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 Pulse™ Heart Institute

pulseheartinstitute.org

Introduction

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

Your surgeon has decided 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

Amputation of the toes and/or forefoot (transmetatarsal or TMA).

- After surgery you will 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 bear weight and walk again.

Major

Amputation at a higher level requiring a prosthesis/artificial limb to walk.

Includes:

- 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 - also possible to get fitted for a prosthesis

A prosthesis is a device to replace a missing part of the body and for major amputations is required to allow patient to learn to walk again. Not all amputations are suitable to be fitted for a prothesis.

Amputees who cannot use a prosthesis are taught how to safely use a wheelchair with little or no assistance.

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 healthcare 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.

PATIENT PATHWAY AFTER AMPUTATION						
	Pre – Op Date	Day 1	Day 2	Day 3	Day 4	Day 5
Expected Outcomes		Pain control, with IV and oral medicatoins	Pain control, start to wean off IV pain meds	Pain control, continue weaning off IV pain meds	Pain control, goal of oral pain medications only	Pain control, goal of oral pain meds only
Consults	Anesthesia Case Management	Physical Therapy (PT) Occupational Therapy (OT) Dietitian Prosthetist if appropriate	Physical Therapy (PT) Occupational Therapy (OT)	PT/OT recommendations for discharge,		
Assessments & Monitoring	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
Labs, Tests & Treatments	Blood tests Electrocardiogram (if required) Chest x-ray (if required)	Blood tests	Blood tests	Blood tests	Blood tests	
Medications	Review your home medications IV fluid Antibiotic given Pain medication	Start your home medications Pain medication, by mouth and IV Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth, wean off IV Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth, wean off IV Blood thinner (to avoid blood clot) Cholesterol medication (if you not on it)	Continue home medications Pain medication by mouth only is goal 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)

PATIENT PATHWAY AFTER AMPUTATION						
	Pre – Op Date	Day 1	Day 2	Day 3	Day 4	Day 5
Diet	Nothing to eat or drink after midnight prior to surgery. 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 (but not removed) 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
Activity	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 2 times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises	You will be helped to get up in chair at least 2 times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises	You will be helped to get up in chair at least 2 times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises	You will be helped to get up in chair at least 2times daily using walker. Fall risk precautions. PT/OT Participation and bed exercises
Patient Education	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
Discharge Planning	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. Recommend going to Rehab facility after discharge	Review discharge plans with family and Case Management Recommend going to Rehab facility after discharge	Confirm discharge plans with family and/or Case management to Confirm home care plans, if applicable Once pain controlled on oral medications only, and medically ready will then give the ok to discharge.	Confirm discharge plans with family and/or Case management to discharge Recommend going to Rehab facility after discharge	Confirm discharge plans with family and/or Case management to discharge Once pain controlled on oral medications only, and medically ready will then give the ok to discharge

Your Care in Hospital – After Surgery

Pain management after surgery

Your comfort is our concern. It is important that you have effective pain relief. 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, getting out of bed, or working with therapy.

You, your doctors and your nurses will work together to decide how to best 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 isnot always permanent.

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.

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. This hospital team will advise you on when you can get up on your own. Until that point please call for assistance. 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 for medications or fluids. Do not pull on the IV tubing.

Oxygen
Under certain conditions, the body may require extra oxygen. Extra oxygen can help restore normal oxygen levels in the body and reduce the workload of the heart and lungs. Extra oxygen 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 an oxygen sensor clip on your finger. This is called pulse oximetry and checks that your body is getting the right amount of oxygen, and your nurse will adjust the extra oxygen you get based on this.

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

Incision
You will have an incision covered by a dressing on your amputated limb. The dressing will be removed after 2-3 days. The incision will then be cleaned and dressed daily. Please keep the dressing dry. If you notice any bleeding under or through the dressing let the nurse know immediately.

Dressings

Below knee amputation
Dressing usually consists of non-adherent pad, gauze, gauze wrap and ace wrap (for compression). Along with brace to keep your leg straight and prevent your knee from getting stuck in a bent position (contracture). Will then swap the knee brace out for a stump protector which should be worn over the dressing at all times unless working with therapy.

Vascular team will change dressing after first 2-3 days, and then will be changed daily

Diet

After the procedure, you will be allowed to take fluids as you can tolerate and progress to regular food as you feel ready.

Your body needs more energy and protein when recovering from surgery. Try to include a protein rich food at each meal like 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. 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 caretakers. 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.

Exercise program

The physical therapist will work with you to practice safe transfers.

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, and/or raised toilet seats. The occupational therapist will help you to problem solve and find the safest way to perform your self-care tasks.

Post-operative Exercises

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.
- Breath out through your mouth.

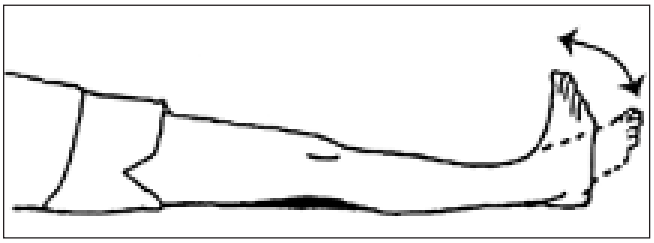
  Repeat this exercise ten times each hour while you are awake and until your activity lever increases.

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

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 after you heal. 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
- Keep your wheelchair next to your bed to remind you to use it when you get up at night, to help prevent falls.

After Discharge

You may need help at home when you are discharged. Where you go after discharge will depend on your rehabilitation needs, however it is usually recommended to go to a rehab facility. The vascular team, Case management and PT/OT will help you and your family decide on the best available options for you.

Arrange for someone to pick you up 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, and 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. 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. Discuss exercise with your health-care professional. Keep your wheelchair next to your bed when you sleep, to remind you to use it if you wake up in the middle of the night. Take your time with transfers to make sure you are doing it safely and cautiously.

Medications

- Take your pain medication as required. It is normal to experience some wound discomfort 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 (side effect of 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, rub or constrict the incision.
- Your incision should be kept dry and clean until your follow-up appointment. Change dressing daily with clean dry dressing.
- The clips/sutures on your incision will be removed when you are seen for follow-up in the office usually about 4 weeks after discharge.
- In most cases its ok to shower and let water run over your closed incision, then pat dry and place dressing.
- 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, after your incision is fully healed (usually in 4-8 weeks after surgery) you will be referred to be fit for a prosthesis. After the stables/ sutures have been removed shrinker sock will be fitted over the end of your amputated limb to decrease swelling and to shape the leg to allow it to fit well inside a prosthetic device.

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 253-697-3200 (Puyallup office) or 253-403-8410 (Tacoma office) 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 253-403-8410 (Puyallup office) or 253-697-3200 (Tacoma Office).

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

Notes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