

Care of Your Wounds After Amputation Surgery

by Paddy Rossbach, RN

Depending on the reason for your amputation and the state of your limb at the time of surgery, definitive closure of the wound may take place immediately, or be delayed until a later date. Wound care involves multiple phases. Here, we will review two phases of the recovery process, talk about the goal of each phase, and discuss your role in managing your surgical wound and the skin of your residual limb.

Phase 1: Preclosure of the Residual Limb

The goal of wound management during this phase is to promote healing of the underlying soft tissue and to treat or reduce the risk of infections. In some instances, a drainage tube is inserted to remove fluids and aid in tissue repair. A member of your surgical team will do the dressing changes. Your role in wound management during this stage includes the following:

1. Notify your nurse if your dressing becomes soiled or you notice any leakage of drainage.
2. Wash your hands if you come in contact with drainage. Hand soap and hand sanitizers are available in your room.
3. Make sure everyone who comes in contact with your wound wears gloves and washes his or her hands before and after a dressing change.
4. In some instances, visitors may need to take special precautions to reduce the likelihood of transmitting an infection to others. In such cases, the nurses will review with you any special precautions for visitors. We are counting on you to see that these precautions are followed.
5. Exercise caution when moving in bed or getting in and out of bed so that you do not dislodge any dressings or drainage tubes. Notify the nursing staff if dressings become loose or dislodged.
6. Eat a good diet. Tissues cannot heal if they are not provided with the necessary nutrition. Dietary supplements are often provided in addition to your meals to ensure that sufficient calories and protein are available to facilitate the healing process.
7. Inform members of your rehabilitation team if you experience pain during the care of your wound. By working together, you and your rehab team can establish a medication schedule that will minimize your discomfort during dressing changes.

Injuries that lead to amputation may also result in skeletal injuries to remaining limbs. As a result, you may have skeletal pins and/or an external fixator device applied to maintain bone alignment and promote healing of fractures. If you have one of these devices, your role in taking care of it and your skin will also include the following:

1. Wash your hands with soap and water.
2. Mix small amounts of sterile normal saline and hydrogen peroxide in a sterile container.
3. Saturate a sterile cotton swab applicator in the solution.
4. Using a circular, rolling motion of the cotton swab, cleanse the pin sites from the insertion site outward.
5. Avoid going over previously cleaned areas with a used swab.
6. Gently push down on the skin with the swab to prevent skin from adhering to the pin.
7. Leave the pin sites open to the air unless drainage is present. If drainage is present, pin sites can be covered with sterile gauze.
8. Notify a member of your rehabilitation team if you notice swelling, redness, pain, tenderness, or a change in drainage from any of your pin sites.

Phase 2: Definitive Closure of the Residual Limb

The goal of wound management during this phase is to prepare your residual limb for prosthetic fitting. Initially, you will have sutures in place to close your surgical wound. These are usually removed in approximately 14-21 days. Your sutures will be covered with petroleum-impregnated gauze, and initially, bulky gauze dressings will be applied to provide additional protection. These dressings are typically changed twice daily, more if necessary. Once your sutures are removed, adhesive strips are applied as the final stage of your wound closure takes place. These strips will fall off naturally in about 5-7 days.

Throughout this stage in your wound-healing process, compression dressings will also be applied to reduce swelling and begin shaping your residual limb for prosthetic fitting. There are two types of compression dressings: rigid and soft. Rigid compression dressings are made from casting material and will be changed as the swelling in your residual limb decreases. Soft compression dressings are initially elastic bandages applied in a specific way to reduce the swelling at the lower portion of your residual limb. These bandages will need to be reapplied several times during the day to maintain proper compression. Members of the rehabilitation team will instruct you in the proper application of these bandages.

Your role in wound management now includes all of the previously listed items plus these additional responsibilities for rigid or soft dressings:

Rigid Compression Dressing

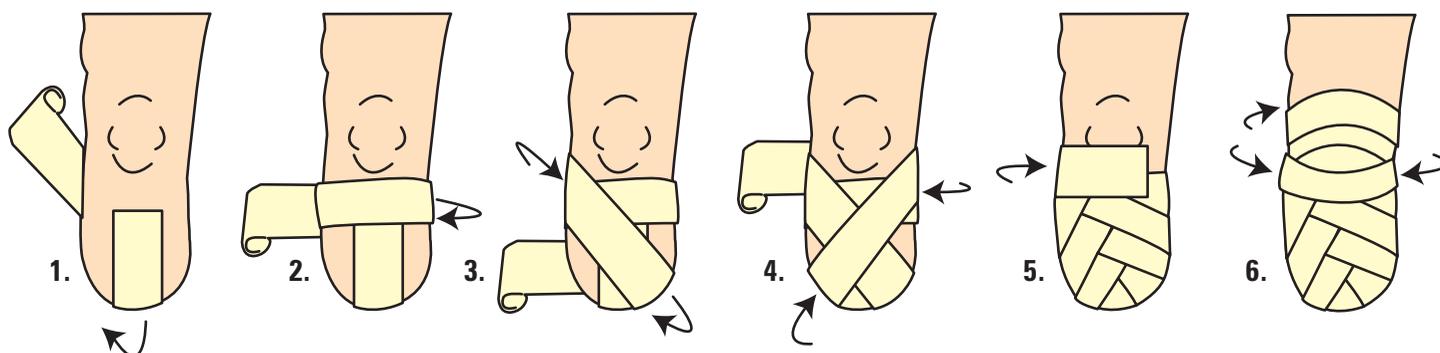
1. Keep the cast dry. Getting the cast material wet can weaken the cast, and damp padding can irritate your skin.
2. Avoid getting dirt or powder inside the cast.
3. Never stick objects inside the cast to scratch your skin. If itching persists, let your nurse know so other measures can be taken.
4. Notify a member of your rehabilitation team if you feel increased pain or numbness that may be caused by swelling or a cast that is too tight.

Elastic Bandage Compression Dressing

1. Do not pull at your sutures even if the skin around the sutures itches.
2. Notify a member of your rehabilitation team if you notice any tearing or separation of the sutures.
3. Notify a member of your rehabilitation team if you notice that the skin around the sutures is red or swollen or if you notice any pus draining from the suture area.
4. Rewrap your residual limb several times during the day (usually at least 4-5 times) to maintain proper compression. This not only reduces the swelling and increases circulation and healing, but also reduces pain.
5. Obtain new elastic bandages if the ones you are using become soiled or lose elasticity.

Directions for Wrapping With an Elastic Bandage (Below-knee, below-elbow and above-elbow amputations)

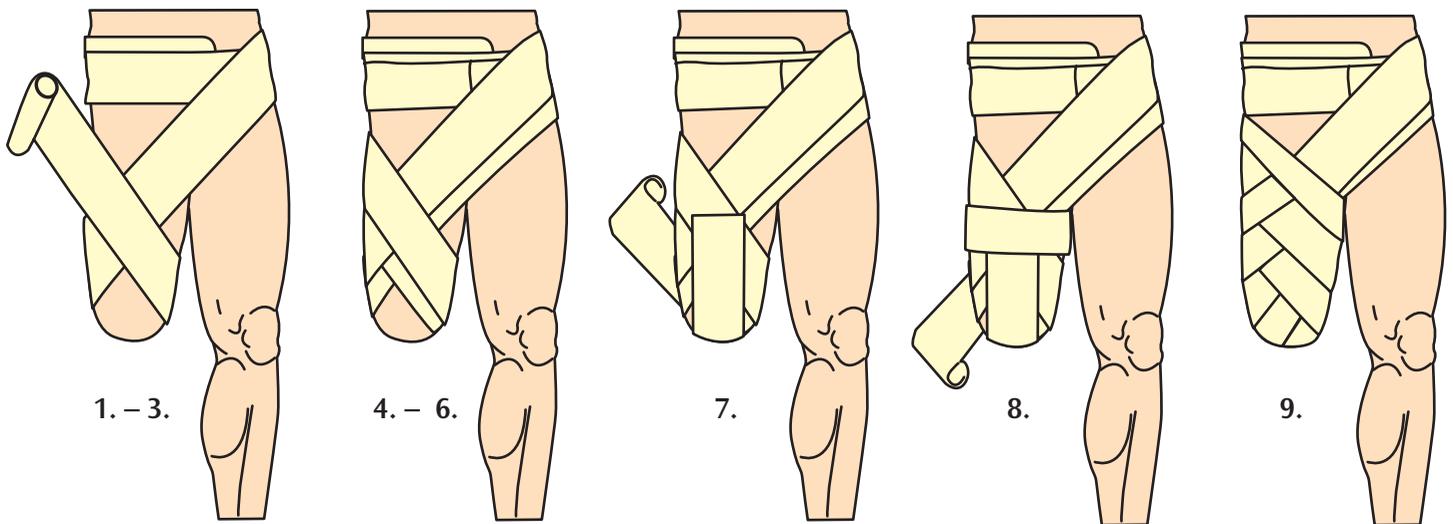
1. Using a 4-inch-wide elastic bandage, go over the end of the limb, slightly stretching the bandage.
2. Relax the stretch and secure the bandage by going around the limb once.
3. Increase the stretch and go to one side of the center.
4. Decreasing the stretch, go around back. Go up the other side of the center as you increase the stretch again.
5. Repeat this figure-eight pattern until the end is securely bandaged and then secure the bandage with Velcro or tape. (Do not secure bandages with pins).
6. If the length below the knee or elbow is very short, you will need to make a similar figure-eight pattern above and below the joint and then secure the bandage.



(Above-knee amputations)

1. Use two 6-inch-wide elastic bandages. (Bandages can be sewn together.)
2. Wrap around the waist twice.
3. Wrap around the end of the limb.
4. Wrap back around the waist.
5. Wrap around the end of the limb.
6. Wrap around the waist and secure. (This is the anchor for the next bandage.)
7. Take another 6-inch-wide elastic bandage and, similar to the technique used for below-knee amputations, go over the end of the limb, slightly stretching the bandage.
8. Relax the stretch and secure the bandage by going around the limb once, then increase the stretch and go to one side of the center.
9. Decreasing the stretch, go around back, and then go up the other side of the center as you increase the stretch again. Repeat this figure-eight pattern until the end is securely bandaged, making sure to bandage all of the way up into the groin area. Secure the bandage with Velcro or tape. (Do not secure bandages with pins.)

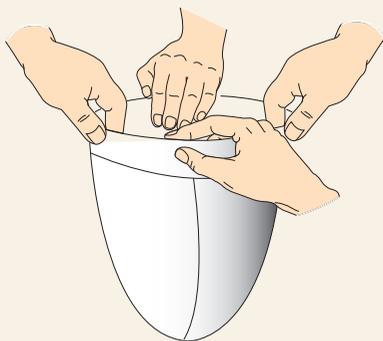
Remember: For best results, you must reapply the elastic bandages whenever they loosen.



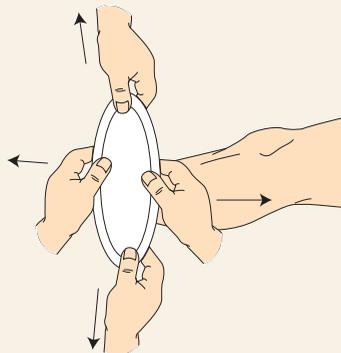
Wearing an Elastic Shrinker Sock

Using an elastic shrinker sock is another way to reduce swelling. These shrinker socks can be used alone or in combination with elastic bandages. If the limb is still very sensitive, it will be more comfortable to stretch the shrinker as it is being put on either by using two pairs of hands or an appropriate-size ring made of a stiff material such as PVC.

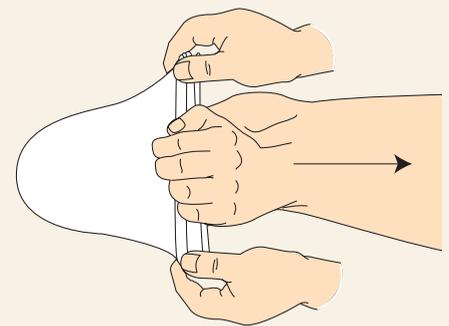
Using Hands



1. With two people using all four of their hands (two can be the patient's), put all of the fingers down to the bottom of the shrinker, thumbs on the outside, spare material scrunched down, and stretch out until the bottom of the shrinker is completely flat and stretched out.



2. Place the flat, inside part of the shrinker against the end of the amputated limb.



3. In one swift motion, keeping the stretch and letting the material slide from between the thumb and fingers, pull the shrinker up the limb.

Using a Ring

1. Make sure the chosen ring will slide easily all of the way to where the shrinker will end on the limb.
2. Stretch the shrinker over the ring until the end is flat.
3. Place the flat, inside part of the shrinker over the end of the limb and feed the shrinker up the limb until it is as high as needed.
4. Remove the ring.

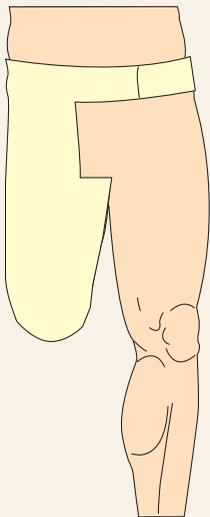
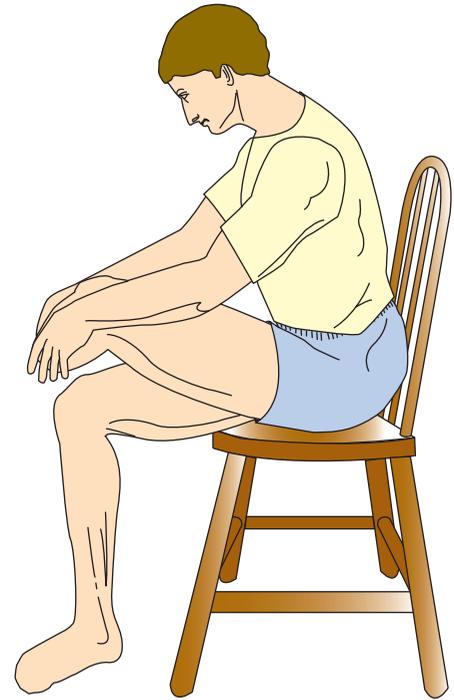
Preparing for Prosthetic Training and Desensitizing Your Residual Limb

At this point in your rehabilitation, there are four techniques you can use to prepare your residual limb for prosthetic training: massage, tapping, desensitization and scar mobilization.

Massage and Tapping. Early massage and tapping of your residual limb will help you develop a tolerance in your residual limb to both touch and pressure. Both of these techniques can be performed through your soft compression dressings and when the soft compression dressing is off. Additionally, these techniques may help decrease your sensation of phantom pain.

Massage

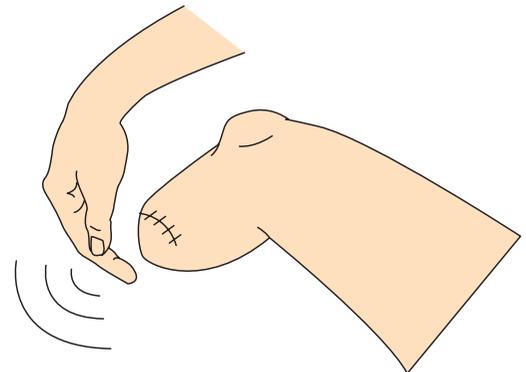
1. Using one or two hands, massage your residual limb using a soft gentle kneading motion. Initially, be especially cautious when massaging over your sutured area.
2. Massage the entire residual limb.
3. Over time and once your sutures are removed, you can increase the pressure to massage the deeper soft tissues and muscles in your residual limb.
4. This should be done for at least 5 minutes 3-4 times daily. It can be done more often if it is found to be helpful in reducing phantom pain.

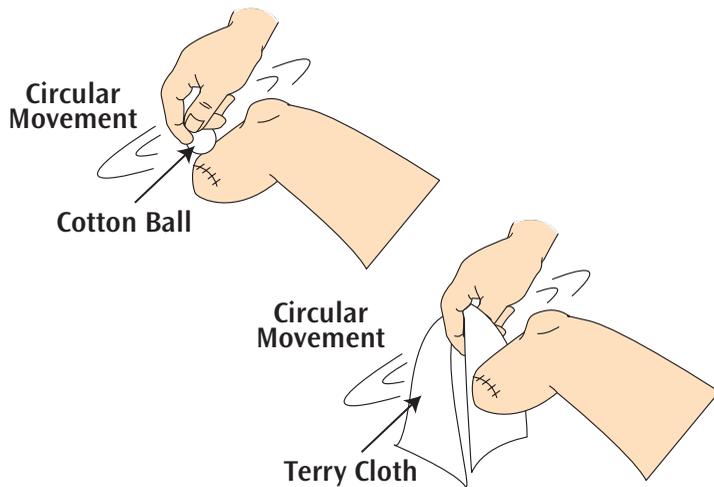


4. There should be no gap between the end of the residual limb and the shrinker.
5. If this is for an above-knee amputee, make sure the long side is around the hip and the short side is all of the way into the groin.

Tapping

1. Tap your residual limb with your fingertips, being careful not to tap with your fingernails. Gentle tapping over the suture line is generally allowed even before your sutures are removed.
2. Over time and once your sutures are removed, you can increase to a slapping motion using one or two hands.
3. Tapping should be done for 1-2 minutes 3-4 times daily. It can be done more often if it is found to be helpful in reducing phantom pain.



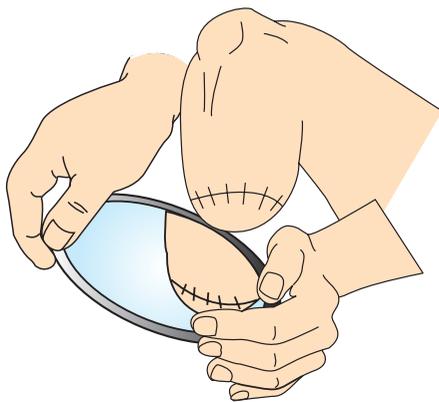
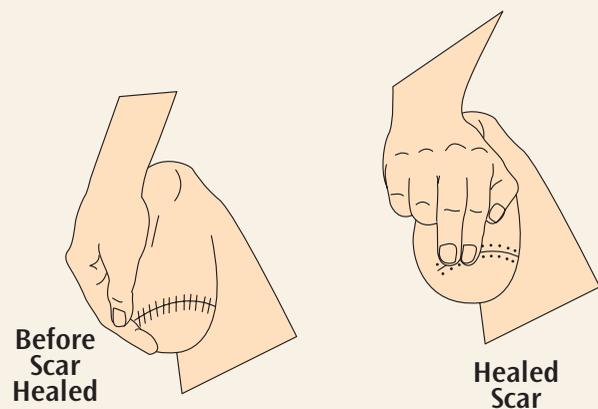


Desensitization. Desensitization is the process of making your residual limb less sensitive. If you start with a soft material and progress to rougher materials, desensitization can help you increase your tolerance to touch in your residual limb.

1. This technique is done when you are not wearing your soft compression dressing. It should be done for 2-3 minutes twice daily and is usually done during bathing times.
2. Initially, start with a cotton ball and gently rub the skin of your residual limb using a circular motion.
3. When you are able to tolerate it, progress to a rougher material such as a paper towel.
4. Finally, advance to a terry cloth towel.
5. This technique should be done until you can tolerate gentle friction from a terry cloth.

Scar Mobilization. This technique is done to keep the skin and scar tissue on your residual limb loose. Scar adherence to underlying tissue can be a source of pain when using your prosthesis and can also cause blistering. It is best performed when you are not wearing your compression dressing.

1. Place two fingers over a bony portion of your residual limb.
2. Press firmly and, keeping your fingertips in the same place on the skin, move your fingers in a circular fashion across the bone for about 1 minute. Continue this procedure on all of the skin and underlying tissue around the bone of your residual limb.
3. Once your incision is healed, use this procedure over your scar moving your fingers in a circular fashion to loosen the scar tissue directly.
4. This technique should be done daily when you bathe.



Inspection of Your Residual Limb

1. Regular inspection of your residual limb using a long-handled mirror will help you identify skin problems early.
2. Initially, inspections should be done whenever you change your compression dressing. Later on, most amputees find daily inspection sufficient for the early identification of skin problems.
3. Inspect all areas of your residual limb. Remember to inspect the back and all skin creases and bony areas.
4. Report any unusual skin problems to a member of your rehabilitation team.

Showering

Permission to resume showering is based on a number of factors and is highly individualized. Your safety and other factors, such as the condition of other wounds and injuries, must all be considered. When you feel ready to resume showering, you should discuss the specifics of your situation with a member of your rehabilitation team. Ask questions about home adaptation, shower chairs, and how family members can be trained on any assisted bathing or cleaning care if necessary.

Toilet

Some of the most embarrassing moments can occur while getting to or using the toilet. Discuss your options and limitations with your nurse, or ask your peer visitor for advice and alternatives. Try to be patient; your new routine will be comfortable again soon. ■