

# PATIENT INFORMATION

# Vascular Amputation

Please pack this booklet with your belongings that you will bring to hospital.  
You will need to refer to this booklet after surgery.

MultiCare 



[pulseheartinstitute.org](http://pulseheartinstitute.org)



# Introduction

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Welcome to **Pulse Heart and Vascular Institute** / MultiCare

This booklet was prepared for you by the Vascular Surgery team to help you understand:

- your condition and your surgery
- how you can help yourself
- your care in hospital
- your needs, care and resources after discharge

Your health-care team has made a plan of care (Clinical Pathway) formulated by Best Practice guidelines with the goal of successful outcome and give you a higher chance of returning to independent mobility. The clinical pathway describes some of the usual care for people with your condition. This plan will be adapted for your specific needs.

## *Please*

Read the booklet carefully. Share it with your family.

Ask questions if there is something you don't understand.

Pack the booklet with your belongings and bring it with you when you are admitted to hospital.

# Your Condition and Your Surgery

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Your surgeon has decided that it is necessary to surgically remove a portion of your limb by a procedure called amputation. Amputation is necessary when the blood flow to a limb is poor, the limb is no longer functioning, or there are wounds on the limb that may cause or be associated with serious infection. The most common reason for poor blood flow to a limb is peripheral arterial disease. In peripheral arterial disease (PAD), blood flow is decreased to the lower limbs by blockages or narrowing of the arteries resulting from cholesterol build up or injury from smoking. These narrowing or blockages are known as atherosclerosis, or “hardening of the arteries”.

There are two types of amputation: minor and major. They are described below.

## Minor

This type of amputation can include amputation of the toes and/or forefoot (transmetatarsal). After surgery you may need to limit the amount of weight put on the amputated foot to help with healing. Once your foot has healed you may be able to walk without the need of a prosthesis/artificial limb. In some cases, your doctor will recommend a shoe insert if it is appropriate for you.

## Major

A major amputation is an amputation at a higher level, and requires a prosthesis/artificial limb to walk. A prosthesis is a device to replace a missing part of the body. Depending on your state of health, a prosthesis may not be appropriate for you. Amputees who cannot use a prosthesis are taught how to safely use a wheelchair with little or no assistance.

Major amputations include the following:

- Below the knee amputation:
  - About 4 inches/10 centimeters below the knee cap.
  - Many amputees who heal at this level become successful users of a prosthesis.
- Through knee amputation:
  - Through the knee joint
- Above the knee amputation:
  - At about mid-thigh

Whether an amputation is a result of trauma, infections or long-standing vascular disease, the prospect of losing a limb can be an emotional and social challenge. Case managers are available to help you and your loved ones through this challenge. Other health-care professionals are also available to answer any questions that you may have. These include Physical Therapist who will help you with transfer training and exercises while in hospital and an Occupational Therapist who will help you resume your normal activities of daily living such as self-care tasks and transfer training.

Your surgeon will decide the appropriate level for amputation.

The following page show the Patient pathway for your condition. You can use this as guidelines for daily expectations and care throughout your hospitalization.

<b>PATIENT PATHWAY AFTER AMPUTATION</b>						
	Pre – Op Date	Day 1	Day 2	Day 3	Day 4	Day 5
<b>Expected Outcomes</b>		Pain control	Pain control	Pain control	Pain control	Pain control
<b>Consults</b>	Anesthesia Case Management	Physical Therapy (PT) Occupational Therapy (OT) Dietitian Prosthetist if appropriate	Physical Therapy (PT) Occupational Therapy (OT)	PT/OT recommendations for discharge,		
<b>Assessments &amp; Monitoring</b>	Vital signs (temperature, blood pressure, oxygen saturation) Dressings Advanced directives Code status	Vital signs (temperature, blood pressure, oxygen saturation) Dressings /Stump protector Pain Management	Vital signs (temperature, blood pressure, oxygen saturation) Dressings/Stump protector Pain Management	Vital signs (temperature, blood pressure, oxygen saturation) Dressing change Stump protector Pain Management	Vital signs (temperature, blood pressure, oxygen saturation) Dressing change Stump protector Pain Management	Vital signs (temperature, blood pressure, oxygen saturation) Dressing change Stump protector Pain Management
<b>Labs, Tests &amp; Treatments</b>	Blood tests Electrocardiogram (if required) Chest x-ray (if required)	Blood tests				
<b>Medications</b>	Review your home medications IV fluid Antibiotic given Pain medication	Start your home medications Pain medication Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)
<b>Diet</b>	Nothing to eat or drink. After your surgery you can have clear liquids and advance to your regular diet	If you are able to eat and drink your IV will be stopped Start your regular home diet	Regular diet (diabetic, cardiac or renal) Supplements if needed	Regular diet (diabetic, cardiac or renal) Supplements if needed	Regular diet (diabetic, cardiac or renal) Supplements if needed	Regular diet (diabetic, cardiac or renal) Supplements if needed
<b>Activity</b>	Sit on the side of the bed Fall risk precautions	You will be helped to get up in chair at least twice daily using walker. Fall risk precautions. PT/OT Participation	You will be helped to get up in chair at least three times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises	You will be helped to get up in chair at least three times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises	You will be helped to get up in chair at least three times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises	You will be helped to get up in chair at least three times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises
<b>Patient Education</b>	Educational booklet given Vascular risk factors Smoking cessation	Breathing exercises Bed exercises per booklet Lifestyle modifications	Reinforce: Exercise /activity Pain management Diet Lifestyle modifications	Reinforce: Exercise /activity Pain management Diet Lifestyle modifications	Reinforce: Exercise /activity Pain management Diet Lifestyle modifications	Discharge instructions
<b>Discharge Planning</b>	Discuss and plan for needs when you discharge. Will you need medical equipment (wheelchair, crutches)? Your family support Transport Home health Inpatient rehabilitation Long term facility	Continue discharge planning – discuss your needs with you and your family.	Review discharge plans with family and or Case Management	Confirm discharge plans with family and/or Case management to discharge at 10:00 am Confirm home care plans, if applicable	Confirm discharge plans with family and/or Case management to discharge at 10:00 am tomorrow	Discharge at 10:00 am

# Your Care in Hospital – After Surgery

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## **Pain management after surgery**

Your comfort is our concern. It is important that you have effective pain relief. Pain is personal. The amount of pain you feel may not be the same as others feel, even for those who have had the same surgery. Our goal is to help you be comfortable enough to participate in the healing process. Your pain should be controlled enough that you can rest comfortably and that the pain does not prevent you from deep breathing, coughing, turning, or getting out of bed.

Both drug and non-drug treatments can be successful in helping prevent and control pain. You, your doctors and your nurses will decide which ones are right for you to manage your pain.

## **Phantom sensation and phantom pain**

Phantom sensation is the feeling that the amputated limb is still present after surgery. Phantom pain occurs when pain or discomfort is felt in the amputated limb after surgery. One or both of these is experienced by almost all amputees at some time but not always permanently. The degree or the amount of sensation or pain is different for each person and can be affected by a number of things.

Over time, some amputees may feel that the missing limb is gradually moving towards the remaining limb. This is called “telescoping” and it may continue until the sensation of the phantom limb decreases or disappears. While the cause of phantom pain and sensation is not completely understood, various treatments have been effective in giving relief. You and your health-care team can assess what is best for you.

## **Fall Risk**

You will be at risk of falling after your surgery. We will do everything we can to help you avoid falls while in hospital however, we need your help. **When you want to get up call for assistance.** Once you are able to transfer on your own your health care team will advise you. Until that point please call for assistance, even if you feel you can do it on your own. Your safety is our concern.

## **Drain**

You may have a small drainage tube in the incision to drain extra fluid. This will be removed after a couple of days when drainage has decreased.

## **Intravenous (IV)**

You will have an IV to replace your fluids until you are able to drink and eat well. Do not pull on the IV tubing.

## **Oxygen**

Under certain conditions, the body may require extra oxygen. These conditions may include lung disease, heart disease and the demands of surgery. Extra oxygen can help restore normal oxygen levels in the blood and body tissues and reduce the workload of the heart and lungs.

During your hospital stay you may receive extra oxygen. This is given through a mask placed over your nose and mouth or small tubes placed in your nostrils (nasal cannula).

The amount of oxygen in your blood is measured by placing a small, painless clip on your finger. This is called pulse oximetry. This measurement is used to check that your body is getting the right amount of oxygen. The nurse and physiotherapist will use these measurements to increase, decrease or stop giving you extra oxygen.

You will be encouraged to do deep breathing and coughing exercises to keep your lungs clear. (See the section on Post-Operative Exercises.)

## **Indwelling catheter**

You may have a urinary catheter (tube) to drain urine from your bladder. This catheter will be removed as soon as possible as it is a risk for infection – the sooner it comes out the safer you will be from an infection risk standpoint.



## **Incision**

You will have an incision covered by a dressing on your amputated limb. The dressing will be removed after 2 days. The incision will then be cleaned and dressed daily. Please keep the dressing dry. If you notice any bleeding under the dressing let the nurse know immediately.

## **Dressings**

### **Below knee amputation**

At the time of surgery, your doctor will use one of two types of dressings over the amputation site:

#### **Soft dressing**

A simple dressing covering the incision with a lightly wrapped bandage is applied over the amputated limb. Two days after surgery, the first dressing is removed to look at your incision. After that, your wound will be cleaned and your dressing will be changed daily.

#### **Rigid dressing**

A stump protector (rigid plastic dressing) will be placed over your soft dressing to provide protection for the incision and the stump and decrease risk of injury resulting from slip and/or fall.

## **Diet**

Once back on the unit, you will be allowed to take fluids as you can tolerate. It is recommended that you progress to regular food as you feel ready.

Your body needs more energy and protein when recovering from surgery and during illness. Try to include a protein rich food at each meal. Examples of protein rich foods include: meats, poultry, fish, eggs, dairy and dried beans/legumes.

If you are unable to eat well at meals, ask to see the inpatient dietitian. The dietitian can help optimize your nutrition to promote healing, while you are in hospital.

## **Activity while in hospital**

**The early stage of your rehabilitation begins within a day after your surgery. Although this process will vary from person to person, the following guidelines may be helpful**

### **Bed activity**

While you are in bed, it is important to move and reposition frequently to avoid pressure on your skin. You will be assisted to reposition every few hours. There should not be a pillow under your amputated limb. You are encouraged to use a pillow under your remaining limb to prevent pressure on your heel. If you have a soft dressing, it is very important that you keep your knee straight and not bent.

The physical therapist (PT) will teach you some simple exercises to do while in bed. The physical therapist may also help you lie on your stomach for short periods during the day to maintain the flexibility of your hip joint.

### **Getting out of bed**

Within one day, you will be assisted to get up to a chair or wheelchair by your caretaker. During your hospital stay, PT or occupational therapist (OT) will teach you how to get in and out of bed safely into a chair or wheelchair.

The hospital will loan you a wheelchair while you are in hospital. Your seat can be cushioned (using pillows) to improve your comfort and sitting balance, if required.

### **Exercise program**

The physical therapist will work with you to practice safe transfers. You will be given suggestions about the type of clothing that's best to exercise in.

Clothing that is suitable includes: Sweat suit or loose comfortable clothing and tennis shoe or walking shoe for your transfers and exercises

### **Personal care**

Returning to independence in the areas of dressing and bathing will be encouraged and may be assisted through the use of special equipment such as grab bars for the bath and toilet, transfer boards, tub seats for bathing, and raised toilet seats. Getting dressed is usually easier from a lying and sitting position on the bed. Front fastenings and loose clothing also help to minimize frustrations. The occupational therapist will help you to problem solve and find the safest way to perform your self-care tasks.

# Post-operative Exercises

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## Deep breathing and coughing exercises

After surgery, we tend to take smaller breaths. This can be due to pain, anesthetic medications given during surgery, or due to you not being as active as before your surgery. Doing deep breathing and coughing exercises will help to keep your lungs healthy.

You will be given breathing device (incentive spirometry) to do breathing exercises. Your caregiver will give you instructions on this and set your goals.



Deep breathing exercises work best when you are sitting up either in the bed with your head raised or on the side of the bed.

- Take a deep breath in through your nose. Hold for 5 seconds.
- Breathe out through your mouth.

Repeat this exercise ten times each hour while you are awake and until your activity level increases.

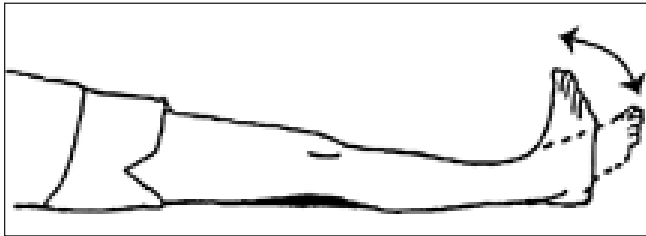


## Calf and ankle pumping exercises for your healthy (transfer) leg

Calf and ankle exercises help the blood circulate in your leg while you are less mobile. Do these ten times each hour, while you are awake and until your activity level increases.

- Lie on your back with your leg straight (see picture).
- Point your toes (as if you were pressing on a gas pedal) and then point your toes towards your chin.
- Move your ankle in a circle clockwise and counter-clockwise

These exercises will help prevent blood clots by increasing blood circulation in your leg. Remember to do these exercises ten times each hour.



# Preparing for Discharge

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Where you go after discharge from hospital will depend on your rehabilitation needs. The health-care team with you and your family will discuss and decide together what the best option is for you.

## **Discharge planning options**

Social work is available to assist with discharge planning, assessing future care needs, and arranging:

- Home care
- Transportation
- Private health care agencies
- Rehabilitation
- Convalescent care
- Long-term care

For home support, the Case Manager will assist in setting up any services you will need. For example, an occupational therapist, physical therapist or personal support worker may be arranged.

*If going home is an option for you, consider the following helpful tips on Home Safety and Preventing Falls:*

A wheelchair may be required in your home even if you are to be fitted with a prosthetic limb. Wheelchair mobility may be an important part of your daily routine. Ensure that the wheelchair you use is in good working order and that you fit properly in it. Your therapist can assist you with this assessment.

If you require any equipment at home such as walker, wheelchair, commode or amputee board and depending on your insurance you might be responsible for renting or purchasing this equipment. If finances are an issue, please ask to speak with a health-care professional (nurse, case manager, occupational therapist, physical therapist) for various options.

- Keep your home free of clutter so it is easy to move about.
- There should be no scatter rugs as these can be potential tripping hazards.
- Keep your home well lit. Night-lights should be used, especially if you go the bathroom during the night.
- Use furniture that is a comfortable height for you. This is usually a firm chair with armrests, slightly higher in the seat than you may be used to. Your hips should be higher than your knees while sitting.
- Use safe objects for support (e.g. handrails, grab bars, mobility aid). Do not lean on furniture



# After Discharge

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You may need help at home when you are discharged. Where you go after discharge will depend on your rehabilitation needs. The vascular team, Case management and PT/OT will help you and your family decide on the best available options for you. If you think you will have problems at home, discuss them with your nurse or Case Manager.

Arrange for someone to pick you up at 10 a.m. on the day of discharge. You will receive a follow-up doctor appointment and a prescription for medication.

*Be sure you understand about your:*

- Medications
- Exercise program
- Diet
- Any restrictions regarding your surgery
- When to call the doctor for symptoms
- Follow-up appointment(s)

## **Activity**

### **Preventing falls at home**

Take frequent rest periods as necessary. Let your body be your guide. Resume your usual activities gradually. Discuss any specific concerns with your doctor. Regular, daily exercise helps control your weight, helps reduce stress and controls blood pressure. It is not necessary to exercise vigorously. Mild exercise, such as sitting in a chair and doing arm raises or leg lifts, is generally safe and helpful for most people, but needs to be done on a regular basis to decrease risk of disease. Discuss exercise with your health-care professional.

## Medications

- Take your pain medication as required. It is normal to experience some wound discomfort for a period of time after discharge. Tylenol is very effective for mild to moderate pain and has very few side effects. It is safe to take for most patients and often will reduce need for stronger medications.
- To avoid constipation (a side effect of many pain medications) add water-soluble fiber to your diet, e.g. bran, whole grains, fruit. If constipation is a problem, you may take a mild laxative
- Do not drive a vehicle or sign any legal papers while you are taking narcotics (e.g. Oxycodone, Hydrocodone and others). Narcotics may slow your reaction time and impair your judgment.

## Wound care

- Do not wear clothes which irritate or constrict the incision.
- Your incision should be kept dry and clean until your follow-up appointment.
- The clips/sutures on your incision will be removed when you are seen for follow-up in the office two weeks after discharge. Your vascular provider will discuss this with you before you go home.
- Observe the incision for *increased redness, increased tenderness, drainage, and incision separation*. Notify your doctor immediately if any of these occur. If you are unable to reach a doctor go to the emergency department.

## Preparing for a prosthesis

If you are a candidate for a prosthetic device, few weeks your after surgery the health-care team will begin to prepare your amputated limb to be able to fit a prosthesis. After the staples/sutures have been removed shrinker sock will be fitted over the end of your amputated limb to decrease swelling and to shape the stump to allow it to fit well inside a prosthetic device. This will occur once fitting for the prosthesis is appropriate which will be approximately four to six weeks after your surgery. Once the incision has healed, a follow-up appointment will be made with The Prosthetist clinic to further establish your readiness for the prosthesis.



## Foot Care

Avoid injury to your transfer leg or foot, e.g. stubbing your toe while making a bed.

Do not go barefoot. A shoe or slipper will help protect your foot from trauma. Leather shoes are better than plastic. Avoid sandals with thongs between the toes. Make sure the shoe is not tight when buying it. Wear a sock with your shoe.

## Smoking

**Stop Smoking!** Avoid all forms of tobacco (cigarettes, cigars, pipes, chewing tobacco) Smoking damages the lining of the arteries and increases the risk of atherosclerosis.

Information and resources on smoking cessation will be given to you assist you to stop smoking. Ask your provider or nurse while in hospital about these if you haven't been given the information available.

## Follow-up with Physician

At discharge from the hospital a follow-up appointment will be made in one of three ways

- Before you are discharged you will be given a follow-up appointment with your surgeon,
- One will be booked for you and you will receive a phone call notifying you of your appointment,
- You will be given a number to call to book your appointment

**If you are unable to make your appointment, please contact the Pulse Heart Institute at 509-530-5858 to reschedule.**

**Call your surgeon if you have any of the following:**

- Chills or fever (temperature greater than 38.5°C)
- Increased pain, redness, swelling or drainage around the incision.
- Separation of the incision
- Increased pain in your amputated limb or remaining leg or foot. A change in the color (blue or white) or temperature (colder than normal) of the amputated limb or remaining foot or lower leg.

**Contact the Pulse Heart Institute at 509-530-5858.**

**If you are unable to reach your doctor, please go to the Emergency department.**

# Notes



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 **Pulse**™  
Heart Institute