



PATIENT GUIDE FOR

HEART SURGERY

Adventist Health Portland
Northwest Regional Heart & Vascular

NORTHWEST REGIONAL HEART & VASCULAR

Portland

10000 SE Main Street
Suite 365
Portland, OR 97216
503-261-4430

McMinnville

2700 SE Stratus Avenue #406
McMinnville, OR 97128
503-435-1200

Tillamook

1100 Third Street
Tillamook, OR 97141
503-842-5546

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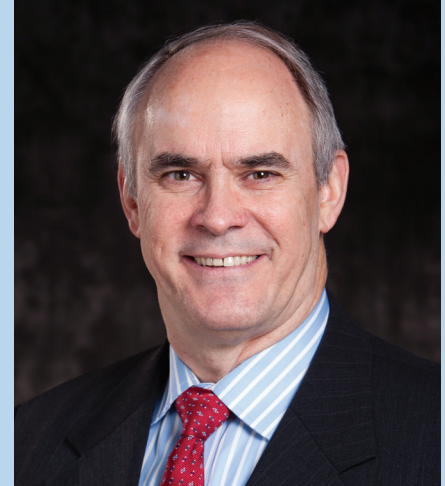
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YOUR NORTHWEST REGIONAL HEART & VASCULAR CARDIAC SURGERY TEAM

SURGEONS



Thomas Molloy, MD



Steven Guyton, MD

PHYSICIAN ASSISTANTS



J. Pearce Beissinger,
MS, PA-C



Brett Quarles, PA-C



Allison Kos, MS, PA-C

THE ROLE OF A PHYSICIAN ASSISTANT

A physician assistant (PA) is a nationally certified and state-licensed medical professional. PAs practice medicine on health care teams with physicians and other providers. They can: take your medical history, conduct physical exams, diagnose and treat illnesses, order and interpret tests, develop treatment plans, counsel on preventive care, assist in surgery, write prescriptions, and make rounds in hospitals and nursing homes.

ADVENTIST HEALTH PORTLAND

LOCATIONS

Northwest Regional Heart & Vascular
Surgical Associates
10000 SE Main Street, Suite 365
Portland, OR 97216
503-261-4430

Northwest Regional Heart & Vascular
McMinnville
2700 SE Stratus Ave., #406
McMinnville, OR 97128
503-435-1200

PHONE NUMBERS

Cardiovascular Unit 503-251-6266 ext. 11220
Chaplain 503-251-6105
Financial Counselor 503-251-6170
Foundation (gifts to the hospital) 503-251-6197
Pavilion Registration (Concierge) 503-261-4411
Pre-surgery Orientation 503-251-6376

IMPORTANT INFORMATION

Your Surgeon's Name: _____

Physician Assistant: _____

Your Cardiologist's Name: _____

Office Phone Number: _____

Your Primary Care Physician's Name: _____

Office Phone Number: _____

VISITOR AMENITIES

Food

Garden Café

(located in the main hospital)

HOURS OF OPERATION

Monday – Thursday 6:30 a.m. – 7:15 p.m.

Friday 6:30 a.m. – 6:30 p.m.

Saturday, Sunday and Holidays

6:30 a.m. – 8:30 a.m.

11:15 a.m. – 1:15 p.m.

4:45 p.m. – 6:30 p.m.

Other Amenities

Vending Machines & ATM

Are located on the first floor of the Pavilion.

Internet Access

Free wireless Internet access is available throughout the Pavilion. An education room with computer access and education materials is located on the lower level of the Pavilion.

Parking

Free parking is available in the parking garage adjacent to the Pavilion at Adventist Health. Enter the parking garage at 10300 SE Main Street and park in any space not designated for other use. Take the elevator to Level A. There is a walkway to the Pavilion with a slight incline. Enter the Pavilion and take the elevator or stairs to the first level. The main entrance of the Pavilion has a covered drop-off area for patients who are unable to walk long distances. If you enter through the front entrance, proceed to the Concierge desk in the lobby area.

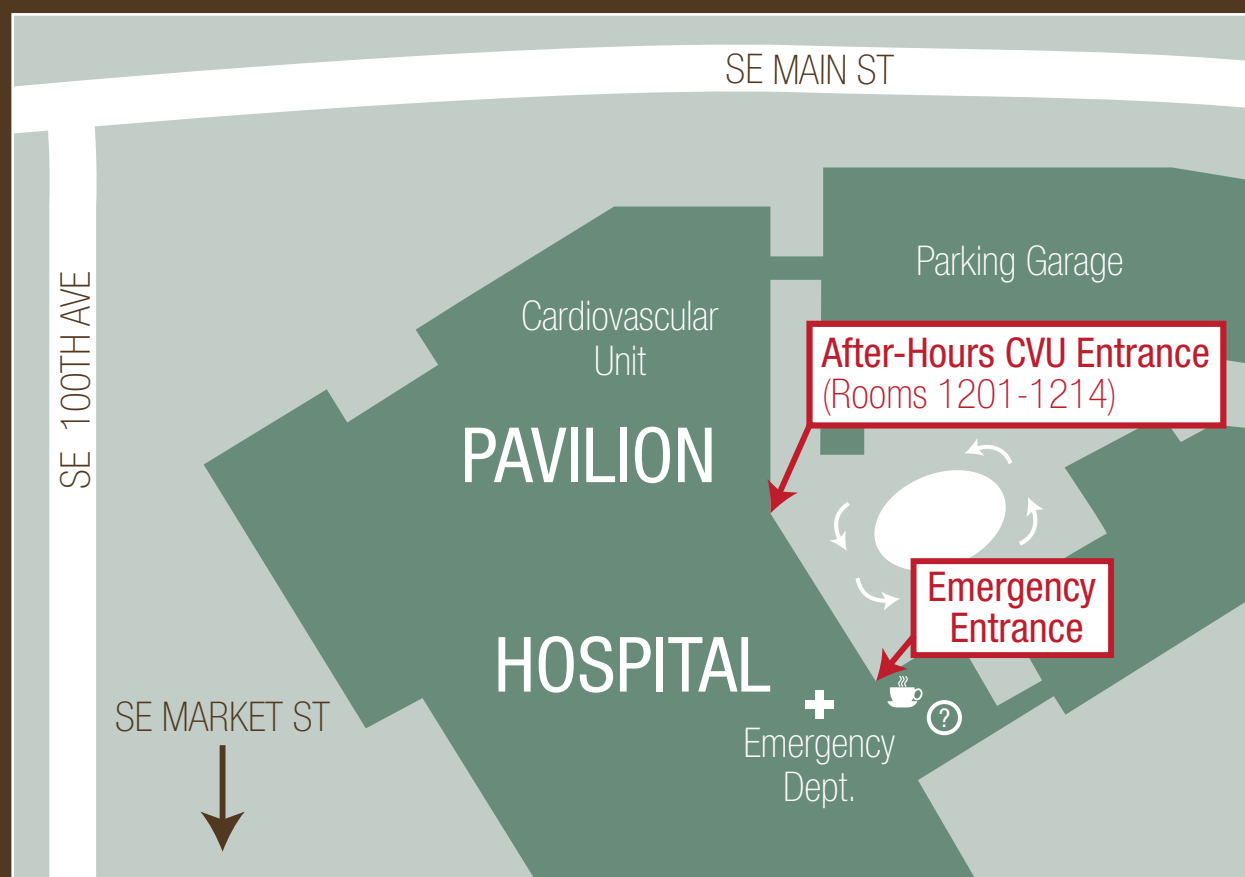
After-Hours Parking

The Pavilion entrance is open Monday-Friday from 5:30 a.m. to 7 p.m. After-hours access to the Pavilion is through the Emergency department. Please see map on page 4.

AFTER-HOURS AND WEEKEND ACCESS TO CARDIOVASCULAR UNIT

Monday – Thursday 7:30 p.m. – 6 a.m.

Friday – Sunday all hours



1. From the Emergency Department, head south toward the parking garage.
2. Locate the Pavilion entrance immediately to the right of the ambulance bay.
3. Press the intercom button to request access to the cardiovascular unit.

DINING OPTIONS IN THE PORTLAND AREA

McMenamins—Mall 205
9710 SE Washington Street
Portland—503-254-5411

Yahala
8005 SE Stark Street
Portland – 503-256-4484

Thai Fresh
8409 SE Division Street
Portland – 503-774-2186

Olive Garden – Mall 205
9830 SE Washington Street
Portland – 503-258-0763

Portland Seafood Grill
9722 SE Washington Street
Portland – 503-255-2722

Village Inn
10301 SE Stark Street
Portland – 503-256-2380

Sayler's Old Country Kitchen
10519 SE Stark Street
Portland – 503-252-4171

Stark Street Pizza Company
9234 SE Stark Street
Portland – 503-255-2364

Red Robin – Mall 205
9880 SE Washington Street
Portland – 503-257-2900

LODGING OPTIONS IN THE PORTLAND AREA

Holiday Inn – Portland Airport
8439 NE Columbia Boulevard
Portland – 503-256-5000

Monarch
12566 SE 93rd Avenue
Clackamas – 503-652-1515

Courtyard – Portland SE
9300 SE Sunnybrook Boulevard
Clackamas – 503-652-2900

Best Western
9901 NE Sandy Boulevard
Portland – 503-256-1504

Quality Inn & Suites
9727 NE Sandy Boulevard
Portland – 503-255-1404

Days Inn
9717 SE Sunnyside Road
Clackamas – 503-654-1699

Chestnut Inn
9699 SE Stark Street
Portland – 503-255-4444

Ramada Portland East
9707 SE Stark Street
Portland – 503-252-7400

Candlewood Suites
11250 NE Holman
Portland – 503-255-4003





ADVENTIST HEALTH TILLAMOOK

LOCATIONS

Medical Office – Plaza
1100 Third Street
Tillamook, OR 97141
503-842-5546

Medical Office – Pacific City
38505 Brooten Road, Suite A
Pacific City, OR 97130
503-965-6555

Medical Office – Manzanita
10445 Neahkahnle Creek Road
Manzanita, OR 97130
503-368-6244

PHONE NUMBERS

Cardiopulmonary Services 503-815-2373
Financial Counselor 503-815-2306
Medical Records 503-815-2395
Patient Representative 503-815-2414
Visitor Information 503-842-4444

IMPORTANT INFORMATION

Your Cardiologist's Name: _____

Office Phone Number: _____

Your Primary Care Physician's Name: _____

Office Phone Number: _____

VISITOR AMENITIES

Food

Garden Spot Café

(located on the first floor near the ER)

HOURS OF OPERATION

Daily from 7:30 a.m. – 6:30 p.m.

Other Amenities

Vending Machines

Vending machines are located outside the Emergency Center and are available 24/7.

Internet Access

You may access the free wireless Internet via your personal laptop computer or by borrowing a hospital laptop. If you have questions, ask your nurse to assist you in accessing the Internet.

ATM

An ATM is located inside the cafeteria for your convenience.

Parking

Free parking is available 24 hours a day, 7 days a week for patients and visitors. Patients and visitors are cautioned not to park in reserved areas or certain designated areas without proper authorization. Please be sure to lock your car while inside hospital facilities. If something happens that causes you to need assistance with your vehicle, please let someone at the front desk know.



DINING OPTIONS IN THE TILLAMOOK AREA

Pacific Restaurant
2102 1st Street
Tillamook – 503-354-2350

Koko's Restaurant & Bar
7300 Alderbrook Road
Tillamook – 503-842-6413

Alice's Country House
17345 Wilson River Highway
Tillamook – 503-842-7927

The Pancake House
212 Main Avenue, Suite B
Tillamook – 503-842-8898

Rodeo Steakhouse & Grill
2015 First Street
Tillamook – 503-842-8288

Rendezvous Bar & Grill
214 Pacific Avenue
Tillamook – 503-842-5453

Fat Dog Pizza
116 Main Street
Tillamook – 503-354-2283

La Mexicana
2203 Third Street
Tillamook – 503-842-2101

LODGING OPTIONS IN THE TILLAMOOK AREA

Ashley Inn
1722 Makinster Road
Tillamook – 503-842-7599

Shilo Inn & Suites
2515 N Main Avenue
Tillamook – 503-842-7971

DRIVING DIRECTIONS

To Adventist Health Portland from Adventist Health Tillamook
Travel time: 1 hour 34 minutes

- 1 Head East on OR-131 E/3rd Street toward Ash Avenue – Drive 0.7 miles
- 2 Continue onto OR-6 E – Drive 50.9 miles
- 3 Merge onto US-26 E – Drive 19.8 miles
- 4 Take the exit onto I-405 S – Drive 1.9 miles
- 5 Continue onto I-5 N – Drive 0.4 miles
- 6 Take Exit 300 to merge onto I-84 E/US 30 E toward Portland Airport/The Dalles – Drive 6 miles
- 7 Take Exit 6 for I-205 S – Drive 0.3 miles
- 8 Keep right, follow signs for Glisan Street/Stark Street – Drive 0.4 miles
- 9 Keep right at the fork, follow signs for Stark Street/Washington Street – Drive 0.4 miles
- 10 Turn left onto SE Washington Street – Drive 0.2 miles
- 11 Turn right onto SE 99th Avenue – Drive 0.2 miles
- 12 Continue onto SE 96th Avenue – Drive 0.1 miles
- 13 Turn left onto SE Main Street – Drive 0.2 miles

Arrive at: 10000 SE Main Street, Portland, OR 97216



BEFORE SURGERY

PREPARING FOR HEART SURGERY

This guide was designed to help you and your family prepare for your upcoming surgery, including what to expect before, during and after your hospitalization. Information is provided about hospital routines, various hospital personnel who will assist in your recovery, as well as what to expect when you go home.

Because you may need assistance with some of your daily activities for the first few weeks after surgery, it is important for you and your family to make a plan for your return home. Case managers are available to provide information and assistance with arranging home care services if needed. If additional therapy is required at discharge, you may be discharged to a skilled nursing facility. Case managers and social workers will help you and your family with this process prior to discharge.

General information about surgical procedures and postoperative care is provided in the following pages. Because each person is unique, your plan of care after surgery may need to be modified to fit your individual needs. We are here to answer your questions and address your concerns. Please feel free to talk with us at any time.

Your active participation in postoperative exercises and treatments greatly speeds your recovery process. Our staff will help you every step of the way.

Please take time to read through this information so you may become familiar with various treatments and routines during your hospital stay.

If you have questions regarding insurance issues, contact the financial counseling:

Prior to services 503-251-6245
After services. 503-251-6170

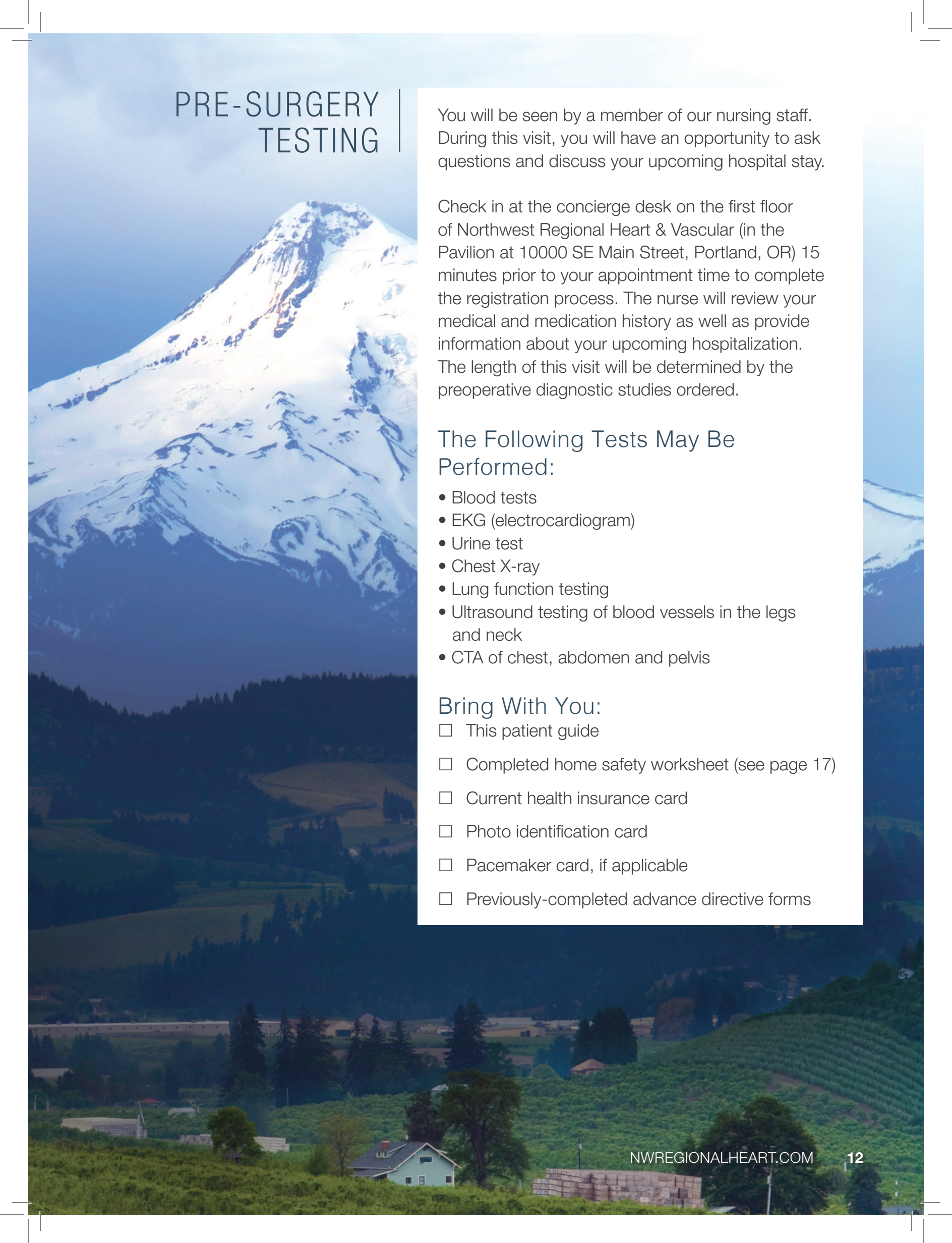
Note: Please bring this book with you when you are admitted to the hospital for your heart surgery.

PREOPERATIVE CARDIAC SURGERY INSTRUCTIONS

Thank you for your visit to Northwest Regional Heart & Vascular and for partnering with us for your heart care. Please contact our office should you have any change of symptoms prior to surgery.

Our office phone number is 503-261-4430.

- 1 We look forward to seeing you for your cardiac surgery on _____.
Please check-in at ____ a.m. on the first floor of the Pavilion at Adventist Health, 10000 SE Main Street.
- 2 The hospital will call for a preoperative testing date. We will see you in the office following this appointment and will update you if any testing results may affect the timing of your surgery.
- 3 Dental clearance is required prior to valve or aortic surgery.
- 4 Begin vitamin and over-the-counter iron supplements, 325 mg once, daily.
- 5 The hospital ____ will ____ will not call you for an IV infusion of iron and Aranesp® to be given prior to surgery.
- 6 Please use your Mupirocin (Bactroban ointment) and Chlorhexidine (Peridex mouthwash) as instructed. Begin 3 days before surgery. These have been faxed to your pharmacy. Please bring these medications with you to the hospital on the day of surgery.
- 7 Please DISCONTINUE using the following medications:
 - Discontinue _____ 7 days before surgery
 - Discontinue _____ 2 days before surgery
 - Discontinue _____ days before surgery
- 8 On the morning of surgery, DO NOT EAT OR DRINK ANYTHING AFTER MIDNIGHT and PLEASE DO NOT TAKE ANY MEDICATIONS.



PRE-SURGERY TESTING

You will be seen by a member of our nursing staff. During this visit, you will have an opportunity to ask questions and discuss your upcoming hospital stay.

Check in at the concierge desk on the first floor of Northwest Regional Heart & Vascular (in the Pavilion at 10000 SE Main Street, Portland, OR) 15 minutes prior to your appointment time to complete the registration process. The nurse will review your medical and medication history as well as provide information about your upcoming hospitalization. The length of this visit will be determined by the preoperative diagnostic studies ordered.

The Following Tests May Be Performed:

- Blood tests
- EKG (electrocardiogram)
- Urine test
- Chest X-ray
- Lung function testing
- Ultrasound testing of blood vessels in the legs and neck
- CTA of chest, abdomen and pelvis

Bring With You:

- ☐ This patient guide
- ☐ Completed home safety worksheet (see page 17)
- ☐ Current health insurance card
- ☐ Photo identification card
- ☐ Pacemaker card, if applicable
- ☐ Previously-completed advance directive forms

HOME SAFETY WORKSHEET

Living situation:

- ☐ Single level
- ☐ Multi-level
- ☐ House
- ☐ Apartment
- ☐ Condo
- ☐ Assisted living facility:

How many steps to get inside your home?

Do the stairs have handrails?

- ☐ Left
- ☐ Right

How many people live with you?

- _____ Spouse
- _____ Children
- _____ Caregiver
- _____ Other

Bathroom contains:

- ☐ Shower stall in bathroom
- ☐ Bathtub only
- ☐ Tub/shower combined
- ☐ Grab bars to hold on to
- ☐ Shower chair/bench in shower

Toilet seat is:

- ☐ More than 22 inches from the floor
- ☐ Raised with extension seat on top

Assistive devices you use:

- ☐ Front wheel walker
- ☐ Cane
- ☐ Other: _____
- ☐ None

Transportation:

Who will provide your transportation to home at the time of discharge?

Name: _____

Phone number: _____

Who will assist you around your home upon discharge from hospital?

Name: _____

Phone number: _____

PREPARATION LIST: DAY OF SURGERY

In spite of our best efforts, it is occasionally necessary to postpone an operation, even at the last minute. We try hard to avoid this, but if it should happen, we ask for your patience and understanding, as well as your cooperation with rescheduling.

Name of procedure:

Date and time of surgery:

Report To:

Northwest Regional Heart & Vascular

Concierge desk – Pavilion

(located in the main lobby on the first floor)

10000 SE Main Street, Portland, OR 97216

Do not eat or drink anything after midnight before your surgery. Before you go to the hospital, talk with your family and designate one person to be the family spokesperson. To avoid misunderstandings, the spokesperson can be responsible for talking with the members of the health care team and passing on news to the rest of the family. This helps keep everyone updated on your progress.

Preparation Checklist:

- ☐ Before surgery, take only the medications that you were instructed to take by your healthcare provider.
- ☐ Bring a list of all medications you are taking (name, dosage, number of times per day) and the reason for taking them. Include over-the-counter medications, herbal supplements and vitamins.
- ☐ Remove fingernail polish and false nails.
- ☐ Shower the night before and again the morning of surgery using the cleansing solution provided during your pre-surgery testing day to minimize the risk of infection.

Packing for the Hospital:

- ☐ Personal hygiene products
- ☐ Eyeglasses, denture cup and/or hearing aids
- ☐ Robe and non-skid slippers
- ☐ Any ambulatory devices such as a cane, walker or prosthesis
- ☐ Insurance cards and photo identification
- ☐ Advance directives (if not already submitted)
- ☐ Prearranged payment if applicable
- ☐ CPAP mask
- ☐ Incentive spirometer
- ☐ Patient Guide provided by your surgeon's office

Please leave valuables at home, such as rings, watches, etc.

MEDICATION LIST

Medication list for: _____

List current as of: _____

Medication	Dose	Morning	Noon	Dinner	Bedtime	As Needed	Reason	Comments	Last Taken

DAY OF SURGERY



DAY OF SURGERY

AT THE HOSPITAL

Admission Process

Report to the concierge desk at Northwest Regional Heart & Vascular on the main level of the Pavilion at [REDACTED] (DATE/TIME). You will be taken to the preparation area and met by your admitting nurse. An identification band will be placed on your arm. This band will be checked frequently during your hospital stay to ensure your safety. Feel free to ask your nurse any questions you have about your upcoming surgery. You will be prepared for surgery by clipping the hair in the surgical area and wiping the skin with an antibacterial solution. Your anesthesiologist will visit you and place intravenous and other monitoring lines.

Chaplain Services

A chaplain is available 24 hours a day to assist you with spiritual and religious concerns.

Surgical Waiting Area

Your family and visitors will be given regular updates during your surgery and will be notified when the surgery is complete and the doctor is ready to update them on your condition.

Length of Hospital Stay

The typical length of stay after heart surgery is 4-7 days. Some patients are ready to go home earlier, while some patients may need a little more time depending on their unique situation.

A NOTE TO FAMILIES WHILE YOUR LOVED ONE IS IN SURGERY

Please remember that your loved one is in good hands and our surgery team will do everything they can to make the surgery go as smoothly as possible.

Once your family member is taken to the operating room, a hospital staff member will obtain a contact phone number for the spokesperson of your family. This will allow the surgery team to contact you and provide you with updates on the progress of the surgery. The surgery can last anywhere from 3-5 hours (or longer) depending on the particular details of the case. The surgery team will give you an estimated completion time and a time when you will be able to visit with your loved one.

You may leave the hospital at any time to run errands or get food. A member of our team will contact you by phone with additional updates or facilitate your meeting with the surgeon when the surgery is complete. Please refer to pages 2-5 of this handbook for hospital amenities and area restaurants.

Should you have any questions or concerns, please speak with the hospital staff member at the concierge desk so that they may assist you. If you have questions or concerns for the surgeon, please write these down in the space provided at the end of this handbook (see page 46). You will have a chance to speak with the surgeon at the end of the procedure to address any of these questions.

AFTER SURGERY



AFTER SURGERY

WHAT TO EXPECT IMMEDIATELY AFTER SURGERY

You will be taken directly from the operating room to the Cardiovascular Unit (CVU). Your family will usually be able to visit within 1-2 hours after your surgery.

Monitoring and Assistance

You will have wires and tubes attached to your body. Special lines to monitor blood pressure and heart function, as well as intravenous lines (IVs) to administer medications and take blood samples, will be present. Small patches will be attached to your chest to monitor heart rhythm. A tube in your bladder will drain urine. Several tubes in your chest will drain fluid that normally collects after heart surgery. You may have a tube that passes through your mouth into the stomach to remove air and decrease the risk of vomiting. You may have temporary pacemaker wires that lay on the surface of the heart and exit through the skin near the chest tubes. The pacemaker wires can be connected to a pacing unit to help regulate the heart rhythm if needed.



Speaking and Breathing

You may not be able to speak immediately after surgery due to a breathing tube in your throat, unless the tube is removed in the operating room. This tube connects to a ventilator that supplies oxygen and air. The breathing tube is usually removed within six hours after surgery, though some people require additional time before it can be removed. Your doctor will determine when you are ready to breathe unassisted. The nurse and respiratory therapist will be in close attendance to assess and care for you while you remain on the ventilator and are unable to speak. The tube may need to be suctioned to remove mucus. You may be asked to cough to help with mucus removal. After tube removal, you will continue to receive oxygen through a mask or nasal cannula. You may have a temporary sore throat and a hoarse voice when the breathing tube is removed.

Pain Medication

Your nurses will provide medication to keep you comfortable. It is very important to use the pain medication to allow you to participate in the postoperative activities and speed your recovery. If you do not receive adequate pain relief or have side effects such as nausea from your medications, let your nurse know so changes can be made to improve your comfort level.

Noise and Alarms

You may notice a great amount of activity and equipment noise during your first 24 hours in the cardiovascular unit. Every machine monitoring your condition has an alarm. It is not unusual for alarms to sound when you move or try to speak. Your nurses are familiar with the machine and know how to respond appropriately. As your recovery progresses, you will be moved to a quieter room within the cardiovascular unit where you will be able to sleep more normally.

Fluid Intake

Once the breathing tube is removed, you will be able to start drinking small amounts of clear liquids such as water, jello, apple juice or broth. It is normal to be very thirsty after surgery. The nurses will be monitoring your fluid intake carefully so it is important that your family members not give you anything to drink without checking with your nurse first.



POSTOPERATIVE ACTIVITIES AND CONCERNS

Coughing and Deep Breathing

You will be asked to cough and breathe deeply every one to two hours for several days after surgery. These breathing techniques help to expand your lungs and prevent pneumonia. Because coughing is uncomfortable, your nurse will show you how to use a support pillow to ease the discomfort. You may receive breathing treatments to help in the removal of secretions. It is important to use your incentive spirometer (breathing device) every one to two hours to help expand your lungs. Your respiratory therapists and nurses will show you how to use this device. Your lung status will be assessed regularly by the Respiratory Therapist and nurses. Your doctor will be contacted if concerns arise.

Physical Activity After Surgery

Soon after the breathing tube is removed, your nurse will help you sit on the edge of the bed or in a chair. This movement helps speed the recovery process by conditioning your muscles, improving your strength and expanding your lungs. A physical therapist will visit you on the day after surgery to determine if any special needs exist and help make plans for your physical activity until you are discharged from the hospital.

The nurses or therapist will help you with walking until all tubes are removed. You will spend less time in bed and more time sitting in a chair or walking in the halls as you get closer to discharge from the hospital. Your energy levels will be low after surgery, even after simple activities. This is normal and will improve as you recover. Cardiac rehabilitation staff will visit you and plan for your enrollment after discharge in cardiac rehabilitation classes.



Eating and Drinking

Once you tolerate clear liquid without problems, your diet will be progressed to include solid foods. The doctor may instruct you to limit fluid intake during the first few days after surgery. Your body may be holding on to fluids given during the surgical procedure and may need time to readjust. Your appetite may be poor and sense of taste temporarily altered, but should improve within a few weeks.

Using the Restroom

Your bladder tube is usually removed a day or two after surgery. Talk to your nurse if you have difficulty with bladder or bowel function.

Leg Wraps

You will wear leg compression wraps to help decrease swelling and prevent blood clots until you are able to walk freely. Avoid crossing your legs while lying in bed or sitting in a chair as this can slow the flow of the blood.

Heart Rhythm

You may be more aware of your heartbeat after heart surgery. This is normal and will diminish as your heart heals. Many people recovering from heart surgery have temporary heart rhythm changes after their surgery, such as atrial fibrillation. This may be caused by irritation and swelling from the surgical procedure. You may feel a fluttering sensation in your chest, shortness of breath or lightheadedness. Let your nurse know if you experience any unusual sensations or an irregular pulse.

POSTOPERATIVE EXPECTATIONS

- 1 You should not lift more than 10 lbs. for the first six weeks after surgery, unless discussed by your surgical team.
- 2 Please make arrangements to have a friend or family member assist with your care for the first two weeks after surgery. If no help is available, our social services team will be happy to assist you in establishing assistance during the postoperative phase. Some patients may require transfer to a rehabilitation facility for one or two weeks prior to going home. Please plan on weekly office visits with your medical providers. **If you do not live in the Portland area, you may be required to stay overnight in a hotel following discharge, then be seen in the surgeons office the following morning before returning home.**
- 3 During the postoperative period, you should contact your surgical team if you have any fever, chills, chest pain, shortness of breath, wound redness or drainage, or any weight gain (more than two lbs per day for two days in a row). We recommend weighing yourself daily and keeping a log (see page 36).
- 4 Sleep, appetite, mood, memory, and mobility can all be temporarily affected after surgery. An oral fluid restriction of less than two liters per day will be in place for the first two weeks after surgery. Your medications may be adjusted during the postoperative phase of recovery.
- 5 Please plan on making follow-up appointments with your cardiologist within [] week(s) from the time of surgery and your primary care provider within [] week(s) from the time of surgery.



RECOVERING AT HOME

SOME COMMON CONCERNS INCLUDE

Recovering from heart surgery takes time. It may take six weeks or longer to return to usual activities. You will have a follow-up office appointment 2-7 days after hospital discharge. The visit will include a chest x-ray and laboratory studies. Bring your medication list with you to this appointment. Questions and concerns will be addressed. Call the surgical office at 503-261-4430 if you have any questions or concerns.

Pain and Discomfort

Your incisions may continue to feel sore. Use your pain medication on a regular basis to keep discomfort under control. Upper back, neck and shoulder soreness is common. Using a heating pad with low heat may help with the soreness.

NOTE: Pain medications are not refilled on weekends or over the telephone.

Weakness and Fatigue

You may feel weak and tire easily when you leave the hospital. Your stamina will gradually increase. Plan to rest between activities and for at least one hour after meals. It is important that you have someone who can help you with your activities and be available at night, should you need assistance for a minimum of one week after surgery.

Sleeping

Your normal sleep patterns may be disrupted from the anesthesia and frequent sleep interruptions during your hospital stay. Controlling your pain with medication at night may help you sleep better. Being active during the day will also help you sleep better at night. Some people find that sleeping in a recliner for the first few weeks at home eases their discomfort and allows for better rest. Your sleep pattern will be discussed at your postoperative visit. If you use a CPAP or BiPAP machine, talk with your doctor about any necessary adjustments.



APPETITE, EATING AND DIGESTION

Loss of Appetite

Loss of appetite and a change in how food tastes is common, but should improve within a few weeks. For the first 2-3 weeks after surgery, you may eat anything that appeals to you except for highly salted foods such as ham, bacon, pickles, canned soups and potato chips, as these foods may cause you to retain fluids. As you heal and gain strength, good nutrition is very important. You may consider using a nutritional supplement (energy bar or high-protein drink) 2-3 times daily if you feel too tired to eat solid foods. Do not “diet” during the first 4-6 weeks after surgery. You may become unable to fight off infections and your incisions may not heal properly if you have inadequate nutrition. If you have diabetes, check with your physician for further guidelines. Once your appetite returns, follow a heart-healthy diet.

NOTE: Nausea and vomiting lasting more than 24 hours may be caused by medication and should be reported to your physician.

Constipation

Constipation is quite common after heart surgery due to anesthesia and narcotic pain medications. Non-narcotic pain medications cause less constipation and may be used if they provide adequate pain control. Drinking adequate fluids and eating a high-fiber diet can also help prevent constipation. Stool softeners are usually prescribed after surgery to prevent straining to have a bowel movement. If this is insufficient, you may need to use a laxative, suppository or enema to stimulate your bowels. Your bowel pattern should return to normal as your diet and activity levels improve.



OTHER CONCERNS

Swelling

Ankle and leg swelling is common after heart surgery. This can be caused by the removal of blood vessels for bypass surgery. This swelling can last 3 months or more. If you had an artery removed from the arm for bypass surgery, you should use a pillow to elevate the arm.

You can help reduce swelling by:

- Moving around frequently during the day
- Avoiding sitting for long periods
- Propping your feet up when sitting
- Scheduling rest periods three times daily for one hour (after each meal)
- Propping your feet and legs up above heart level
- Avoiding crossing your legs

Weight

You should weigh yourself daily in the morning after you urinate and before you eat breakfast. Record your weight and report to your surgeon an increase of 2-3 pounds over two consecutive days (see page 36).

Emotions

You may experience a wide range of negative or unpleasant feelings after heart surgery. You may feel angry, anxious, fearful and depressed about your heart event and the uncertainty of what the future will bring. During the first few days and weeks, you may feel discouraged and feel you should be improving more quickly. You may cry more often. These are completely normal feelings. It may take up to three months for you to feel like yourself again.

More on next page...



Tips to help decrease these feelings include:

- Talk with family members, friends, spiritual advisors, support groups and colleagues
- Be as physically active as possible within the constraints of the home activity guidelines
- Learn as much as you can about your condition—having a plan can help you focus on the changes to help improve your health
- Attend cardiac rehabilitation education and exercise classes

Surgical Incision

Part of the normal healing process may include a small amount of watery or bloody drainage from your incision for about one week after discharge from the hospital. You may place a light gauze dressing over the incision, changing daily or more often if needed. Incisions in the thigh tend to drain more fluid and take a longer time to heal. You may notice bruising on the inner thigh as well. The area around the incision may be itchy, red, sore and numb for many weeks after your surgery. Tingly sensations in the chest area are a normal part of the healing process. Gently wash your incisions daily with soap and water as you shower. Gently pat dry with a soft towel. Do not bathe in a tub until your incisions are completely healed. If you have steri-strips across your incision, they will fall off on their own. Do not remove them until approved by your doctor. Do not use powders, ointments, lotions or creams on your incision or the surrounding area unless prescribed by your surgeon.

Report to your surgeon immediately:

- Cloudy yellow or green drainage
- Smelly drainage
- Unusual tenderness, warmth or redness around the surgical sites
- Fever of greater than 101°F
- Any significant increase in incisional drainage or bleeding



PHYSICAL ACTIVITIES

You will need to limit certain activities until your chest and breastbone are healed.

Please Completely Avoid

Pushing, pulling or lifting anything weighing more than 10 pounds (a gallon of milk weighs nearly 10 pounds).

Any activity that strains your breast bone or requires arm movement until approved by your surgeon such as:

- Vacuuming
- Lifting/carrying groceries or children
- Moving furniture
- Weeding/gardening
- Shoveling
- Opening heavy doors
- Pushing or riding a lawn mower
- Riding a snow mobile or horse
- Riding a bicycle outdoors
- Swimming
- Using arms to assist getting out of a seated position

Watch for Problems During Exercise

- Faintness or dizziness
- Excessive/unusual shortness of breath
- Chest discomfort
- Unusual fatigue

Some Important Things To Consider

It is important to start any exercise program slowly and increase time over a period of weeks.

- Allow time for rest between exercise and other activities to avoid undue fatigue.
- Avoid eating just before exercise. It is best to rest for one hour after meals before starting your exercise session.
- Start at a comfortable pace. Exercise duration should start at about 5-10 minutes, 3-4 times a day. Increase the time by approximately 1-2 minutes per day.
- Attempt to stay on level ground for your walking program. Avoid steep hills.
- When using a stationary bicycle, avoid placing your weight on the handlebars to avoid straining your breastbone. Do not add tension until approved by cardiac rehabilitation staff or your surgeon. Avoid riding a bicycle outdoors to minimize risk of injury in a fall.
- Avoid extremes in temperature when exercising outdoors.

Cardiac Rehabilitation

Cardiac rehabilitation programs provide individualized exercise plans to assist you in improving your exercise tolerance and strength. Cardiac rehabilitation staff will contact you to schedule an orientation visit to the program approximately four weeks after surgery. They are specially trained to modify and adapt exercise programs for patients following heart surgeries.

Education classes will help you with lifestyle changes to decrease your risk of future heart problems. Classes meet 2-3 times weekly for 6-12 weeks. During your exercise sessions, you will wear a heart monitor and have your blood pressure checked regularly. Staff will watch for symptoms and will progress your program based on your responses to exercise. If you live outside the Portland area, staff will assist you in determining the nearest cardiac rehabilitation center to your home.

Benefits of cardiac rehabilitation:

- Increased strength, stamina and endurance
- Increased confidence in your physical abilities
- Education and support for healthy lifestyle changes
- Assistance in determining and reporting problems to your doctor

Contact us at:

Adventist Health Portland
Cardiopulmonary Rehabilitation
(lower level of the Pavilion)
10000 SE Main Street
Portland, OR 97216
503-251-6260



WORK AND HOME ACTIVITY

Driving/Traveling

Do not drive a car, motorcycle, boat or RV until approved by your surgeon. Medications or weakness from your surgery can significantly decrease your reaction time, putting you at higher risk for an accident. Most patients are able to resume driving in 6 weeks after traditional sternotomy procedures.

Wearing a seat belt while riding in a vehicle is important for your safety. If you are riding in a vehicle with a passenger-side airbag, you should sit in the backseat using a shoulder harness. In the event of an accident the airbag may put too much force on the breastbone. Plan to stop every hour to walk around. This will help reduce swelling in your legs. Discuss any long distance travel plans with your physician. It is best not to travel long distances for the first two months after heart surgery.

Sexual Activity

Sexual activity may be resumed whenever you feel ready. When you are able to do light exercise such as walking or climbing stairs, you should be comfortable engaging in sexual activity. Waiting for 2-3 hours after meals or alcohol intake will place less stress on your heart. Choose a position that will put less stress on your arms and breastbone. Stop and rest for a few minutes if you experience chest discomfort, shortness of breath, fatigue or palpitations. If you continue to have these symptoms, contact your physician.

Returning to Work

Your surgeon will determine when you are ready to return to work. Most people are able to return to work 6-8 weeks after surgery. How soon you are able to return depends on your physical condition, the type of surgical procedure you had and the type of work you do. If you have a desk-type job, you will be able to return to work sooner than if your job requires strenuous physical activity.



DIABETES AND LIFESTYLE MANAGEMENT

Diabetes Management

Blood sugars may be higher than usual during the healing process. Adjustments may need to be made to your diabetes medication regimen. Call your primary care physician if your blood sugar is higher than usual.

- Be sure to check your incisions daily and notify your doctor of any signs of infection. High blood sugars can interfere with the healing process.
- Poorly controlled diabetes increases your risk of future heart and blood vessel problems.
- Check your blood sugars as directed by your doctor.
- Maintain a record of your blood sugars.
- Notify your doctor if you have difficulty keeping your blood sugars within the recommended range.
- Exercise regularly.
- Lose weight if needed.
- Take your medication as directed by your doctor.

Recovery After Heart Surgery

Heart-healthy lifestyle changes that are important to your recovery include:

- Quitting smoking
- Treating high cholesterol
- Managing high blood pressure and diabetes
- Exercising regularly
- Maintaining a healthy weight
- Eating a heart-healthy diet
- Participating in cardiac rehabilitation
- Regular follow-up with your doctor



WEIGHT LOG SHEET

Weight log for: _____

Date started: _____

	Week 1				Week 2				Week 3			
	WEIGHT		PULSE	BLOOD PRESSURE	WEIGHT		PULSE	BLOOD PRESSURE	WEIGHT		PULSE	BLOOD PRESSURE
	AM	PM			AM	PM			AM	PM		
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												
Sunday												

COUMADIN LOG SHEET

Coumadin log for: _____

Date started: _____

	Week 1		Week 2		Week 3	
	INR	DOSE	INR	DOSE	INR	DOSE
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						

A NOTE TO FAMILIES WHILE YOUR LOVED ONE IS RECOVERING

Your loved one will be experiencing many different types of emotions during the recovery process. These emotions can range from levels of pain to depression. The most important task you can do to help them during their recovery period is to be understanding and know when to call the surgeon's office with questions.

Here are just a few things your loved one may experience:

- Irritability
- Discouragement
- Anger
- Sadness
- Pain
- Lack of motivation

Things to remember to help your loved one recover:

- Recovery takes approximately 6-8 weeks. Please be patient and don't overdo it.
- Encourage them to express their feelings. Write them down in a journal.
- Don't be overprotective. A list of do's and don'ts will be given to the patient at discharge. Follow that list and allow them to recover at their own pace.
- Make sure they are taking their medications when needed. It is important to keep the patient's pain at a tolerable level. Please call the surgeon's office if there are any questions regarding medications.
- Work with your loved one to start a healthy lifestyle. This can include diet, exercise, smoking cessation and weight control.

Please don't hesitate to call the surgeon's office with any questions or concerns regarding the patient's recovery. Our office is here to help make your loved one's recovery as seamless as possible.

MEDICATIONS

GENERAL MEDICATION GUIDELINES

NOTIFY YOUR DOCTOR IF YOU NOTICE

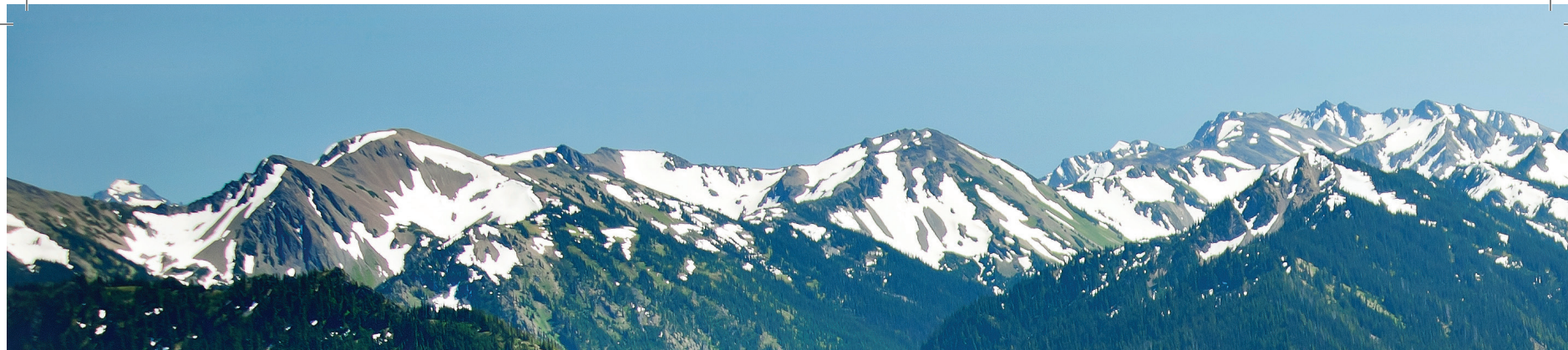
- Blurred vision or a yellow halo around objects
- Rapid or irregular pulse
- Pulse that's less than 50 beats per minute (check your pulse daily before taking your digoxin)
- Nausea, vomiting, diarrhea or loss of appetite for more than two days

You will be given a list of medications to take when you go home. Your provider will review the list of medications prescribed prior to admission and develop a list of medications to be taken after discharge from the hospital.

Take only these medications:

- Always carry an updated list of your medications.
- Know the names of your medications and what they are used for.
- Inform your doctor if you use vitamins, supplements or herbal products.
- Know if your medications interact with other drugs you take. This information can be found in the information accompanying your prescription. Your pharmacist is also an excellent resource regarding medication questions.
- Never increase, decrease or stop your medications without your doctor's approval. Notify your doctor if you experience side effects from your medications.
- Call your physician if your prescription is running low and no refills remain to determine if you should continue taking the medication.
- If you miss a dose of medications you take once daily, take a dose when you remember it.
- If you miss a dose of medication you take more than once daily, wait until it is time to take your next dose. DO NOT double the dose.

Refills for pain medication are not available over the phone or on weekends.



COMMON MEDICATIONS AFTER HEART SURGERY

Aspirin

Aspirin is used to prevent platelets (cells in your bloodstream) from forming small clots within the new bypass grafts. You can expect to take aspirin for the rest of your life. If you have pain, use a non-aspirin pain reliever, such as acetaminophen (Tylenol) instead of taking additional aspirin. You should also avoid non-steroidal, anti-inflammatory drugs (NSAIDS) such as ibuprofen (Advil, Motrin), as they may reduce aspirin's effect on platelets.

Beta Blocker Medications

(Metoprolol, Carvedilol, Atenolol)

Beta blockers slow your heart beat and lower blood pressure to decrease how hard your heart works. (Do not stop taking medication without talking to your doctor.)

Lipid (Cholesterol) Lowering Medications

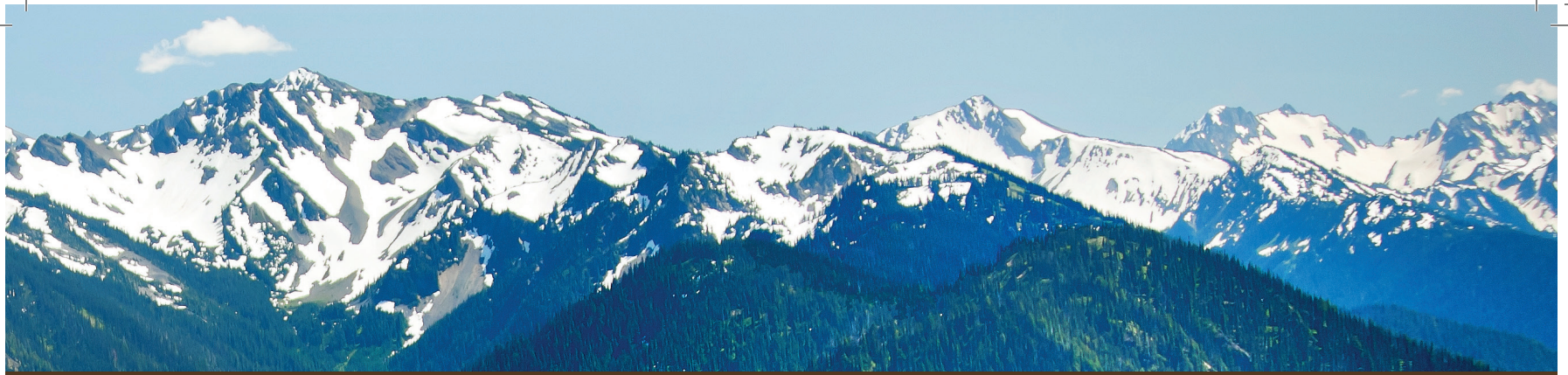
(Crestor, Lipitor, Simvastatin, Pravachol, Vytorin, Zetia, Lovastatin)

These medications block the production of or absorption of fat and cholesterol, causing a decrease in the amount of cholesterol in your blood. A low-fat diet along with cholesterol medications can significantly lower your cholesterol levels and inflammation in the arteries to decrease the risk of future plaque development or rupture (heart attack).

ACE Inhibitor Medications

(Lisinopril, Enalapril, Altace, Lotrel)

ACE inhibitors help dilate blood vessels and improve blood flow throughout the body. Dilating blood vessels helps decrease blood pressure and reduces how hard the heart must work. (Be sure to notify your doctor's office if you notice dizziness or a persistent dry cough.)



HEART RHYTHM MEDICATIONS

Digoxin

Digoxin helps to strengthen the contraction of the heart, improves the pumping action and can help the heart beat more regularly. Your doctor may periodically check the amount of digoxin in your blood to be sure you are not getting too much.

Amiodarone, Pacerone, Cordarone, Sotalol, Cardizem, Rythmol, Verapamil

Antiarrhythmic medications are used to treat irregular or troublesome heart rhythms. Call your doctor's office if you have difficulty breathing, rapid or irregular heart beat, nausea, vomiting, dizziness or lightheadedness, or if your pulse is consistently less than 60 beats per minute.

BLOOD THINNERS

Plavix (Clopidogrel): Plavix is a blood thinner that helps prevent stroke, heart attack and other heart problems.

Pradaxa (Dabigatran): Pradaxa is used to prevent blood clots and to reduce the risk of stroke in people with a certain type of heart rhythm disorder.

Eliquis® (Apixaban): Eliquis is used in people with atrial fibrillation (a heart rhythm disorder) to lower the risk of stroke caused by a blood clot.

Warfarin (Coumadin, Jantoven): Warfarin is an anticoagulant used to prevent the formation of blood clots. People who have had certain heart valves placed receive Warfarin to prevent the formation of clots on the artificial valve. When atrial fibrillation is present, Warfarin may be prescribed to decrease the risk of clots forming in the upper chambers of the heart. Regular blood tests (INR or Protime) are needed to measure how long it takes for the blood to clot. Your doctor will determine the

More on next page...



appropriate INR level for you. You can expect to have INR levels drawn once or twice weekly for the first few weeks after discharge. When the dose of Warfarin stabilizes, your need for INRs may decrease to every four weeks. You will require INR testing as long as you are taking Warfarin. Please use the Coumadin Log on page 37 to help keep track of your INR results at home.

Some general information about Warfarin:

- Take your daily Warfarin in the EVENING.
- Warfarin is available as two brands, Coumadin and Jantoven, as well as generic products. It is important to use the same brand consistently when you get refills. Talk to your pharmacist if you notice a change in your medication's appearance, to be sure you are using the same brand.
- Do not take aspirin-containing medications unless ordered by your doctor.
- Read medication labels. Some cold medications contain aspirin and should be avoided.
- You may use aspirin-free or non-aspirin pain relievers such as Tylenol (acetaminophen).
- Ask your doctor or pharmacist before taking any herbal products. Several herbs can increase your risk of bleeding or reduce the effectiveness of Warfarin. Common examples include garlic, ginseng, ginkgo, black cohosh, dong quai, St. John's wort and evening primrose.
- Learn your dose of Warfarin by the milligram (mg), not by how many pills you take.
- Alcohol may interfere with your body's ability to absorb Warfarin. Limit your alcohol intake to no more than two drinks in a 24-hour period.
- Wear a MedicAlert® bracelet to alert others that you are on Warfarin.
- Notify your physician prior to a long vacation so arrangements can be made for INR testing while you are away.

KEEP YOUR DIET CONSISTENT

Other medications can affect your INR level while on Warfarin. Medications that can increase INR levels include antibiotics, antiarrhythmics, antacids, aspirin, laxatives and antihistamines. Vitamin supplements (vitamin K, A, C and E, and coenzyme Q10) and tobacco can decrease INR levels. It is important to notify your doctor whenever you start or stop taking a medication including non-prescription and herbal products.

Dietary changes can affect your INR level. Keep your diet consistent. The following foods contain vitamin K and may affect your INR level. Variations in these foods may also affect your INR level.

Avoid using vitamin supplements and eating foods containing vitamin K:

- Avoid foods high in vitamin K including beef and pork liver, garlic, green tea, broccoli, brussels sprouts, cauliflower, chickpeas (garbanzo beans), kale, spinach, turnip greens, cabbage and asparagus.
- Avoid or limit foods moderate in vitamin K including chicken liver, cheddar cheese, oats, coffee (regular or decaffeinated) and lettuce.
- Focus on foods low in vitamin K including apples, bananas, oranges, pears, strawberries, soybean oil, eggs, lean meats, butter, nonfat or 1% milk, rice, white bread, corn, green beans, potatoes, pumpkin and tomatoes.

Report any signs of bleeding to your doctor:

- Bleeding gums
- Black or bloody stool
- Excessive menstrual bleeding
- Bloody or red urine
- Coughing up or vomiting blood (it may look like coffee grounds)
- Excessive bleeding
- Severe or prolonged headache
- Severe abdominal pain
- New onset of joint pain
- Nose bleeds



WHEN TO CALL YOUR SURGEON

**Contact your surgeon's office at 503-261-4430
if you experience any of the following:**

- Fever greater than 101°F
- Redness, cloudy yellow or green drainage from your incisions
- Any significant increase in incisional drainage or bleeding
- Any open areas on your incisions (inspect daily)
- Sudden dizziness
- Chest pain (angina) or discomfort similar to what you had before surgery
- Palpitations or irregular heartbeat
- Shortness of breath that is not relieved by rest
- Increased fatigue that does not get better in 2-3 days
- Increased swelling of legs and feet
- Rapid weight gain (2-3 pounds over a two-day period)

THE CIRCULATORY SYSTEM





CARDIOVASCULAR OVERVIEW

The cardiovascular system (heart and all blood vessels) is responsible for delivering oxygen and nutrients to each cell in your body. Your heart never sleeps, takes a break or goes on vacation.

Your system of blood vessels—arteries, veins and capillaries—is over 60,000 miles long. That's long enough to go around the world more than twice! The adult heart pumps about five quarts of blood each minute—approximately 2,000 gallons of blood each day—throughout the body. The heart beats about 100,000 times each day. Blood takes about 20 seconds to circulate throughout the entire vascular system. The heart contracts because of the movement of electrical impulses. An electrocardiogram (EKG) shows the movement of the electrical impulses through the heart tissue.

The heart contains four chambers. The heart contracts and squeezes blood out of the chambers and then relaxes to allow blood to enter the chambers.

YOUR CORONARY ARTERIES

Right and Left Coronary Arteries

The left main coronary artery is the first branch off of the aorta. It quickly divides into the left anterior descending artery and the circumflex artery. These vessels supply blood to most of the left side of the heart. The right coronary artery is the second branch off the aorta. It supplies blood to most of the right side of the heart.



CORONARY ARTERY DISEASE

Coronary artery disease is the most common type of heart disease. The gradual buildup of fat deposits (atherosclerosis) and scar tissue in the artery walls can progress to the point that blood flow through the arteries is limited. This can starve the heart muscle of oxygen and nutrients essential for proper functioning. You may experience angina if the flow of blood is severely limited.

Angina symptoms may include:

- Chest aching
- Heaviness
- Burning
- Fullness
- Sharp pain across the chest or abdomen

The discomfort may radiate to the neck, jaw, arms, shoulders, back or upper abdomen. Angina usually lasts a few minutes and can be brought on by physical exertion or stress. Angina will usually go away with rest or if you take a nitroglycerin tablet. Some people may have very few, if any angina symptoms. People with diabetes often have no symptoms of angina. Other symptoms to watch for could include shortness of breath, fatigue or indigestion.

A heart attack or myocardial infarction can occur if one of the fatty deposits in the artery wall breaks, leading to the formation of a clot, which blocks the movement of blood through the artery. Heart tissue downstream from the clot becomes starved for oxygen and nutrients and the cells will die.



Risk factors for coronary artery disease include:

- **Age.** As we grow older, the risk for damaged and narrowed arteries increases.
- **Gender.** Men and women are equally at risk for coronary artery disease. However, women tend to develop coronary artery disease later.
- **Family history.** A family history of heart disease is associated with a higher risk of coronary artery disease, especially if a close relative developed heart disease at an early age. Your risk is highest if your father or a brother was diagnosed with heart disease before age 55, or your mother or a sister developed it before age 65.
- **Smoking.** Nicotine constricts your blood vessels and carbon monoxide can damage their inner lining, making them more susceptible to atherosclerosis. In women who smoke at least 20 cigarettes a day, the incidence of heart attack is six times that of women who have never smoked. For men who smoke, the incidence is triple that of nonsmokers.
- **High blood pressure.** Uncontrolled high blood pressure can result in hardening and thickening of your arteries and changes the ability of the ventricles to move blood effectively.
- **High blood cholesterol levels.** High levels of cholesterol in your blood can increase the risk of formation of plaques and atherosclerosis.
- **Diabetes.** Diabetes increases the risk of coronary artery disease. Both diabetes and heart disease share similar risk factors, such as obesity and high blood pressure. It is important to control blood glucose levels.
- **Obesity.** Excess weight typically worsens other risk factors.
- **Physical inactivity.** Lack of exercise is also associated with coronary artery disease and some of its risk factors.
- **High stress.** Unrelieved stress in your life may damage your arteries as well as worsen other risk factors for coronary artery disease.

YOUR HEART VALVES

The heart has four major valves. The valves allow blood to flow in one direction.

- The MITRAL and TRICUSPID valves control the flow of blood from the upper chambers (atria) to the lower chambers (ventricles)
- The AORTIC and PULMONIC valves control the flow of blood out of the ventricles

There are two common conditions that happen when a heart valve becomes defective:

1. Stenosis—this is due to narrowing of the heart valve
2. Regurgitation—this is due to leaking of the heart valve



HEART SURGERIES

Coronary Artery Bypass Graft Surgery (CABG)

Your doctor may recommend CABG surgery if one or more of your coronary arteries is blocked to help improve blood flow and preserve heart function. CABG typically requires opening the chest cavity and using a heart-lung bypass machine to circulate the blood and add oxygen. A new path is created for blood to reach areas of the heart downstream from the original blockage.

The arteries or veins commonly used to bypass the blockages are:

- **Internal mammary artery from inside the chest wall.** The surgeon frees one end of the artery from the inner surface of the chest wall and sews it to the coronary artery downstream from the blockage.
- **Saphenous vein from the legs.** The surgeon uses a piece of the vein and carefully sews one end to the aorta and the other end to just below the blockage.
- **Radial artery from the inside of the lower arm.** The surgeon uses a piece of the artery and carefully sews one end to the aorta and the other end to just below the blockage.

Beating-heart Surgery (BHS)

Beating-heart surgery is different from the standard CABG surgery. BHS does not require that your heart be stopped during the bypass procedure. The off-pump coronary artery bypass (OPCAB) technique requires the same incision as traditional CABG surgery. OPCAB eliminates the use of a heart-lung bypass machine and may not require temporary clamping of the aorta. This type of surgery may be performed depending on the location and number of diseased arteries.

VALVE REPLACEMENT

Traditional Valve Surgery

During traditional valve surgery, your surgeon makes a six- to eight-inch incision down the center of the sternum, dividing it to provide direct access to the heart. The surgeon then repairs or replaces the abnormal heart valve or valves.

Valve Repair

During valve repair, a ring may be sewn around the opening of the valve to tighten it. Other parts of the valve may be cut, shortened, separated or made stronger to help the valve open and close correctly.

Valve Replacement

If a valve can't be repaired, part or all of the damaged valve and its supportive structures may be removed and replaced with a mechanical or biological prosthetic valve.

- **Mechanical valves are created from man-made materials and are designed to last for many years.** It is uncommon that the valve would fail or wear out in the patient's lifetime. However, there is an increased risk of blood clots forming with mechanical valves. As a result, those people with mechanical valves must generally take anti-coagulant (blood thinning) drugs such as Warfarin for the rest of their lives. Warfarin requires close monitoring of blood tests to decrease the risk of bleeding.
- **Biological (tissue) heart valves are taken from pig, cow or human donors,** such as heart valve tissue or pericardial tissue. The tissue is treated to prevent rejection and calcification. In some cases a homograft—a human aortic valve—can be implanted. Homograft valves are donated by patients and harvested after the patient dies. The durability of homograft valves is comparable to porcine and bovine tissue valves. However, the valve may not last as long as mechanical valves since they do not require anticoagulants.



AORTIC SURGERIES

Antibiotics with Artificial (Prosthetic) Valves

Because of increased risk for developing an infection on the valve, preventative or prophylactic antibiotics may be required when having dental work or some other medical procedures. Your doctor will advise and prescribe antibiotics when you need them. Be sure to inform your dentist about your new valve.

When surgery is required for aortic aneurysm or aortic dissection, the weakened portion of the aorta is removed and replaced with a tube of synthetic material, typically made from woven Dacron. Damage to the aorta leading to the formation of an aortic aneurysm or dissection can also cause problems with the aortic valve. In some patients, the aortic valve and the weakened portion of the aorta will both be replaced or repaired at the time of surgery.

MINIMALLY INVASIVE CARDIAC SURGERY

Several new methods have been developed to minimize the invasiveness and risks involved with heart surgery. Minimally invasive heart surgery is performed through smaller incisions. Minimally invasive surgery may be used for cardiac operations including mitral valve disease, aortic valve disease, atrial fibrillation ablation surgery, septal defect closures and removal of cardiac tumors. This approach reduces blood loss, trauma and length of hospital stay. Your surgeon will evaluate your situation and use the most appropriate surgical approach for you.

Robotic Surgery

In some cases, minimally invasive valve surgery can be done using a robot. Robotic-assisted minimally invasive surgery is also applicable to many cardiac operations including mitral valve disease, atrial fibrillation ablation surgery, septal defect closures, removal of cardiac tumors and placement of pacemaker leads. Your surgeon will review your diagnostic tests and determine if you are a candidate for this type of surgery.

During the Procedure

You will be placed under general anesthesia for the surgical procedure. A surgeon will make a series of keyhole-sized incisions on the side of your chest. These incisions will align with the openings between your ribs.



Depending on the procedure being performed, several precision-guided robotic arms will be inserted into these incisions. These robotic arms hold and manipulate tiny instruments in order to perform the required tasks on the heart or surrounding arteries. A tiny video camera will be inserted into another incision to provide a magnified, three-dimensional image of the operating site. The surgeon will control the robotic arms and camera from a special console located within the operating room. On completion of surgery, the surgeon will remove the instruments and close the incisions.

How Will I Feel After Surgery?

You may feel some discomfort at the incision site after surgery. You can take medications to help relieve this discomfort. Ask your doctor what medication you should take for pain relief. If you have discomfort in your chest that is similar to the symptoms you had before your surgery, call your doctor.

Recovery

Patients who have minimally invasive or robotic surgery may be able to go home 2-5 days after surgery. Your health care team will follow your progress and help you recover as quickly as possible. Your health care team will provide specific instructions for your recovery and return to work, including guidelines for activity, driving, incision care and diet.

Recovery After Minimally Invasive Heart Surgery

In general, you may be able to return to work (if you have a sedentary job), resume driving and participate in most non-strenuous activities within 1-4 weeks after minimally invasive heart surgery. Traditional sternotomy heart surgery restricts driving for six weeks. You can resume heavy lifting and other more strenuous activities within 6-8 weeks after surgery. Your health care team will provide specific guidelines based on your rate of recovery.

Recovery After Robotic-Assisted Heart Surgery

The recovery time after robotic-assisted heart surgery is shorter than traditional heart surgery. Most patients can resume normal activities, drive and return to work as soon as they feel up to it.

[illegible]



Adventist Health Portland and OHSU are working together to better serve our patients and community. By uniting the strengths of Oregon's only academic medical center with those of Adventist Health Portland's system, patients have access to a greater range of care.

Adventist Health will be with you through each step of your care. Your care is our first priority.