About Your ASD/PFO Closure
Preparing for your procedure

This handout explains how to prepare and what to expect when you are scheduled for an ASD/PFO closure at University of Washington Medical Center (UWMC).

Arrival Time
Please check in at the Admitting Reception window on the 3rd floor of the hospital at this date and time:

Date: ____________________

Time: ____________________

This arrival time allows us to fully prepare you for your procedure.

We will do our best to start your procedure on time. But please be patient if emergencies in the hospital cause a delay.

Phone Call Before Your Procedure
A Cardiac Procedures nurse will call you 3 to 7 days before your appointment to talk about your procedure. The nurse will review your medicine list and allergies and answer any questions you may have. There may be some medicines you need to stop taking on the day of your procedure.

Please tell this nurse if you have any concerns about who will drive you home after your procedure. You cannot drive yourself home or take a bus or taxi.

• If you do not receive this call by 3 days before your appointment, call the nurse at 206.598.8435.
• If you need to reschedule or cancel your appointment, call 206.598.8200 right away.
Heart Anatomy

The heart has a right side and a left side. The 2 sides are divided by walls called septa.

Septa keep deoxygenated blood (blood without oxygen) on the right side from mixing with oxygenated blood (blood with oxygen) on the left.

If one of the septa (called a septum) has a hole, blood from one side of the heart leaks into the other side. When this happens, the heart cannot pump blood as well as it normally would.

The top chambers of the heart are called the right and left atria. The wall between the two areas is called the atrial septum.

In a fetus (unborn child), there is a hole in the atrial septum called the foramen ovale (fore-AY-men oh-VAL-ee). A fetus gets oxygen from its mother and does not use its lungs. The foramen ovale allows blood to bypass the lungs as it circulates through the fetus’ body.

What is a PFO (patent foramen ovale)?

The foramen ovale usually closes by the time a child is a few years old. But, in about 10 to 20% of people (10 to 20 out of 100), it keeps leaking. This is called a patent (open) foramen ovale (PFO). A PFO is like a leaky tunnel.

More than 99% of people (more than 99 out of 100) with a PFO do not have symptoms or need treatment. But, a PFO can allow blood clots and other debris – which the lungs usually filter – to go from the deoxygenated (venous) side of the heart to the oxygenated (arterial) side. A clot or particle that enters the arteries can cause a stroke or cut off blood supply to a limb or organ.

What is an ASD (atrial septal defect)?

An atrial septal defect (ASD) is another type of hole in the atrial septum. An ASD is more than a “leaky tunnel.” It is an actual hole that allows a lot of deoxygenated and oxygenated blood to mix. If the hole is small, symptoms can be minor. If it is large, a person can feel very tired and be short of breath.

Less than 1% of babies (less than 1 out of 100) are born with an ASD. An ASD in the fetus may be caused by diseases like diabetes, lupus, and rubella. It can also be caused by the mother’s use of alcohol or street drugs.

An ASD can also form later in life due to using alcohol or street drugs.
A patent foramen ovale (PFO) and an atrial septal defect (ASD) cause leaks in the atrial septum.

How are ASDs and PFOs treated?

Most times, ASDs and PFOs are closed only if they cause fatigue or shortness of breath, or if they may have caused a stroke.

People with PFOs who also have had a stroke often have migraine headaches. After these people had their PFOs closed, their migraines went away or were greatly reduced. We do not know if ASD closure can help ease migraines.

ASDs and PFOs can be repaired with surgery or with percutaneous (through the skin) treatment using a catheter (a thin, flexible tube). Your doctor has recommended that you have the catheter procedure.

Catheter procedures involve only a needle puncture in the skin. The catheter is inserted through this needle into a vein or an artery. Since the surgeon does not have to open your chest or operate directly on your heart, your recovery may be easier and quicker than it would be after surgery.

Your Procedure

At the beginning of your procedure, you will have a cardiac catheterization. This will show your doctor the size of your PFO or ASD and where it is located. We will also measure the pressures inside your heart chambers.
Closing your PFO or ASD involves 3 main steps (see drawing below):

1. Your doctor will insert a catheter through a vein and thread it into your heart. X-ray and ultrasound (“echo”) are used to help guide the catheter to the right place in your septum.

2. The catheter has a tiny device folded up inside it, like a folded umbrella. When the catheter reaches the hole in the septum, the device is slowly pushed out of the catheter. At the same time, the device opens up. It covers the hole in the septum and seals it closed.

3. The device is then secured in place and the catheter is removed from your body. Over time, tissue grows over the device and it becomes part of your heart.

Anticoagulant Medicine

For at least the first 6 months after your procedure, you will need to take an anticoagulant (blood-thinning) medicine. This will help prevent clots from forming on the device.

- The cardiologist (heart doctor) who does your procedure will recommend either aspirin, clopidogrel (Plavix), warfarin (Coumadin), or another anticoagulant.

- Before you are discharged from the hospital, be sure that you go over your medicine plan with this doctor.

- If you need a prescription, make sure you have it when you leave the hospital.

Getting Ready for Your Procedure

- **Pack an overnight bag.** Most patients stay in the hospital overnight after their procedure and leave the hospital the next morning. Some people may be released the same day, but please pack an overnight bag in case you need to stay.
• Arrange for a responsible adult to take you home.
  - If you leave the hospital the same day as your procedure, you must have a responsible adult take you home. This person must be with you in recovery before you are allowed to leave the area. You may not go home by yourself.
  - If you have sedation, you will not be able to drive for 24 hours after your procedure. Make sure you have someone who can help you if needed during this time. We suggest you have a responsible adult stay with you for 24 hours.

• Make plans. If you are from out of town, you may want to make a hotel or motel reservation or other plans to stay overnight in the Seattle area.

• Talk with your healthcare providers about your current medicines. If you are taking:
  - Coumadin (Warfarin): You will need specific instructions about when or if you should stop taking this medicine before your procedure. Please talk with the provider who referred you for this procedure.
  - Other blood-thinning (anticoagulation) medicines: The Cardiac Procedures nurse will review these with you and let you know if it is OK to take them.
  - Diabetes medicines: Your medicines may need to be adjusted for your procedure. Talk with your provider who prescribed them.

What to Bring to the Hospital
On the day of your procedure, please bring:

• A list of all medicines you currently take. Include the dose and how often you take each one.

• Any other medicines, including vitamins and supplements, you took on the day of your procedure. Write down the dose and when you took them.

• The name and phone number of your contact person and the person who will take you home. This may be the same person. This person must be with you when you receive instructions before you leave the hospital.

Procedure Day
Fasting
Do not eat or drink anything for at least 8 hours before your procedure. You may have a light meal or snack if you finish eating at least 8 hours before your check-in time.
Some people eat a light snack or drink a large glass of water very early in the morning, if they wake up more than 8 hours before their procedure. Most people tell us that doing this helps the day go better, lowers their stress, and improves their mood.

Try having a light snack or drink water if you get up early to use the bathroom, or you could set an alarm to wake up early. If you eat or drink anything, make sure it is more than 8 hours before your check-in time.

**Medicines**

When you talk with the Cardiac Procedures nurse about your medicines, the nurse will tell you if there are any that you should not take before this test. Most medicines do not have to be stopped before this procedure.

- If you do not need to make any changes to your medicines, take your usual morning medicines with small sips of water.

- **If your doctor prescribed aspirin for your heart health, it is very important to take it the morning of your procedure.**

**After Check-in**

After checking in at the Admitting Reception window on the 3rd floor, you will go to Cardiac Procedures Prep/Recovery area. At this time:

- You will change into a hospital gown.

- We will take your blood pressure and temperature.

- A nurse will review your health history. This includes a review of any allergies you may have and your current medicine list.

- If your doctor asks us to do so, we will do an **electrocardiogram** (ECG or EKG). This is a painless test that measures your heart's electrical activity. It shows if parts of your heart are too large or working too hard.

- We will place an **intravenous** (IV) line in your arm vein.

- We will take a blood sample.

- You will meet with the doctor who will be doing your procedure. Your doctor will explain the procedure to you and talk with you about risks and side effects. The procedure has some risks, and some patients have had side effects from the medicines that are used. Please be sure to ask any questions you have about the procedure.

- You will be asked to sign a consent form for your procedure. You may also decide not to sign the form. The procedure will not be done if you do not give your consent by signing the form.

- While you are in this prep area, 1 or 2 family members or friends may be with you.

- During your procedure, family and friends may wait in the waiting room.
After Your Procedure

- After your procedure, you will rest in bed for 2 to 6 hours.
- Your family and friends can visit during this time. But, since the recovery room is small, only 1 to 2 guests may be in the room at a time.

Length of Stay

After your procedure, your doctor will assess your condition and recovery. Most people who receive a closure device stay overnight in the hospital, on the short-stay unit. Some people may be able to go home the same day as their procedure.

If You Have Sedation

- A responsible adult must take you home. You may not take Hopelink, a bus, a shuttle, a taxi, or any other form of transportation by yourself.
- For 24 hours after your procedure:
  - Do not drive. Make sure you have a responsible adult who can help you if needed during this time.
  - Do not be responsible for the care of anyone else, such as children or an adult who needs care.
  - Do not drink alcohol, or take drugs other than the ones your doctors prescribed or suggested.
  - Do not make important decisions or sign legal papers.

When You Go Home

For 5 days after your procedure:

- Do not lift, push, or pull anything that weighs more than 5 pounds (a gallon of milk weighs about 8 pounds).
- Ask for someone to help you with chores like the laundry and other tasks that you may need help with during this time.

Driving Directions to UWMC

UWMC is at 1959 N.E. Pacific Street, at the south end of the University of Washington campus. (See map on page 8.)

From Interstate 5

- Take Exit 168B (State Route 520 to Bellevue) heading east.
- Take the Montlake Boulevard exit.
- Turn left onto Montlake.
- Turn left on N.E. Pacific Street.
- The hospital will be on your left.
From Interstate 405

- Take Exit 14 (State Route 520 to Seattle via Evergreen Point Bridge) heading west.
- Take the Montlake Boulevard exit.
- Veer right onto Montlake.
- Turn left on N.E. Pacific Street.
- The hospital will be on your left.

Triangle Parking Garage

The Triangle Garage is on N.E. Pacific Place, across the street from the hospital. The garage is underground. A walking tunnel connects the garage to the hospital’s main entrance.

There is also a valet parking service at the main entrance to the hospital from 7:30 a.m. to 5:30 p.m. The cost for valet parking is the same as parking in the Triangle Garage.

To reduce your parking fee, bring your parking ticket with you to the hospital. Ask for a validation sticker when you check in for your procedure.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

Cardiac Services: 206.598.8435

After hours and on weekends and holidays, call 206.598.6190 and ask for the Procedural Interventional Cardiology Fellow on call to be paged.

The star on this map shows the entrance to the Triangle Garage.