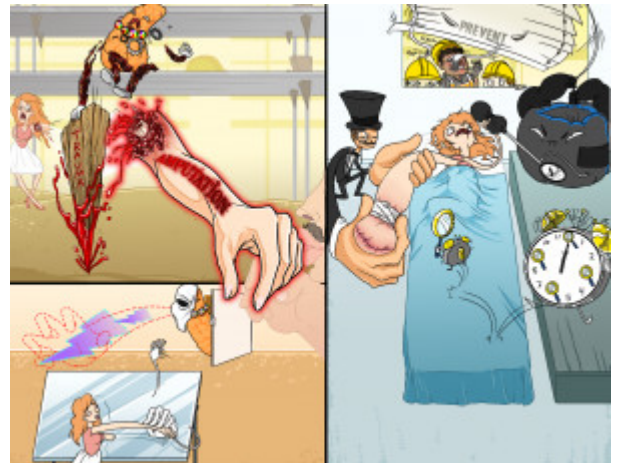


Amputation

The goal of amputation is to preserve the affected extremity's length and function while removing all infected, pathologic, and ischemic tissue. Trauma and peripheral vascular disease are common indications for amputation. Surgery types include closed amputation, open amputation, and disarticulation. Closed amputations create weight-bearing residual stumps by suturing a skin flap to cover the bony part of a residual limb. The purpose is to prevent drainage accumulation leading to pressure and bacteria. Open amputation (guillotine amputation) leaves a surface on the residual limb to assist with the control of infections. The wound is later closed by surgery or skin traction surrounding the residual limb. Disarticulation is performed through a joint. Vascular tests such as arteriography, Doppler, and venography may be done to determine the extremity's circulatory status. Gentle handling, frequent inspection, and compression bandages are critical to minimize traumatic damage and infection. A surgical tourniquet must be kept at the bedside for emergency use. Mirror therapy and analgesics may be used to address phantom limb pain.



PLAY PICMONIC

Indications

Trauma

Trauma-spike

Amputations secondary to trauma are more common among young individuals. Typically, the upper limbs are affected. Examples of trauma include motor vehicle accidents, landmines, and farm-related injuries.

Peripheral Vascular Disease

Peripheral Vessels Diseased

Amputations secondary to peripheral vascular disease are more common among older patients. Usually, the lower limbs are affected. Decreased blood flow to the extremities leads to decreased oxygen, white blood cells, and nutrients circulating to the limbs.

Diabetes Complications

Dyed-bead-pancreas Complication

Diabetes mellitus is the most common cause of peripheral vascular disease requiring amputation. Patients with diabetic neuropathy lose protective sensations that alert them of pain. Severe injury to the foot may be undetected by the patient with diabetes neuropathy and require amputation.

Considerations

Gentle Handling

Gentleman Handling

Gentle handling of the residual limb is critical in promoting the healing process and preventing traumatic damage.

Surgical Tourniquet at Bedside

Surgical Tourniquet at Bedside

During the immediate postoperative period, a surgical tourniquet must be kept available at the bedside at all times for emergency use. The tourniquet is used to stop excessive bleeding that may occur in the residual limb.

Prevent Contractures

Prevent Contractors

To prevent contractures after amputations, instruct the patient about postoperative positioning and maintaining proper body alignment. Instruct the patient to elevate the stump on one pillow for the first 24 hours following surgery. To prevent contractures, do not elevate the stump after 48 hours following surgery. In addition, avoid sitting in a chair with hips flexed for more than 1 hour. Instruct the patient to lie on the abdomen in prone position for 30 minutes x3-4/day with hips in extension.

Frequent Inspection

Frequent-clock Inspection

Frequent inspection of the incisions in the residual limb is critical for monitoring for signs of infection. Assess the stump for signs of skin irritation such as redness or odor. To avoid skin irritation, do not apply lotions, powders, or oils on the residual limb.

Compression Bandages

Compressing Bandage

Compression bandaging is indicated to shrink the residual limb to shape the stump for eventual prosthesis fitting. Compression bandages are used immediately after surgery to support soft tissues of the residual limb. Residual limb bandaging is indicated to decrease edema and minimize pain. The residual limb should be exposed to air for 20 minutes each day. For amputations above the knee or below the elbow, delayed prosthetic fitting is the optimal choice.

Phantom Pain

Phantom Pain-bolt

A significant percentage of amputees experience phantom limb pain after surgery. The patient still perceives pain in the missing portion of the limb and may also experience feelings of coldness, heaviness, and cramping. Medications may be administered to address pain. Phantom sensation and pain may subside as the patient undergoes recovery and ambulation.

Mirror Therapy

Mirror Giving Therapeutic-massage

Mirror therapy is indicated to help decrease phantom limb sensation and pain. By using a mirror, visual information is sent to the brain and replaces sensory feedback expected from the missing limb.