



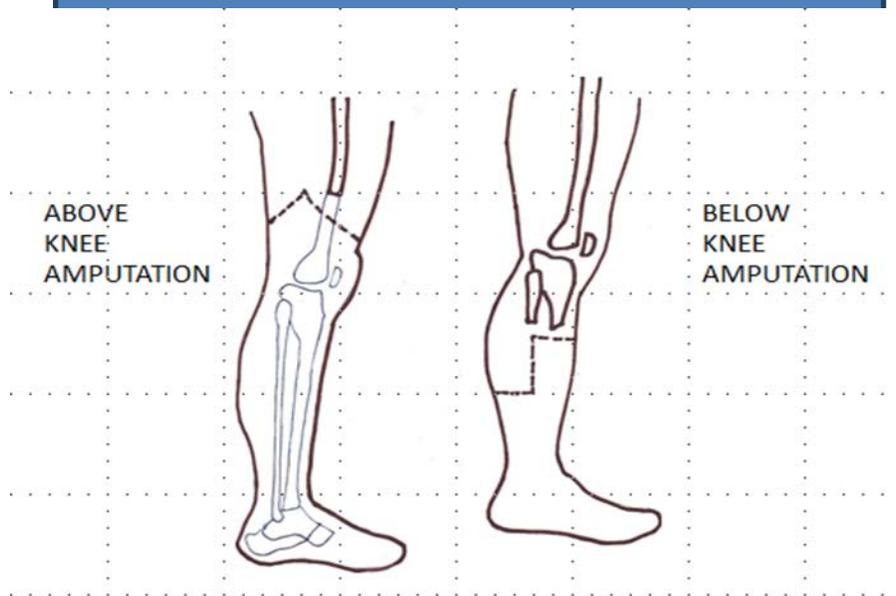
Lower Extremity Amputations

Circulating the Facts About Peripheral Vascular Disease

*Brought to you by the Education Committee
of the Society for Vascular Nursing*

www.svnnet.org

Lower Extremity Amputations



You have been through a recent life-changing event that will be emotional for you and your family, therefore, it is extremely important to understand what to expect as you begin your path to recovery.

You have recently had an amputation due to trauma, lack of blood supply or infection. This booklet will provide helpful information and tips. For the first few days you may remain in bed to prevent swelling of your stump.

Discomfort of the Stump

After you have your amputation, you may experience two types of pain. The first type of pain may feel dull, throbbing or aching. This is normal pain from any type of surgery. The second type of pain may feel sharp, shooting, tingling or burning. The nerves that were cut in your leg cause this pain. Medicine may be given to manage the pain. After surgery, pain may be controlled either by the nurse giving you medicine or by you using a special pump that will give you pain medicine when you press a button. The pain should get better as you heal. It is important for you to control the pain so you can take part in therapy. If you continue having pain that is not controlled by your medicine, talk with your healthcare provider.

You can condition your remaining limb or stump after surgery by rubbing or tapping over the dressing. Another way may be to gently press your remaining limb into the pillow. This is called desensitizing your residual limb. Ask your therapist what is the best way for you to condition or desensitize your limb. As your stump becomes less sensitive, you may tap or rub harder.

Swelling after surgery can cause more pain to occur. Your healthcare team will try to control the swelling by placing a dressing over the stump. There are different types of dressings. After surgery is done, a dressing is put over the incision and then the elastic wrap is put over the dressing. When you are getting up, do not sit with your residual limb hanging down. This only aggravates the swelling of your stump. Swelling in your residual limb may take months to go down. After your first dressing is taken off, at some time you will be fitted with a stump shrinker. A stump shrinker is tubular or conical in shape. Ask your healthcare provider when you will be fitted for a stump shrinker. The shrinker will need to be worn at all times. It can be removed 2-3 times a day for 10-15 minutes. The shrinker will be maintained for several months after surgery in order to help shape your limb for your prosthesis. Your prosthetist may need to change the size of your shrinker as the size of your limb changes.

The discomfort you have, may feel worse because of emotional stress and fatigue caused by the actual surgery. Other treatments to help discomfort are relaxation exercises. You can use imagery, soothing music, or distraction techniques. Ask your therapist or nurse about relaxation exercises.

Phantom Limb Sensations

Phantom limb sensations are when you still feel your leg is there, even though you know that it is not. These feelings are strongest after surgery, but may occur even years later. Be careful not to try to stand on the missing part of your leg. Move slowly and cautiously. Always have someone assist you right after your surgery when you feel the need to get up. Your therapists will teach you how to safely perform your everyday activities. At night, you may want to place a chair by your bed so that you will not get up thinking that both your legs are there and try to walk. This could result in a fall. Falling on your incision may cause you to reopen the incision and cause damage to the tissue that is trying to heal. If you feel like you are at risk of falling, talk with your healthcare provider or physical therapist.

Skin Care

A bulky soft dressing or rigid cast will be in place after surgery. The healthcare team will take care of the dressing on your stump during the 5-7 days it is normally in place. Your healthcare provider will change the rigid cast as necessary.

If you have a rigid cast with a temporary foot, you will need to limit weight bearing as taught by your healthcare provider, therapist, or prosthetist. A prosthetist is the person who designs and fits you for the prosthesis. A prosthesis is an artificial device that replaces a missing body part. In this case a lower extremity. Limiting weight bearing will help keep the incision from breaking apart. It will also help prevent decreased blood flow to the leg and skin breakdown. All of these can delay wound healing.

When the soft dressing or rigid cast is removed, you will see sutures or staples in your stump incision. These may be covered with a non-stick

dressings when the soft bulky dressing or rigid cast is no longer needed. This will prevent the sutures or staples from “catching” on your clothes. Your surgeon will decide when to remove the sutures or staples (usually two to four weeks-).

Observe your stump daily for signs of skin irritation or infection. Call your healthcare provider if any of the below occur:

- New or worsened swelling, oozing, bleeding, more pain, or bruising
- Change in the drainage: foul smelling or pus
- A rash, reddening or blisters on the skin
- A fever higher than one hundred degrees (100.0oF) by mouth

When your incision has healed, it is recommended that you bathe your stump every evening so that it is completely dry before you put your prosthesis on in the morning. This is also a good time to gently massage your stump to desensitize (reduce painful sensations) it and prevent the suture line from sticking to underlying bone. You should not massage your stump while the sutures or staples are still in place or if there are any signs of infection or irritation.

Avoid shaving the stump since shaving increases the chance of skin irritation. Avoid using lotions, oils and creams on your stump, unless ordered by your doctor. Lotions with fragrances can irritate the skin when the stump is inside the prosthesis. If OK'd by your doctor, lotions can be lightly rubbed onto the stump at bedtime.

Take good care of your remaining foot and protect it from injury. Wear a shoe that fits well and provides support during weight bearing. Non-skid soles are the safest. Inspect your remaining foot daily for signs of poor circulation, such as cool temperature, (feelings of numbness, tingling), pale color or areas of change in color (redness, mottling or blotching), or increased pain. Let your doctor know if any of these symptoms occur. Protect it from temperature changes (heaters, cold weather, and too hot water). Your remaining foot is at higher risk for skin breakdown since it has to work harder.

Positioning

After surgery, your stump may be elevated on a pillow for the first 24-48 hours to decrease swelling. The foot of your bed may be elevated, but the knee should not be bent.

Do not elevate the stump on pillows or keep the foot of your bed up after the first 48 hours postoperatively, unless ordered by your doctor. A device to keep your knee straight may be applied after surgery if you have a below-the-knee amputation. This helps the muscles not to contract and stay in a bent position.

Avoid spending long periods of time in any one position. This will prevent your joints from getting stiff, swelling, or pressure sores from forming. A joint may permanently lose motion if it remains in the same position. After surgery, your nurses will help you change your position frequently. Once you are allowed out of bed, if sitting for more than one hour, do a push-up by chair armrests and extend your stump a few times.

Around the second day after surgery, your healthcare team may begin to urge you to lay face down flat in bed. You should use this position twice a day for up to twenty minutes, or as taught by your physical therapist and nurse. Pillows should NOT be placed under your stomach or your stump when in this position. This will help you maintain the normal hip motion required for walking with your artificial leg. At home, you should continue to spend time in the face down position until you are walking more than you are sitting.

Keep your stump in a level, straight position, not turning it inward or outward lying in bed or sitting in a chair. A towel or blanket roll may be used for proper positioning of your stump. When you are sitting in a chair not wearing your prosthesis and your amputation is below the knee, a board or other device may be used to keep your stump straight. If your stump is long, do not cross your legs since this will interfere with circulation.

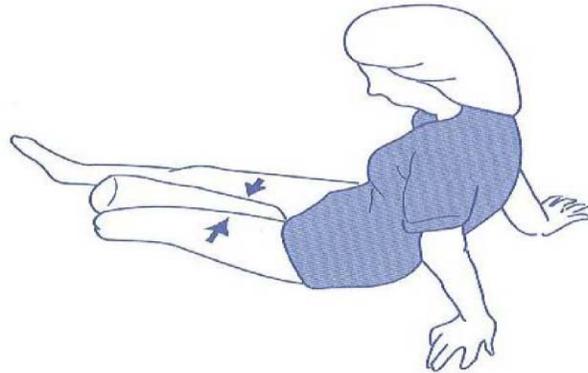
The day after your surgery, you should begin general conditioning exercises. The physical therapist will begin working on conditioning exercises that will help you move short distances without your leg. The occupational therapist will help you be able to do your normal routine daily activities now that a change has occurred. Upper extremity strengthening will be important. Together with your therapists, you will develop your plan.

You will need to continue an exercise program when you leave the hospital. The following pages will be reviewed with you by your physical therapist and individualized for you.

Exercises

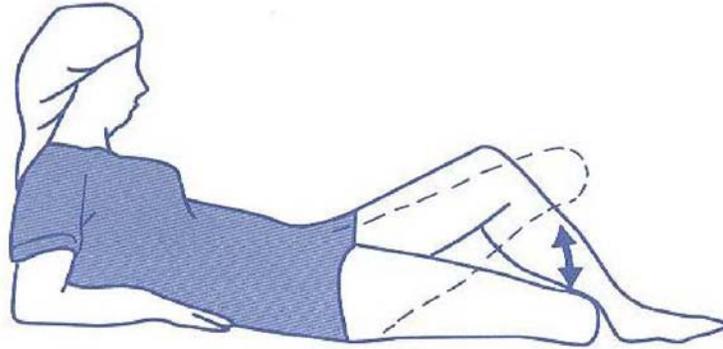
Hip Adduction (Below the knee and above the knee amputation)

1. Sit on the floor with your hands behind you for support.
2. Keep both legs straight.
3. Place a rolled towel between your legs.
4. Squeeze the towel between your legs for five seconds.
5. Repeat several times.



Straight Leg Raise (Below the knee and above the knee amputation)

1. Recline on your back, propping yourself up on your elbows.
2. Keep your stump straight and bend the other leg. Keep your legs close together.
3. Straighten your stump as much as possible, tightening the muscles on top of the thigh.
4. Raise your stump off the floor approximately four inches and hold for five seconds.
5. Slowly return to the starting position and relax.
6. Repeat several times.



Bridging (Below the knee and above the knee amputation)

1. Lie on your back with your head on a pillow and your arms folded across your chest.
2. Place a rolled towel under your stump.
3. Keep your stump straight and bend your other leg.
4. Push your stump down into the towel as you squeeze your buttocks together and lift them up of the floor.
5. Hold for five seconds, then relax.
6. Repeat several times.

Hip Abduction, Side Lying (Below the knee and above the knee amputation)

1. Lie flat on your side, stump up.
2. Bend your bottom leg backward for support.
3. Slowly lift your stump upward, taking care not to roll your body forward or backward.
4. Slowly return to the starting position and relax.
5. Repeat several times.

Hip Extension, Lying (Below the knee and above the knee amputation)

1. Lie flat on your stomach with your arms folded under your head.
2. Keep both legs straight and close together.
3. Lift your stump off the floor just enough to clear the other thigh. Be sure to keep your stomach flat on the floor.
4. Return to the starting position and relax.
5. Repeat several times.

Gluteal Sets (Below the knee and above the knee amputation)

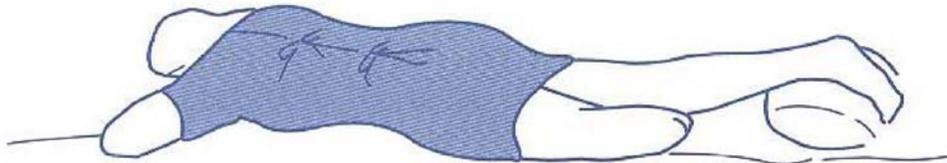
1. Recline on your back, propping yourself up on your elbows.
2. Keep both legs straight and close together.
3. Squeeze your buttocks together as tightly as possible.
4. Hold for five seconds, then relax.
5. Repeat several times.

Quadriceps Set (Below the knee and above the knee amputation)

1. Sit on the floor (at first will be done in bed)
2. Put your hands on the floor behind you for support.
3. Keeping your stump straight, bend your other leg. Keep your legs close together.
4. Straighten the knee on your stump as much as possible, tightening the muscles on top of the thigh.
5. Hold for five seconds and relax.
6. Repeat several times.

Hamstring Curls (Below the knee and above the knee amputation)

1. Lie flat on your stomach with your arms folded under your head.
2. Keep your legs straight and close together.
3. Bend the knee of your stump, slowly bringing it back towards your buttocks.
4. Hold for five seconds and relax.
5. Repeat several times.



Knee Extension (Below the knee and above the knee amputation)

1. Sit up straight in a firm chair.
2. Grip the sides of the chair for support.
3. Straighten the knee of your stump completely, bringing it out straight.
4. Return to the starting position and relax.
5. Repeat several times.

***Care of Prosthesis and Stump Socks/Shrinkers***

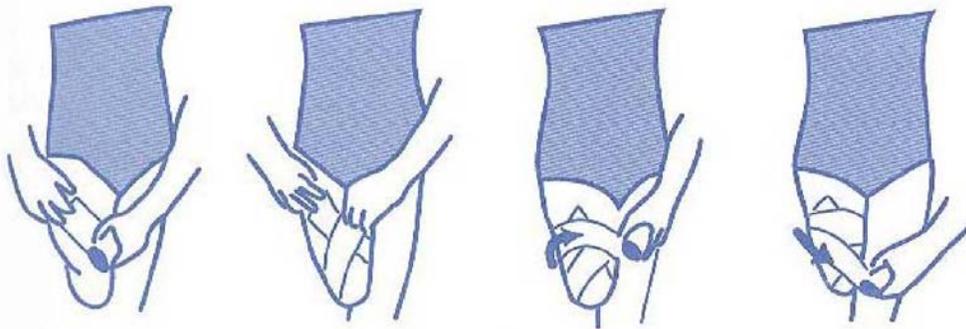
Once you begin wearing a shrinker, it should be washed daily by hand with mild (non-detergent) soap and warm water. Gently squeeze out excess water. Avoid twisting or wringing, which can stretch the shrinker and cause it to lose its shape. Roll it in a towel to get rid of excess water and lay flat to dry. Do not expose the shrinker or your stump socks to direct sunlight or to direct heat (radiator, dryer, etc.) as it can shrink them. For proper sock, care read the instructions on the package. Do not wash in a washing machine unless it has a short, delicate fabric cycle.

Proper application of an elastic bandage for below-the-knee amputation (BKA):

Use a four-inch wide elastic bandage. Maintain slight tension as you wrap, more tension at the end of the stump and less tension closer to the hip. If your stump becomes uncomfortable or starts to throb, rewrap the elastic bandage with less tension. If the elastic bandage bunches up or slips, rewrap it using the figure eight pattern shown:

Proper application of an elastic bandage for an above-knee amputation (AKA):

Use two six-inch wide elastic bandages. Maintain slight tension as you wrap, more tension at the end of the stump and less tension closer to the hip. If your stump becomes uncomfortable or starts to throb, rewrap the elastic bandage with less tension. If the elastic bandage bunches up or slips, rewrap it using the figure eight pattern shown:

***Prosthesis Care***

Your prosthesis should be put on as you are getting out of bed in the morning. This will prevent the stump from swelling and causing problems fitting into your prosthesis. If you have a prosthesis that requires stump socks and belt, follow these steps:

1. It is easiest to dress the prosthesis and then put it on while sitting. Pull on the appropriate number and size of stump socks firmly and evenly, avoiding wrinkles in the socks. Adjust socks so that the seam is on the outside and not laying along your incision line or over a bony area.
2. If you have an insert, pull it out of the prosthesis and put it on over your socks, again avoiding wrinkles in the socks.
3. Slowly push your stump into the socket of the prosthesis. If your amputation was below the knee, bend your knee slightly. Make sure to keep your stump straight and not turned as it goes into your prosthesis.
4. Attach the suspension device properly, and then dress your other leg.
5. Your prosthesis should feel snug, but not uncomfortable.

If the prosthesis is uncomfortable, the prosthetist may adjust it. If it causes any skin breakdown (such as redness, blistering, abrasions, or rashes), do not wear it. While you are in the hospital, notify a member of your healthcare team of any problems. After you are discharged from the hospital, notify your prosthetist.

You may find it easier to use looser fitting clothing when you dress your legs. If you wear long underpants, you may want to cut off the leg on the amputated side. If you are using a suction socket, beware you do not pull a piece of clothing into the socket with your stump.

If your stump size varies during the day related to hot weather or fluid buildup, you may need to adjust the number and size of stump socks for proper prosthetic fit to prevent skin breakdown. Prosthetic socks come in 1, 3, 5 and 6 plies.

It is important that you maintain your normal body weight when you have prosthesis. A weight gain or loss of ten or more pounds will change your leg size and require adjustment of the prosthetic socket. If your weight has changed by ten or more pounds, have your prosthetist evaluate the fit of your prosthesis.

Initially, your activities with the prosthesis (amount of weight-bearing, walking, and wearing time) will be restricted so that your skin may be evaluated. You will begin by wearing your prosthesis for 1 to 2 hours at a time. Then carefully check the skin on your stump for any color or temperature changes, blisters, or abrasions, and especially check your incision for signs of separation. You may need a mirror to check thoroughly. If your skin tolerates the prosthesis, it may be worn for greater lengths of time, but you must continue to remove it and check your skin at regular intervals. You will increase your activities according to your tolerance and your physician's orders. The right amount of activity will ensure proper healing.

It is recommended that you clean inside your prosthesis with mild soap and warm water after you remove it for the day so it will be dry when you put it on in the morning. If you have an insert for your prosthesis, wipe it out with a dry cloth every day.

Your initial temporary prosthesis lasts about six weeks. Your first permanent prosthesis usually lasts about six months to two years. During this time, you can expect the residual limb to shrink in size, necessitating prosthetic adjustment.

Prosthesis should not be worn without shoes. When shoes are changed, the heel height should be the same as the previous one. Prosthetic alignment is based on heel height, so to avoid problems, have your prosthesis checked with different shoe heights.

Energy Conservation

The amount of energy required of an individual with lower extremity amputation(s) makes it is important to conserve energy. To allow you to use your time and energy better when performing daily tasks, five basic principles that may help are listed below:

1. Do as much planning ahead as possible. Daily make a list of things you need to do and include rest periods. Mix heavy and light tasks throughout the week.
2. Break down your activities into steps and figure out the best way to finish the task.
3. Organize your work area having the most frequently used items easily accessible to avoid unnecessary bending, reaching, and stretching.
4. Sit on a chair or stool with back support while performing all activities and keep your feet flat on the floor or on a footrest for support.
5. Adopt a moderate pace of working and allow enough time to do things, so that you do not have to rush at the last minute.

Sexuality

Now that you have been thinking about adjustment, you may be wondering about your sexuality. This begins with your image of yourself. You may question your attractiveness or your family or partner's reactions. You are still a complete person! You and your family/partner should discuss the change. Practice returning to social and public situations to build your confidence.

Sexual activities may usually be resumed when your stump has healed. An amputation will not affect your reproductive abilities. It may affect your sexuality since this is a physical as well as mental and emotional response. Various pre-existing diseases, such as diabetes or pain, may interfere with sexual functioning. There are also many types of medicines that might interfere with sexual function or drive. Ask your doctor or nurse any questions you have about your medicines. Depression, anxiety, fear of injury to limb during sex, or fear of poor performance, are some types of mental concerns that might interfere with your ability to feel sexually satisfied. Sexuality is expressed in many different forms.

Some things to remember:

1. Some individuals may use slightly more energy than previously experienced during the sexual act. This may make you tired, but rarely interferes with sexual function.
2. The loss of part of a leg may mean less control during sex. You may want your partner to take a more active role, or you may want to use pillows or cushions for positioning.
3. If you are experiencing pain and take medicine to control this, you can time it around sexual activity.
4. Do not isolate yourself. Communicate with your significant other. Share your feelings.
5. Your social worker and other trained members of your rehabilitation team are resources to discuss adjustment with you and your partner.

Rehabilitation Services

Rehabilitation services may be available to you in an inpatient or outpatient setting. Depending on your specific needs, your healthcare providers may suggest that you attend a rehabilitation program. These intensive programs may help amputee patients recover quicker. If you have questions about a rehabilitation program, speak with your healthcare provider.

Community Services

While you are in the hospital, your social worker, physical therapist, or community health nurse will help you arrange for the equipment you will need at home. There are several local places that specialize in prosthetic fitting. Check the Yellow Pages of the telephone book or search online under Orthopedic Appliances.

If you wish to receive more information or participate in a support group, you may contact the following:

National Amputation Foundation

40 Church Street
Malverne, NY 11565
(516) 887-3600
www.nationalamputation.org

Amputee Coalition of America

900 East Hill Avenue Suite 285
Knoxville, TN 37915-2568
(888) 267-5669
www.amputee-coalition.org

Amputee Resource Foundation of America

6480 Ryzata Blvd.
Golden Valley, MN 55426
Phone number on request
www.amputeeresource.org

WHEN TO CALL YOUR DOCTOR

1. Fever – oral temperature of 100 degrees F or greater
2. Redness, swelling, or tenderness along the incision
3. Increased pain in the leg
4. Drainage
5. A change in the color or temperature of the stump

Conclusion

Although the postoperative amputation course is a difficult time for adjustment to a new way of life, with help from dedicated professionals, it can be a positive experience. A firm commitment to keeping regular follow-up appointments with your healthcare provider and to changing your lifestyle to reduce risk factors will help to control further disease.