowledge and prepared both physically and emotionally for their amputation. With a dedicated care team and the right supports, the patient will be able to quickly recover from the procedure and learn to get back to living their life.

Pre-Surgery

The patient and family will ideally consult with each member of the surgical and rehabilitation team. This team will fully explore the surgical process with the patient, and also explain how rehabilitation will work post-surgery. Your rehab team will provide you with exercises that are good to start working on before your surgery takes place to potentially shorten your recovery time.

You will also need to choose a prosthetist. You will be working a lot with this individual over the first year after your surgery (and ideally forming a long-term relationship with them beyond that), so it makes sense to choose someone you are comfortable with. You can visit our ProsthetistFinder to seek out a professional who meets your needs.

It may also help to speak with another amputee before the procedure to put your mind at ease. Amputee Coalition is connected with thousands of Certified Peer Visitors across the United States. We will connect you with someone who has gone through amputation to help guide you through both preparation and the road to recovery.

If this surgery is for a child, read our guide on limb differences in children for special considerations.

Biomechanical Outcomes

No two amputations are the same. The surgical team will explain the transfemoral or transtibial amputation procedure to you, as well as the expected biomechanical outcome for prosthetic use. The goal of the procedure is to make sure the patient will have easier mobility and the best quality of life.

For example – leaving more of the femur intact in a transfemoral amputation has some benefits including more mechanical strength and easier seating support and transfers. On the other hand, amputating higher provides more options for prosthetic joint solutions.

Knee Disarticulation

Knee disarticulation, also known as through-knee amputation, amputates directly at the knee joint rather than the femur. This procedure only accounts for only 2 percent of major limb loss in America. Some cases where knee disarticulation may be recommended include:

- For children to help preserve the growth plate at the end of the thigh
- For cancer and trauma patients when the tibia can’t be saved but the femur is healthy/intact
- For people who have spasticity or contracture issues

Recovery and Rehabilitation

The first day after surgery can be one of the most difficult. What was previously just an idea is now a reality. It is important to remember, however, that big changes also present new beginnings and opportunities.

Your limb will be treated with special compression bandages or compression socks to help heal the wound quickly. This will also help prepare your residual limb for a prosthesis. The team will also advise you on how to wash and take care of your residual limb.

Your rehab team will likely include doctors, physical and occupational therapists, nurses, and a prosthetist. Rehab will begin shortly after the surgery to work on your upper body strength and maintain range of motion in your remaining limb. Overall your rehab could take anywhere from a few weeks to a few months.

When your residual limb is healed it will be cast using plaster or 3D imaging to create a test socket for a prosthesis. During rehab, you will be assigned a temporary prosthesis and the prosthetist will assess you during exercises to determine if the socket needs to be readjusted. Over the course of your rehab, you will also be discussing what you hope to gain from a prosthesis and discuss your prosthetic options.

Exercises performed with a temporary prosthesis include:

- How to put on and take off your prosthesis
- Learning to walk with on a level surface
- Learning to walk up and down ramps and stairs
- Sitting down or standing up
- Fall training

When the swelling in your residual limb has fully gone down and you are entering the last phase of your rehab, you can start to wear a permanent prosthetic.

The road to recovery may also include navigating phantom pain, which you can learn more about here.

Emotional Rehabilitation

It is normal to go through some level of depression while you work through the massive changes in losing a limb. You may or may not be assigned a counselor as a part of your rehabilitation team to help you work through these difficult emotions. It is important that you recognize the signs of depression so you or your loved one can get the help they need.

For more information be sure to read our guide on how to cope with the loss of a limb.

Prosthetics Guide For Leg Amputees

Lower-limb prosthetics are designed with moveable joints and pylons to replicate the biomechanical functions of a biological leg. Prosthetics come in all shapes and sizes to suit the needs and desires of each unique individual

At a basic level, leg prosthetics can be either exoskeletal or endoskeletal:

Exoskeletal: The traditional standard – A wooden or urethane foam prosthesis with a hard plastic shell. This prosthesis is relatively heavy, unable to rotate and has limited customizability. But it is more durable and long-lasting.

Endoskeletal: A prosthesis with an inner support pylon made of light-weight materials such as aluminum or titanium. The feet and knees can be swapped out. This makes the endoskeletal prosthesis easily adjustable for different activities and active lifestyles.

The following are some of the options available with modern endoskeletal prosthetics:

Prosthetic Knee Options For Transfemoral Amputation

- **Single-axis knees:** hinge-style knees that can only bend forward and backward. Above-knee. Rotators can be added to allow the wearer to rotate the lower part of their prosthesis.
- **Polycentric knees:** also referred to as “four-bar” knees, they can rotate on multiple axes.
- **Microprocessor knees:** uses sensors to detect changes in walking speed, surface type and grade, and terrain. The knee quickly adjusts the resistance to flexion and extension to accommodate.

Learn more about prosthetic knees here.

Prosthetic Feet

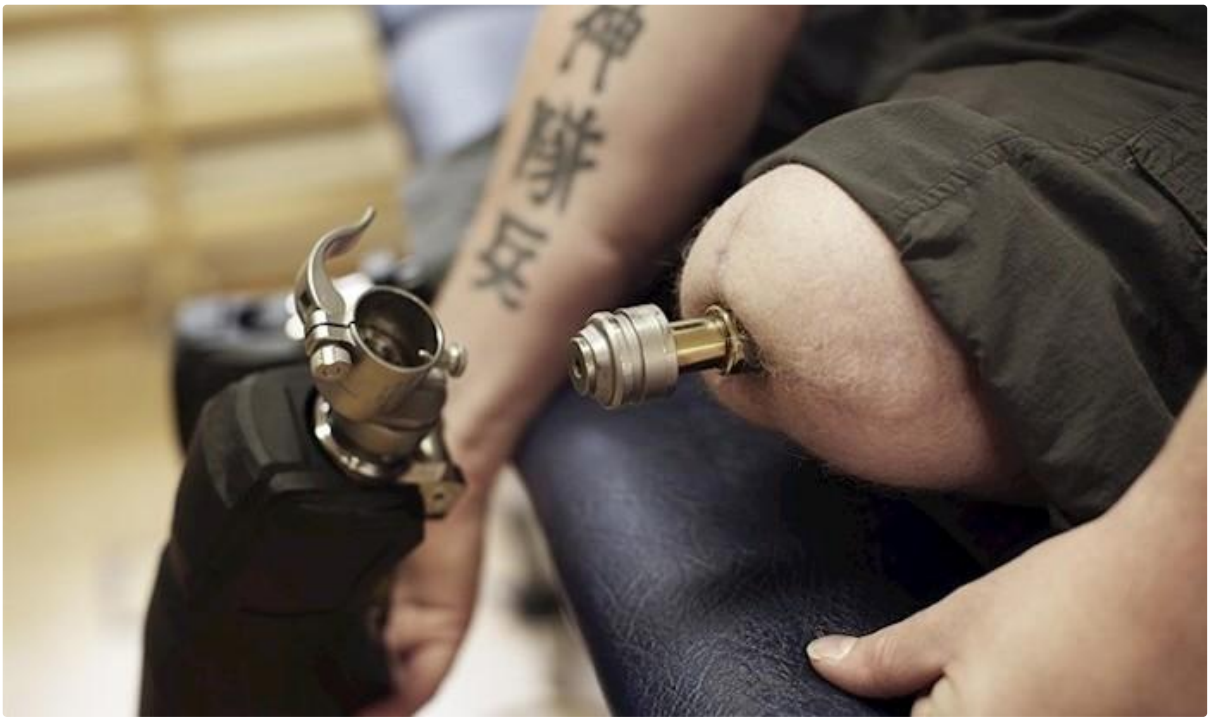
Like prosthetic knees, there are various options to be found in prosthetic foot attachments for above-knee amputees.

- **Single-axis foot:** Basic foot with a joint that bends forward and backward.
- **Multi-axis foot:** Foot that can rotate side-to-side as well as forward and backward.
- **Dynamic response foot:** Prosthetic foot that stores and releases energy during the walk cycle to help provide a normal range of motion and symmetrical gait.
- **Microprocessor foot:** Like microprocessor knees, these feet use sensors to adjust flexion and rotation to accommodate different environments and terrain.

Learn more about prosthetic feet here.

Osseointegration

Some amputees who struggle with wearing socket prosthetics may choose to undergo a procedure known as osseointegration. This surgical procedure grafts a metal bar directly to the bone in your residual limb that extends out of the skin. A prosthetic can then be attached to that piece of metal – providing additional stability and ease of use to the wearer.



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Learn more about osseointegration here.

Resuming an Active Lifestyle After Amputation

As you recover from your amputation, you should be able to resume your day-to-day activities. While there will be an adjustment period, you will soon be able to do most everything you could prior to amputation.

Exercise and Sports

Modern prosthetics have made it possible for amputees to live active lives, and even compete against able-bodied athletes. There are also dozens of adaptive sports and equipment available for people of all abilities.

Learn more about adaptive personal and team sports here.

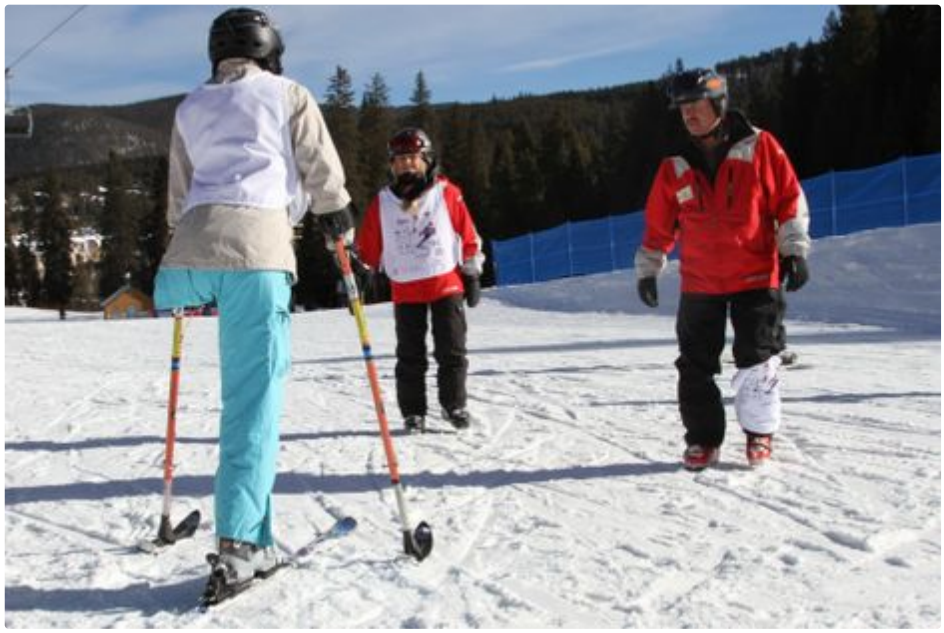
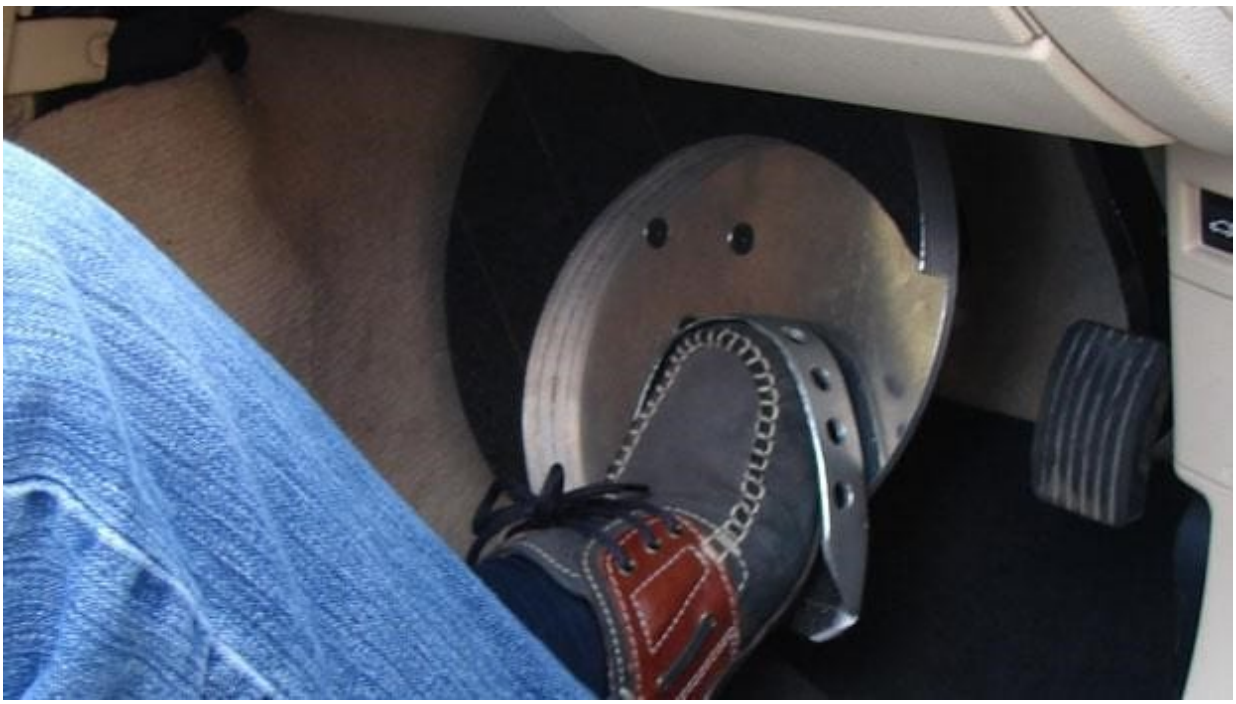


PHOTO CREDIT: DISABLED SPORTS USA

Driving a Car

You can still drive a car even if your right leg or both legs have been amputated. Modifications are available for most car models that allow you to maintain your independence and get where you need to go.

Learn more about how to drive with various levels of amputation here.



Socializing

Perhaps one of the hardest challenges to navigate after amputation is socializing with friends, family, and others. You may perceive that you are helpless, or that you are being treated differently because of your injury as people fixate on it.

To help process your feelings you may want to access one of our 400 registered Limb Loss Support Groups. These groups allow you to express your feelings amongst other amputees and can help provide you with the tools to help navigate these new social situations.

Request More Resources on Amputation

We hope this guide has provided you with the knowledge you need to get through this challenging time. You likely still have many questions.

Be sure to check out our resources section for more information on various topics:

- Above-Knee Amputation Resources
- Below-Knee Amputation Resources

At Amputee Coalition, our mission is to make sure that no one going through limb loss feels alone. Along with our peer visitor program, we offer plenty of services and support for those who will soon be undergoing amputation or already have.

For free, personalized resources and information about how to access all of our services, reach out to one of our dedicated information specialists.

Featured Photo Credit: UT Southwestern Medical Center

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