



Lowe Plastic Surgery (LPS)

**DR. JAMES LOWE'S LOWER EXTREMITY FREE FLAP & OPEN WOUND
CARE DISCHARGE INSTRUCTIONS**

Supplies: Cast cotton (Web Ril, Sof Rol, etc. - 4-6 inch), ace or elastic bandage (4-6 inch), triple antibiotic ointment or Vaseline, 4x4 Gauze, Xeroform / Petrolatum Dressing, Dove or gel soap, tap water, white towels, burn dressing or netting, shower with hand piece, shower chair, and wash basin.

General: **Lower extremity free flaps reconstruction is performed as a last resort to salvage complex injuries of the leg.** These flaps are delicate and prone to complications and failure particularly in the early period after surgery. Doppler monitoring is usually discontinued 2 weeks after surgery. Visual inspection is then used to monitor the flap for a 2-3 month period. If the flap turns blue the lower leg should be elevated above the level of the heart until visible improvement is seen.

Careful daily wound care and splint management is important to the success of surgery. Wound care is more serious in patients with immune disorders, diabetes, or tobacco history. Patients should avoid caffeinated beverages and are not allowed to use tobacco for a period of 3 months after surgery.

There are several principles should followed when performing this kind of flap and wound care. These include cleaning the wound, keeping the flap moist and elevated, allowing the donor sites to dry, and advancing activity slowly over time. It is best that the patient or family member learn to care for the flap and wound themselves so that the patient can take care of it and ensure that those helping are doing it right. Proper hygiene and hand washing is very important before and after wound care.

Cleaning: The wound should be cleaned with soap and water in the shower at least once a day unless otherwise instructed. Cleaning the wound is best achieved by placing the patient in a shower on a shower chair with assistance. Cleaning the wound will significantly decrease the bacterial count and decrease time to full healing. Avoid baths and limit showers to approximately 20 minutes. Dove gel or Lever 2000 soap is best in most cases.

Use "dry" gauze to remove the debris of the superficial aspects of the wound with each dressing change. The wound care nurse or physician should be responsible for any significant wound debridement. If the wound turns red or demonstrates signs of significant yellow discharge or infection notify your physician as soon as possible.

Packing: Pack the open area of the upper thigh at lease once a day after cleaning. Increase the frequency of changes if the wound is significantly dirty or remains very damp. There is no magic to the type of gauze or water used. We usually use "4X4" or Kerlix roll gauze with a touch of water or saline. Use dry gauze if the wound is moist or after shower.

Technique: The dressing should be changed at least every 24 hours and more if instructed. If the gauze is wet or the wound dirty you should increase the number of wound changes to twice a day. If the wound is damp or draining it is usually best to use only dry gauze on the wound for a while. It is best for the gauze to stick a little bit to the open area for cleaning purposes. If it is too painful to remove the dry gauze, soak the wound in water for several minutes the first several days. Packing a wound with gauze that is “too damp” is the number one mistake. A general rule should be **“wet wounds should be dried and dry wounds should be made wet.”**

Depth: The open wound to the lower extremity wounds should be gently packed. Do not over pack the wound by pushing the gauze in too hard. It is not a contest to see how much gauze can be placed in the hole. Over-packing the wound decreases wound healing and slows recovery. Sometimes it is best to just lay the gauze over a shallow wound. Remove all old gauze with each dressing change and avoid small gauze in deep wounds. Open wounds must heal from the bottom up to the surface and then finally close. If the roof closes too quickly a pocket of infection will form.

Standing: The patient is not allowed to apply pressure on the injured leg for 5-6 weeks. The orthopedic surgeon will notify you when the bones are healed and toe touching is allowed. Patients should only walk with assistance and a walker and should avoid trauma or falls that may injure the flap.

Dangling: Remember to keep the lower extremity elevated above the level of the heart as much as possible for 2 months as instructed by the surgeon. The patient is allowed to dangle the leg for 30 minute intervals twice in an eight hour period or per shift. If the flap turns blue or dusky elevate.

Elevation: Lower extremity wounds are subject to swelling. Elevation of the extremity during the day and avoiding periods of standing will assist in local wound control. Most patients will benefit from compression over dressings, splinting, and in some cases compressive dressings. A small window should be made in the dressing to allow for monitoring of the flap.

Protection: Avoid direct pressure to the flap. In most cases the external fixation device will provide protection to the flap. Do not allow the flap to rest directly on the floor bed or hard surface for any length of time. A small window should be made in splint or dressing to allow for flap visualization and monitoring. The flap should be gently wrapped and compressed to avoid swelling but a tourniquet effect must be avoided.

Flap Dressing: After cleaning the wound in the shower with soap and water. Dry the leg and other wounds. Apply Vaseline or triple antibiotic ointment to the flap/skin graft then place a non-stick dressing like Xeroform. Again leave a small window over the flap to monitor the color and texture. Wrap the leg with Cast Cotton and Ace from distal to proximal to allow for gentle compression but avoid a tourniquet effect. Do not use Kerlix rolls or Coban around the lower extremity until surgeon approves.

Summary:

Lower extremity free flap care must be done both carefully and daily by trained medical staff or family members. Avoid tape and try to use soft wraps or bandages that stretch or give when dressing the extremity. If the wound has a foul odor it requires cleaning and possible physician evaluation. Lower extremity free flaps are slow to heal and the dependent position is not tolerated without trained tolerance and time. Smoking or radiation exposure will decrease the speed of healing a great deal. You may move your extremity to decrease stiffness and keep External Fixation device clean and protected.

Keep your leg clean and the extremity elevated except during 30 minute intervals twice a shift with a least a one hour recovery period between dangling training. Severe out of control pain or increasing redness or fever over 102 degrees may represent an infection or serious medical condition. The physician's office should be notified immediately if your pain seems unusual or not properly controlled or the flap remains blue or black after a extended period of elevation.

Ensure patients have adequate home health provisions prior to discharge home. Patients will require wheelchair, walker, crutches, and wound care supplies. Patients usually require home health care support for several months after discharge from specialty or rehabilitation facilities.

Once Healed:

The flap will usually fully mature within 4 months after surgery. The leg may require long term compression for several years and the swelling will usually resolve within 8 months. No other surgery should be performed on the lower leg until the plastic surgeon approves or within a 3 month period. Once the wound has healed and fully closed it must be allowed to mature for at least 8-12 months before a scar revision is considered. Apply Vaseline or Nivea moisturizer (or other over-the-counter lotions or creams) to wound site and massage the area two or three times a day to decrease scaring and pain. Silicone sheeting, Silicone gel, and Mederma are just a few products that can be used to decrease long-term scaring.

STRENUOUS ACTIVITY AND HEAVY LIFTING IS TO BE AVOIDED FOR AT LEAST 3-4 MONTHS. DIRECT SUN CONTACT ON THE SURGICAL SITE IS TO BE AVOIDED FOR 6-12 MONTHS. PLEASE USE A SUN SCREEN – SPF 25 OR GREATER WHEN IN THE SUN.

*Call the office you have any questions or if any problem should arise, or if you are having any signs or symptoms of infection (redness, fever, or drainage). (405) 942-4300 JBL

Plastic Surgery Lower Extremity Free Flap Wound Care Orders

- Remove all dressings and clean wound with soap and water every 1-2 days
- Patient should clean wound in shower with shower chair and assistance
- Allow wound to dry and use a hair dryer without heat to assist or towels
- Pack open wound on upper thigh with dry Kerlix gauze once a day and twice a day if wet or necessary
- Apply Vaseline or triple antibiotic ointment to right ankle flap after cleaning
- Clean pin sites with quarter percent H₂O₂ and q-tip every other day or as needed
- Apply a non-stick dressing or Xeroform gauze to flap at ankle after ointment is applied
- Leave a window for monitoring flap color
- Wrap leg with Cast cotton or soft roll or Webrill from toes, around external fix. device, and up the thigh providing mild compression and support
- Avoid wrapping the leg with Kerlix rolls or Coban until approved
- Avoid tourniquet effect to lower leg that might limit blood flow
- Allow skin graft donor site on upper leg to dry. May apply Vaseline to donor if painful or cracking
- Wrap upper thigh after packing to cover packed wound and discontinue packing when fully healed
- Allow no more than 30 minutes of dependent dangling of the reconstructed lower extremity every 4 hours for 4 weeks.
- No pressure should be applied to injured leg until approved by Orthopedic surgeon and avoid trauma. Notify MD if patient injures the leg or falls
- Ambulation with assistance with walker
- Patient leg should be elevated when in bed, recliner, or wheelchair except when dangling at 30 minute intervals
- Do not exceed 30 minutes of dependent position until instructed by surgeon
- Ensure at least a one hour recovery period between dangling training
- OT/PT to assist with ROM and strength training
- Elevate lower leg if the flap becomes dusky or blue
- Contact surgeon if flap does not improve or turns black or signs of infection
- Aspirin 81mg by mouth every day for 6 months
- Heparin 5000 units subcutaneously BID while in hospital (or equivalent)
- Central line care per protocol
- Strict Ins & Outs with drain care as needed per protocol
- Wound care nurse evaluation and treatment
- Pressure sore precautions per protocol
- Plastic Surgery follow-up 3-4 weeks at office or wound care clinic (call to arrange)
- Other medications per Hospitalist or Infectious Disease
- Plastic Surgeon, Dr James Lowe's office number is (405) 942-4300

James B. Lowe, MD, FACS