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#### NORTHWEST REGIONAL HEART AND VASCULAR

## Your electrophysiology team



Fawaz Alhumaid, MD Electrophysiology



Angela Lewis, PA-C



Brian Moyers, MD
Electrophysiology



Thomas Molloy, MD Cardiothoracic Surgery

# At Northwest Regional Heart and Vascular, we emphasize teamwork.

During your visit with us, you will interact with not only your physician, but with physician assistants (PAs), nurses (RNs), radiology technologists (RTs) and certified electrophysiology specialists (CEPSs) who all have special training in electrophysiology and work together to provide you quality care.



## Adventist Health Portland

#### Northwest Regional Heart and Vascular

10000 SE Main Street, Suite 60, Portland, Oregon 97216  $_{\rm TEL}\,503\text{-}257\text{-}0959$ 

#### Phone numbers

Cardiovascular unit (overnight stay)	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

## Your important numbers

Your electrophysiologist's name	Office phone #
Your cardiologist's name	Office phone #
Your primary care physician's name	Office phone #



### 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. Ozzie's Deli (located in the Pavilion)

#### Hours of operation

Monday – Thursday, 7 a.m. – 7 p.m. Friday, 7 a.m. – 3:30 p.m. Closed on weekends

#### Other amenities

**Vending machines and ATM:** 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 Portland. 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 dropoff 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. – 7 p.m.

After-hours access to the Pavilion is through the emergency room.

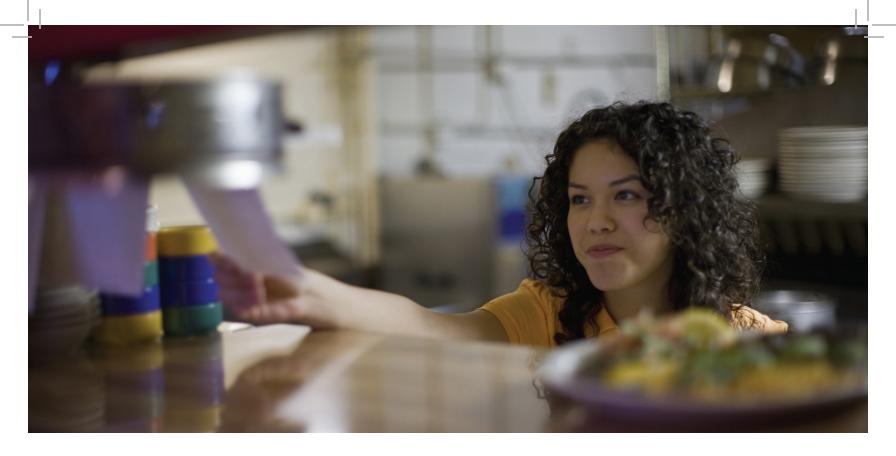
Please see map on page 7.



### After-hours and weekend access

Monday – Thursday, 7:30 p.m. – 6 a.m. Friday – Sunday, all hours

- 1. From the Emergency room, 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.



## Nearby dining options

#### **McMenamins**

9710 SE Washington Street Portland | 503-254-5411

#### **Olive Garden**

9830 SE Washington Street Portland | 503-258-0763

#### Sayler's Old Country Kitchen

10519 SE Stark Street Portland | 503-252-4171

#### Yahala

8005 SE Stark Street Portland | 503-256-4484

#### **Portland Seafood Grill**

9722 SE Washington Street Portland | 503-255-2722

#### **Stark Street Pizza Company**

9234 SE Stark Street Portland | 503-255-2364

#### **Thai Fresh**

8409 SE Division Street Portland | 503-774-2186

#### Village Inn

10301 SE Stark Street Portland | 503-256-2380

#### Red Robin - Mall 205

9880 SE Washington Street Portland | 503-257-2900

### Nearby lodging options

#### Holiday Inn — Portland Airport

8349 NE Columbia Boulevard Portland | 503-256-5000

#### **Best Western**

9901 NE Sandy Boulevard Portland | 503-256-1504

#### **Chestnut Inn**

8

9699 SE Stark Street Portland | 503-255-4444

#### Monarch

12566 SE 93rd Avenue Clackamas | 503-652-1515

#### **Quality Inn & Suites**

9727 NE Sandy Boulevard Portland | 503-255-1404

#### **Ramada Portland East**

9707 SE Stark Street Portland | 503-252-7400

#### Courtyard — Portland SE

9300 SE Sunnybrook Road Clackamas | 503-652-2900

#### **Days Inn**

9717 SE Sunnyside Road Clackamas | 503-654-1699

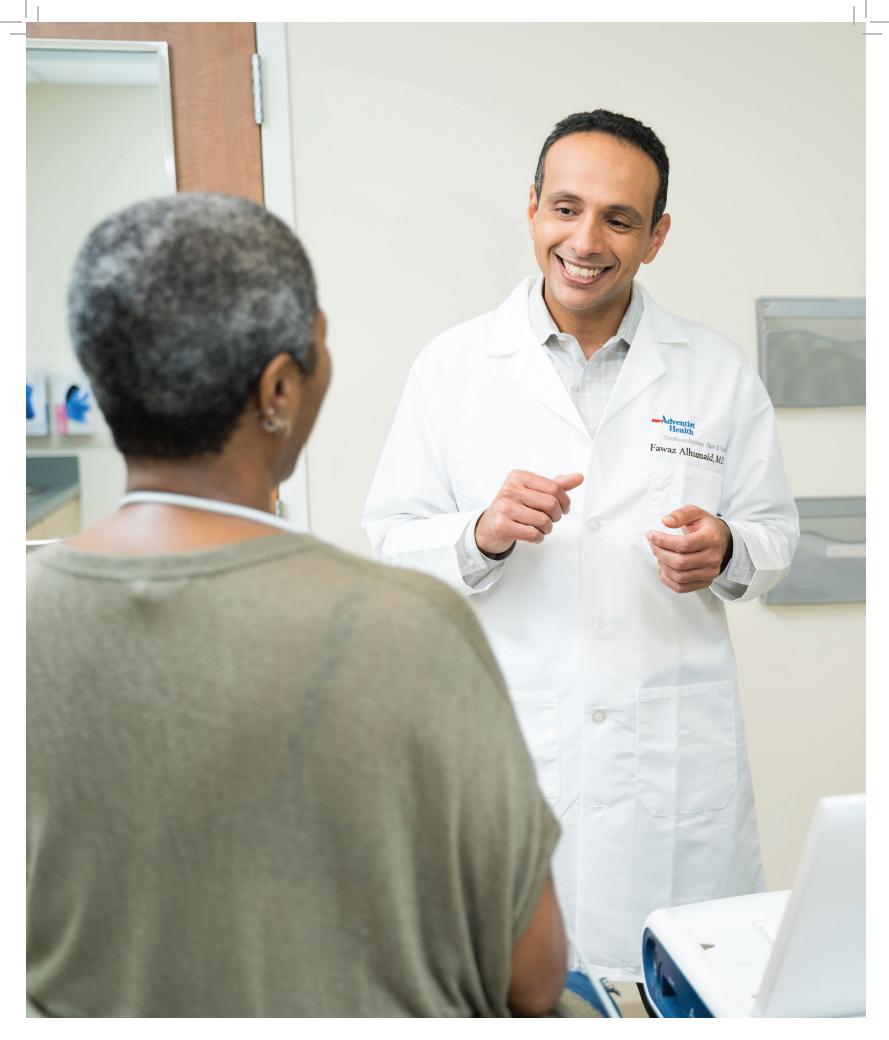
#### **Candlewood Suites**

11250 NE Holman Street Portland | 503-255-4003

## Home safety worksheet

Living situatio	n			
☐ Single level	☐ Multi level	☐ House	☐ Apartment	☐ Condo
☐ Assisted living fa	acility:			
How many step get inside your				ne stairs have handrails? □ No If yes, □ Left □ Right
How many pe	ople live with	you?		
Spouse _	Children	Caregiver	Other	
Bathroom cor	itains:			Toilet seat is:
☐ Shower stall ☐	Bathtub only	☐ Tub/shower co	ombined	$\square$ More than 22 inches from the floor
$\square$ Grab bars to ho	d on to 🗆 Show	/er chair/bench i	n shower	$\hfill\square$ Raised with extension seat on top
Assistive device	es you use:			
☐ Front wheel wal	ker 🗆 Cane	☐ Othe <u>r:</u>		None
Transportation	٦			
Who will provide ye	our transportation	home when you	ı are discharged?	
Name:			Phone	number:
Who will assist you	around your hom	e when you leav	e the hospital?	
Name:			Phone	number:





#### **OVERVIEW OF SERVICES**

Northwest Regional Heart and Vascular offers extensive electrophysiology resources for diagnosing and treating heart rhythm disorders — and some of the most experienced electrophysiologist specialists in the state.

Our team provides a variety of services including:

#### **Catheter ablation**

Catheter ablation is a minimally invasive procedure to treat heart rhythm disorders. Using either radiofrequency energy ("heating") or cryoablation ("freezing"), this procedure eliminates the abnormal electrical signals or pathways that cause the irregular heartbeat. Ablation can be used to treat many types of arrhythmias, and we specialize in treating complex heart rhythm disorders.

#### **Electrophysiology study**

A diagnostic electrophysiology study is one of the best ways to determine how well your heart is functioning and whether there are any underlying heart rhythm abnormalities. By measuring and analyzing the electrical activity in your heart, we can help you proactively identify symptoms and gain a deeper understanding of your heart function and condition.

#### Permanent pacemaker implantation

A pacemaker is a small device that is implanted under the skin and attached to the heart with wires called leads. This device stimulates the heart with electrical impulses to prevent the heart from beating too slowly.

#### Implantable cardioverter defibrillator (ICD)

An ICD is a small battery-powered device placed under the skin in your chest to monitor for dangerous heart rhythms. An ICD can deliver electric shocks via one or more wires connected to your heart to fix a life-threatening heart rhythm.

#### **Cardiac resynchronization therapy (CRT)**

This procedure, also known as biventricular pacing, works to restore the normal electrical activation of your heart's bottom chambers (also called ventricles). This unique type of pacemaker targets both lower chambers to allow them to beat in unison again.

#### Left atrial appendage occlusion

In certain patients with atrial fibrillation who are at elevated risk of stroke, this minimally invasive procedure can be used as an alternative to blood thinning medications. An occlusion device can be implanted in a part of the heart called the left atrial appendage to prevent blood clots from entering the bloodstream, decreasing stroke risk.



## Heart rhythm disorder overview

An intricate system of electrical impulses causes your heart to beat. When something goes wrong with that system, you could experience an arrhythmia, or an irregular beat of your heart. Your heart may race, go too slow or feel like it's fluttering. Though a rare and brief heart palpitation may be harmless, it's important to check with your physician to make sure you don't have a more serious heart rhythm disorder, such as:

Atrial fibrillation (also called Afib) is the most common heart rhythm disorder. With Afib, disorganized electrical signals cause your heart's two upper chambers — the atria — to contract very fast, irregularly and out of sync with the heart's lower two chambers (ventricles). This results in a rapid, irregular heartbeat. Left untreated, atrial fibrillation can lead to stroke and heart failure, which is why accurate diagnosis and prompt treatment are so important.

Atrial flutter is another common heart rhythm disorder similar to Afib. When you have atrial flutter, the upper chambers of your heart (the atria) beat regularly but too fast for the lower chambers (the ventricles). You can have both atrial flutter and Afib. Like with Afib, untreated atrial flutter increases your risk of stroke and heart failure, making prompt and accurate diagnosis and treatment imperative.

Ventricular tachycardia occurs when the lower chambers of your heart — the ventricles — receive abnormal electrical signals. This causes your heart to beat too fast. When it's beating too fast, your heart may be unable to pump enough blood around your body. This can lead to dizziness, fainting or even cardiac arrest, so getting to your physician for diagnosis and treatment is vital.

**Supraventricular tachycardia** (SVT) is also an abnormally fast heartbeat. In SVT, the abnormal

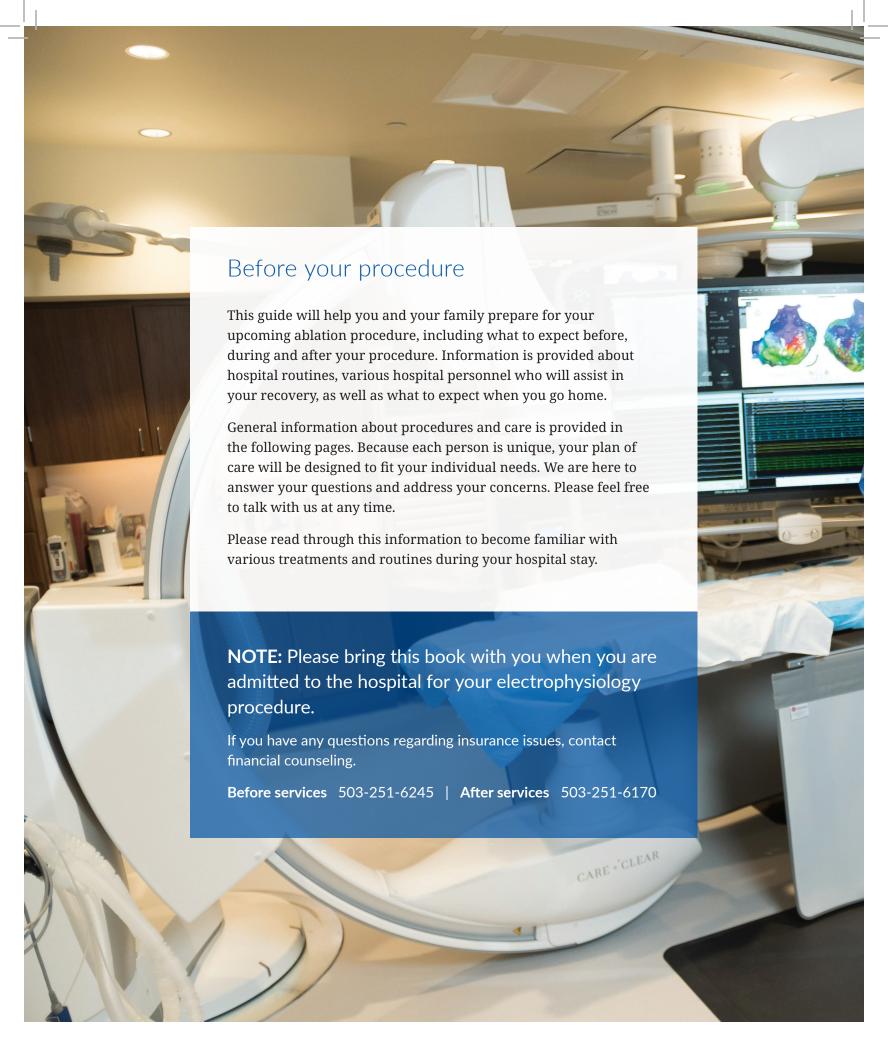


electrical impulses come from above the ventricles — either in the upper chambers of your heart (the atria), or where your heart's electrical system connects the upper and lower chambers in the atrioventricular (AV) node. SVT is most dangerous for people with other heart problems, so it's important to visit your physician if you sense your heart is racing for no reason.

**Sinus node disease** results when the hearts own pacemaker cells slow down and result in the heart beating too slowly. This can result in symptoms of fatigue, exercise intolerance, dizziness, or passing out.

Heart block is a condition where electrical signals from the top chambers of the heart cannot normally pass to the bottom chambers. Complete heart block, meaning no signals can pass from the top to the bottom chambers, is often a medical emergency.

Left bundle branch block (LBBB) is a condition where one half of the normal electrical conduction system in the bottom of the heart is not working properly. This can result in one side of the heart being activated before the other. This is called "electrical dyssynchrony" and can sometimes result in a weakening of the heart muscle. When the LBBB is believed to cause a weakening of the heart muscle, it can be treated by Cardiac Resynchronization Therapy (CRT).





## Preparing for your procedure

Thank you for your visit to Northwest Regional Heart and Vascular and for partnering with us for your heart care. Please contact us should you have any change of symptoms before your procedure.

Our office phone number is 503-251-2500.

- 1. Please bring this patient guide, current health insurance card, photo identification card, pacemaker card (if applicable), current medication list and any previously completed advance directive forms.
- 2. Your electrophysiologist may request pre-procedural testing. Before your procedure, the office will notify and help schedule any required testing.
- 3. Please refer to your patient instructions for medication changes.
- 4. On the morning of the surgery, **do not eat or drink** anything after midnight.

## Packing for the hospital

Personal hygiene products
CPAP mask
Eyeglasses, denture cup and/or hearing aids
Any ambulatory devices such as a cane, walker or prosthesis
Insurance cards and photo identification
Advance directives (if not already submitted)
This patient guide provided by your electrophysiologist's office
Please leave valuables at home (rings, watches, etc.)

## We look forward to seeing you.

VOLIR PROCEDURE

TOOKTROCEDOR	_	
DATE		
TIME		
Please check in at		a.m.
on the first floor of	f the Pavil	ion at
Adventist Health P	ortland, 1	0000
SE Main Street.		

In spite of our best efforts, it is occasionally necessary to postpone a procedure, even at the last minute. We try hard to avoid this, but if it should happen, we ask for your patience and understanding.

### Day of your procedure

Report to: Northwest Regional Heart and Vascular

Pavilion concierge desk (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 procedure. Before you go to the hospital, talk with your family and designate one person to be the family spokesperson. This helps keep everyone updated on your progress.

Preparation checklist

- Before your procedure, take only the medications you were instructed to take by your health care provider.
- Bring a list of all medication you are taking (name, dosage, number of times per day) and the reason for taking them. Include over-thecounter medication, herbal supplements and vitamins.
- Remove nail polish and false nails.

#### At the hospital

#### **Admission process**

Report to the concierge desk at Northwest Regional Heart and Vascular on the main level of the Pavilion.

Date/	l'ima
Date	mme.

You will go to the prep/recovery area and meet your admitting nurse. You will receive an identification band 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 your procedure and an IV will be inserted. If your procedure requires anesthesia, your anesthesiologist will either call you the day before or visit you pre-procedure in the prep/recovery area.

#### **Chaplain services**

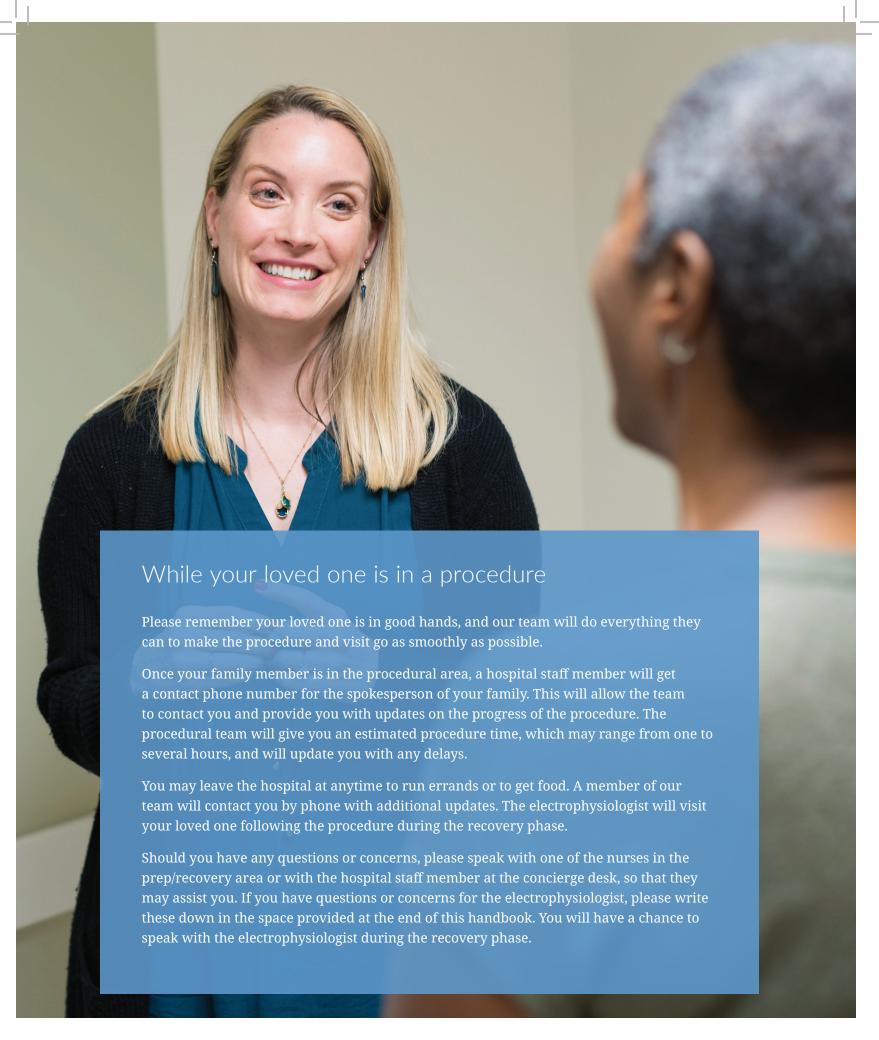
A chaplain is available 24 hours a day to meet with you about your spiritual and religious concerns.

#### Procedural waiting area

We will give your family and visitors regular updates during your procedure. We will notify them when the procedure is complete and the electrophysiologist is ready to discuss your condition. Family and friends are welcome to stay and remain in your initial preparation room. They may also enjoy our Pavilion lobby with the various amenities.

#### Length of hospital stay

The length of hospital stay depends on the type of electrophysiology procedure, from same-day discharge to overnight stays. Your electrophysiologist and the health care team will communicate with you about your expected length of stay and will update you with any changes.

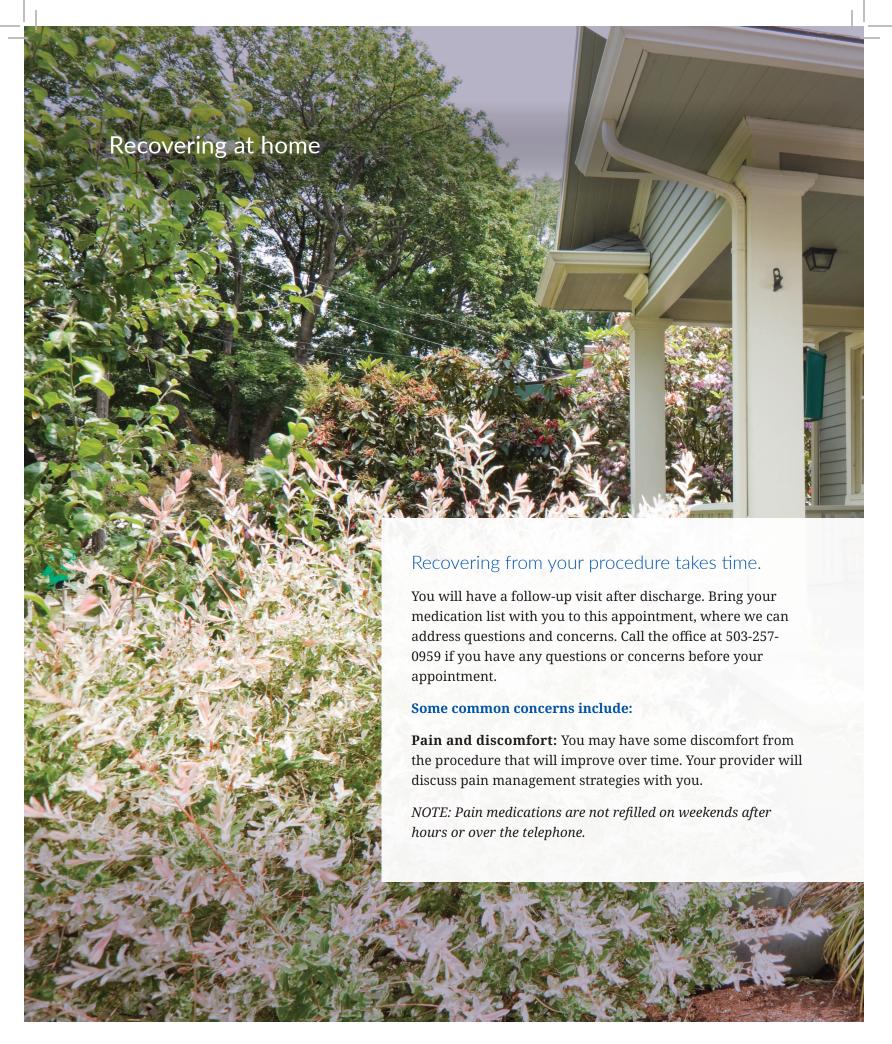




## What to expect immediately after your procedure

You will be taken directly from the procedural room back to recovery. You will be hooked to our cardiac monitoring system during your recovery phase. Your nurse will closely monitor your heart rate, blood pressure, oxygen saturation level and heart rhythm.

Our goal is to keep you comfortable after your procedure. Some discomfort is common. We will be monitoring your level of pain and managing it with medications as needed. Your family will be able to join you in the recovery area shortly after your procedure.





## Recovery after your procedure

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
- Following up regularly with your doctor

Cardiac electrophysiology procedures are minimally invasive, but everybody recovers at a different pace. Most patients have some discomfort that can last from days to up to a week. It is uncommon, but some patients take a longer time to fully recover.

In order to help your recovery process, there are some temporary modifications to your activity that are important.

**Regular activity:** In general, we recommend resuming normal activity as soon as you are able.

**Exercise:** Avoid strenuous activity or exercise for 1 week after your procedure.

**Lifting:** Avoid lifting more than 10 pounds for the first week after a catheter ablation. After a pacemaker, you will need to avoid lifting with your non-dominant arm for the first month.

**Driving:** After a pacemaker, we recommend against driving for the first 1-2 weeks to allow your body time to heal

**Travel:** We recommend discussing any travel plans immediately after your procedure with your health care team



### Common medications after your procedure

#### Anticoagulants

**Aspirin:** Though not technically an anticoagulant, aspirin decreases the ability of the platelets in your blood to stick together

Eliquis (apixaban), Xarelto (rivaroxaban), Pradaxa (dabigatran), Savaysa (edoxaban): Each of these medicines targets a specific part of your body's coagulation system to help prevent blood clots from forming and causing a stroke. Unlike coumadin, they do not require blood tests to monitor the dose.

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.

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.



#### Heart rhythm medications

(Amiodarone, Sotalol, Tikosyn (dofetilide), Multaq (dronedarone), flecainide, propafenone)

These medications are called antiarrhythmics and help to suppress abnormal heart rhythms. They work on the ion channels of the heart cells to make the heart less vulnerable to arrhythmias. Some of these medications will need monitoring to ensure they are at safe levels in the body. It is common to be continued on one of these medications for some period of time after a catheter ablation.

Beta blockers and calcium channel blockers: These are frequently used medications and examples include metoprolol, carvedilol, and diltiazem. They work to slow down the heart rate and are commonly used with the above antiarrhythmic medications.

#### Antacid medications

(Protonix (pantoprazole), Prilosec (omeprazole), Nexium (esomeprazole))

These medications are prescribed around the time of a catheter ablation for atrial fibrillation. They help to decrease irritation of the esophagus from stomach acid.

Please use the warfarin log to help keep track of your INR results at home.

## Warfarin log sheet

	D 1 1 1 1
Coumadin log for:	Date started:

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

## General medication guidelines

Your provider and nurses will review the list of medications to take when you go home.

Changes to your routine medications may happen at discharge. Medications may be discontinued, dosages may change, and new medications may be added. If you have any questions regarding medications, please be sure to ask, so that staff can work with you to explain any concerns.

- 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. You can find this information 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.

#### Notify your doctor if you notice:

- · Blurred vision
- Rapid or irregular pulse
- Pulse under 50 beats per minute
- Nausea, vomiting, diarrhea or loss of appetite for more than two days



#### 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 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.

Notes	and	questions	

## When to call your electrophysiologist

Contact your electrophysiologist's office at 503-251-2500 if you experience any of the following:

- · Fever greater than 101°F
- Redness, cloudy yellow, green drainage or bleeding from your incision
- Warmth or swelling at incision site
- · Sudden dizziness
- · Shortness of breath
- · Chest pain

Although it is normal to experience palpitations or arrhythmias post procedure, any persistent concerns should be reported.





# Adventist Health Portland

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.