



## Operation Information

### Above or Below-Knee Amputation

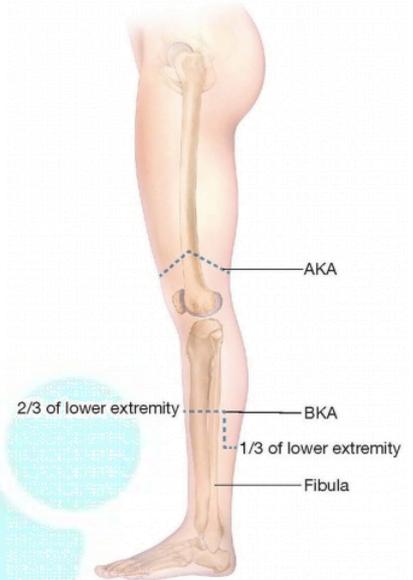
#### Introduction

Amputation is the surgical removal of the entire or part of a limb. Below- or above-knee amputations are some of the most commonly practiced major amputations in orthopaedic surgery.

In Hong Kong, the most common causes of lower limb amputation are peripheral vascular disease and complications of diabetes mellitus. The level of amputation i.e. below or above the knee joint depends on the viability of the soft tissue, the level of infection and the knee joint deformity.

#### Indications

1. Dead limb: usually results from peripheral vascular disease and severe trauma or burns
2. Dangerous limb: with a malignant tumour or potentially lethal infection or because of a crush injury
3. Nuisance limb: recurrent infection, gross deformity beyond reconstruction or severe loss of function



Source:  
<https://i0.wp.com/plasticsurgerykey.com/wp-content/uploads/2019/11/C44-FF1-2.gif?w=960>

#### Outcomes

The expected outcome of this operation is to remove the problematic part of the leg to prevent further complications.

#### Procedures

1. The operation can be performed under general or spinal anaesthesia.
2. The skin, muscles, nerves and blood vessels are divided around the selected level of amputation.
3. Blood vessels and nerves are sealed.
4. The bone(s) is then sawed and smoothed.
5. The soft tissue is closed around the bone end to create a stump.
6. A drain may be placed to drain out any collections of blood or fluid.
7. The wound is closed with sutures or staples.
8. Open amputation may be required when infection is present and there is a need for free drainage from the operative site. For such situation, stump closure will be performed at later stage.

## **Possible Risks and Complications**

1. General Risks and Complications
  - Heart attack, chest infection, stroke, venous thromboembolism, etc.
2. Specific Risks and Complications
  - Slow or non-healing of stump wound from bleeding haematoma, infection or wound dehiscence, requiring revision or further amputation
  - Wound scar problems such as repeated breakdown, hypersensitivity or contracture
  - Stump pain and numbness
  - Phantom pain and sensation
  - Progression of underlying disease and further amputation if not well controlled
  - Prosthesis related complications including skin ulceration, impingement by bony prominence, contracture etc.

\*\* The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

## **Pre-operative Preparations**

1. Good hygiene can prevent surgical wound infection. Therefore, we advise you to clean up yourself on the day of operation.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
3. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia. Please inform doctor if you are taking medications that affect blood coagulation such as Aspirin, Warfarin, Xarelto or Pradaxa, nonsteroidal anti-inflammatory drug (NSAID) such as Ibuprofen, Naproxen and Chinese medication.
4. Cigarette smoking may reduce your ability to heal. We strongly recommend you to quit smoking.
5. Routine pre-operative investigation such as blood test, ECG, X-ray and MRI scan may be performed.
6. Nurse will supply surgical soap to you for washing the operation site as necessary.
7. Shaving of the incision site may be required.
8. Surgeon will mark the side you are to be operated on. Please do not wash off the marking.
9. No food or drink six hours before operation.
10. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
11. Please empty your bladder before the operation.

## **Post-operative Instructions**

### **General**

1. After general anaesthesia, you may:
  - experience discomfort in the throat after tracheal intubation.
  - experience side effects of anaesthesia including feel tired, drowsy, nausea or vomiting. Inform the nurse if symptoms persist or worsen.
2. Please inform the nurse of wound pain. Proper pain relief treatment by injection or oral medication may be prescribed by the doctor.
3. If there is an indwelling urine catheter inserted, it normally will be removed a few days later.

### Wound Care

1. Compressive wound dressing is commonly used for controlling and minimizing of swelling.
2. Client with above-knee amputation is usually given a soft dressing which is a sterile and compressive stump bandage.
3. Client with below-knee amputation is usually given a rigid dressing, such as a Plaster-of-Paris cast to protect the stump immediately after the operation. This “constant volume” dressing offers some advantages in minimizing the stump pain and controlling edema and knee joint contracture.
4. Keep the cast or bandage and wound dressing dry and clean. Follow doctor’s and nurse’s advice on wound care.
5. Stitches or staples will be removed in 2-3 weeks.
6. A wound drain may be present to remove fluid or gas from the area of surgery. It will be removed in 2-3 days after operation.

### Diet

A normal diet may be resumed as instructed after recovery from anaesthesia. Intravenous infusion may be required to replenish fluid and electrolytes.

### Activities

1. You need time to adapt the alteration in the center of gravity of the body. Do not walk or stand alone. Please ask nursing staff to assist you with mobilization.
2. Early mobilization is encouraged as it enhances recovery after surgery. Please follow doctor’s advice to resume light activities gradually.
3. You are encouraged to move around as soon as possible using a wheelchair.
4. Deep breathing and coughing exercise is encouraged to reduce respiratory complication.
5. Physiotherapy starts few days after surgery. Physiotherapist will advise you on exercises to increase muscle strength and restore locus of control.
6. A prosthesis may be prescribed for ambulatory rehabilitation, depending on the individual’s training potential, condition before and after the operation.

### Advice on Discharge

1. Please comply with the medication regimen, therapies that control the underlying disease and a healthy lifestyle as prescribed by your doctor.
2. Emotional adjustment to the loss of a limb can be a long process. Please seek professional attention whenever necessary.
3. Before you are discharged from hospital, an occupational therapist may arrange a home assessment to see if any modification has to be made to your home environment.
4. The stump wound is covered with waterproof dressing when you are discharged. Do not removed it unless you are told to do so.
5. If stitches or staples have been removed and the wound has healed, wash the stump daily and inspect the skin for abnormality, e.g. skin breakdown, redness, swelling etc. If in doubt, professional advice should be sought promptly.
6. Once the stump wound has healed, a compression garment will be fitted to reduce swelling and maintain the good shape of your stump. Please wear the compression garment as instructed.
7. If prosthesis is prescribed, you will be fitted with a prosthetic limb, few months later.
8. Physical therapy is crucial for recovery. Please comply with the tailor-made rehabilitation programme.
9. Immediately consult your doctor or return to hospital for professional attention in the event of severe wound pain related to redness and swelling, massive bleeding, drainage pus, loss of feeling and sensation in the surgical site, shivering, high fever over 38°C or 100.4°F, or any other unusual symptoms, etc.
10. Any follow-up consultations should be attended as scheduled.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details  
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