

# Preparing for a Coronary Angiogram

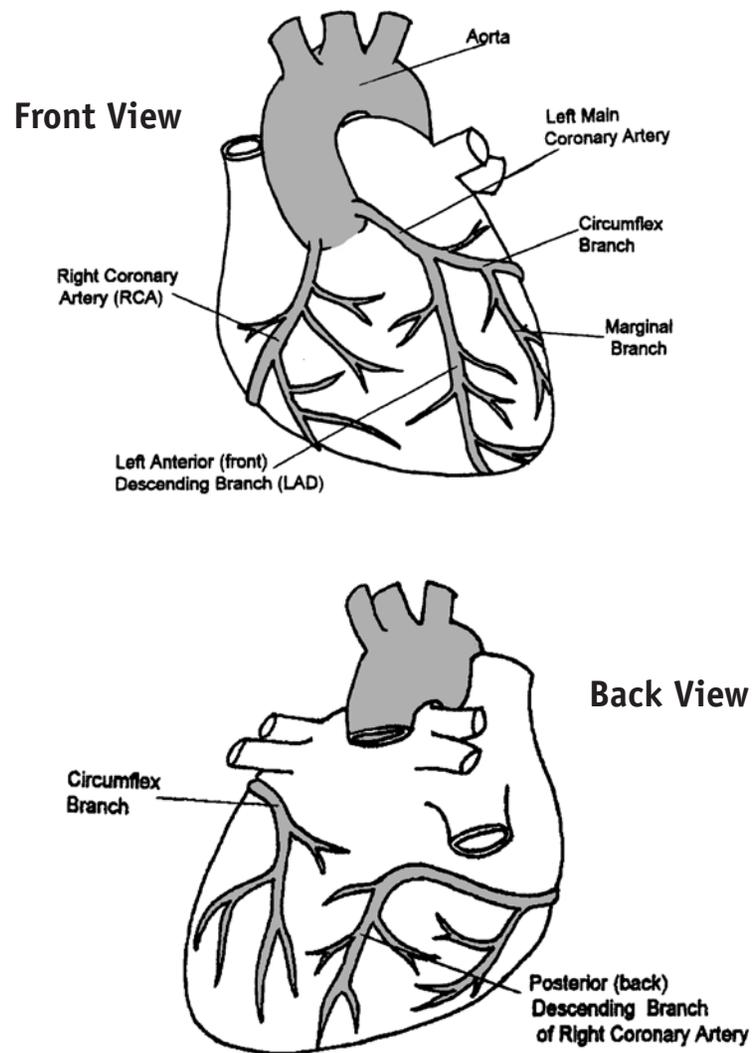
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## plus Treatment Options

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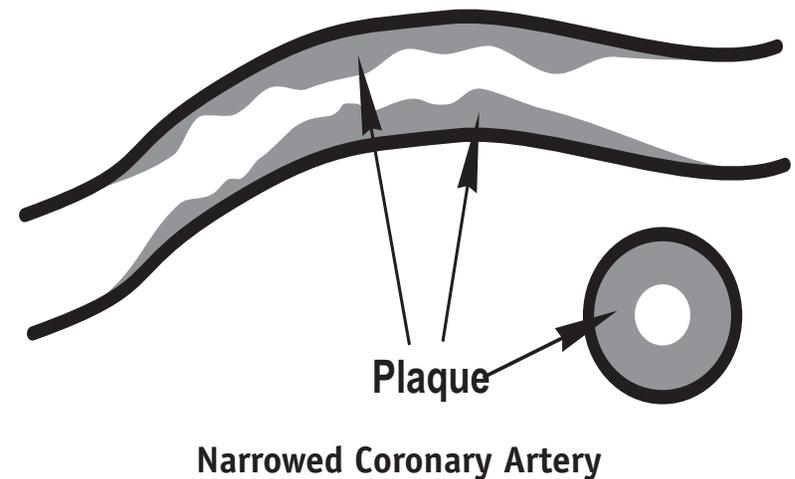
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## The Heart and Coronary Arteries



## Why am I having an Angiogram?

- The heart is about the size of your fist. It has the job of pumping oxygen-rich blood throughout your body.
- To meet this demand, the heart muscle needs its own rich supply of blood. It is the coronary (heart) arteries that supply your heart muscle with oxygen-rich blood.
- The heart has three main coronary arteries. One on the right and two on the left (see page 1).
- Coronary arteries can become narrow or blocked; this is called Coronary Artery Disease (CAD). As a result, your heart does not receive enough oxygen.



- When your heart does not receive enough oxygen, you may experience one or more of the following symptoms:
  - Chest pain, pressure or discomfort
  - Arm pain or heaviness
  - A tightness in your throat, neck and/or jaw
  - Shortness of breath
  - A feeling of indigestion
- You are having this angiogram because coronary artery disease is suspected.
- An angiogram is a diagnostic test that involves injecting dye into your coronary arteries to see if there are blockages or narrowings while recording an x-ray movie.
- When you come for your procedure, your nurse and doctor will give you more information about heart disease in general, your condition in particular, and ways to live a “heart-healthy” way.

## Some Common Feelings

Sometimes people with heart conditions feel sad, down, or just not interested in life.

Sometimes they feel anxious or nervous. If you are bothered by these feelings, call your family doctor. Help is available. Your overall health and your heart health will improve if you get help.

Positive Coping with Health Conditions, a self-care Workbook  
[www.comh.ca/pchc](http://www.comh.ca/pchc)

## Preparation Instructions

### Communication:

- You **must** bring an interpreter with you if you do not speak English.
- Bring** this booklet.

### Medications:

- Please bring all your medicines in their original packaging. You may need to stop, start, or adjust some of your medicines before the procedure.
- You will receive a letter with important instructions about taking your medications, and your appointment date.** Please read this information carefully.

### Food:

- You may eat solid food up until three hours before your angiogram or PCI.**

### Valuables:

- DO NOT** bring cash, valuables or a lot of personal items and clothing
- Remove all jewellery and nail polish. You may keep your glasses, hearing aide(s) and denture(s) on during the procedure.
- Wear loose-fitting clothes and flat shoes.

## Planning for your discharge:

- **No** driving in the first 24 hours.
- We strongly recommend you have someone accompany you when you leave the hospital and that you make arrangements for someone to stay with you overnight after the angiogram. This is for your safety as you may have received sedatives and in case you start bleeding. If you cannot arrange this, your procedure may have to be re-booked.
- If you have any more questions, please **call the booking coordinator at:**  
**SPH: 604-806-8400**  
**VGH: 604-875-4669**

## When you are in the hospital:

- Inform the cardiologist or nurse if you have a known allergy to x-ray dye, iodine, shellfish, or any other allergies.
- You will change into a hospital gown.
- The nurse will ask you some questions about your health history.
- An electrocardiogram (ECG) will be done. This is a painless recording of the heart's electrical activity and rhythm to detect irregular heartbeats and/or heart damage.
- An intravenous (IV) will be inserted and IV fluids will be started.
- The doctor will decide whether the radial (wrist) or femoral (groin) access site will be used for the procedure.
- If femoral access is used the nurse will shave your groin area. If radial access is used the nurse will shave both your groin and your wrist.
- You may watch a video about the angiogram.
- You may receive medication to help you relax just before the angiogram but you will be awake throughout the procedure.

## During the Angiogram

- You will go to the catheterization lab (cath lab) for the angiogram.
- You will lie on a x-ray table. The nurse will connect you to a heart monitor.
- The nurse will clean the area chosen for the angiogram with a cleaning solution. **Do not** touch this area once it is cleaned.
- The nurse will place a sterile (germ-free) drape over you to keep the area clean.
- The cardiologist will inject a local anesthetic (freezing) into the groin area or wrist area.
- Once the area is frozen, the cardiologist will insert a sheath (like a large IV) into the femoral artery (located in the groin area) or radial artery (wrist).
- Through this sheath, the cardiologist will guide small catheters into the coronary arteries.
- Small amounts of dye will be injected through these catheters to see the coronary arteries. **It is normal** to feel a warm sensation at this time.
- Be prepared to hold your breath and give a deep cough if the cardiologist asks you.
- It is normal to feel some mild discomforts during the angiogram. **However, tell the cardiologist** if you are not comfortable or having pain.
- Once we have enough pictures of your coronary (heart) arteries, the cardiologist will remove the catheters. He/she will then either: remove the sheath and place a small stitch or collagen plug in your artery, or leave the sheath in for removal by a nurse during recovery.
- The cardiologist will let you know the results of your angiogram.
- You will return to the recovery area.

## After the Angiogram

- The nurse will connect you to the heart monitor.
- The nurse will check your blood pressure, heart rate and heart rhythm frequently.
- If the femoral artery (groin) was used, the nurse will check your groin and feet pulses frequently
- You will be connected to IV fluids to help clear the x-ray dye from your kidneys.
- You are encouraged to drink a lot of clear fluids to help clear the x-ray dye from your kidneys.
- **You may not eat** until the nurse tells you it is okay.
- It is normal to feel discomforts after the angiogram. However, it is important to **tell the nurse** if you are not comfortable or having pain.

## Puncture Site Management

### Radial Artery Access

**The radial sheath is removed immediately after the procedure and a radial band is applied:**

**You may not** use your affected arm

**You must:**

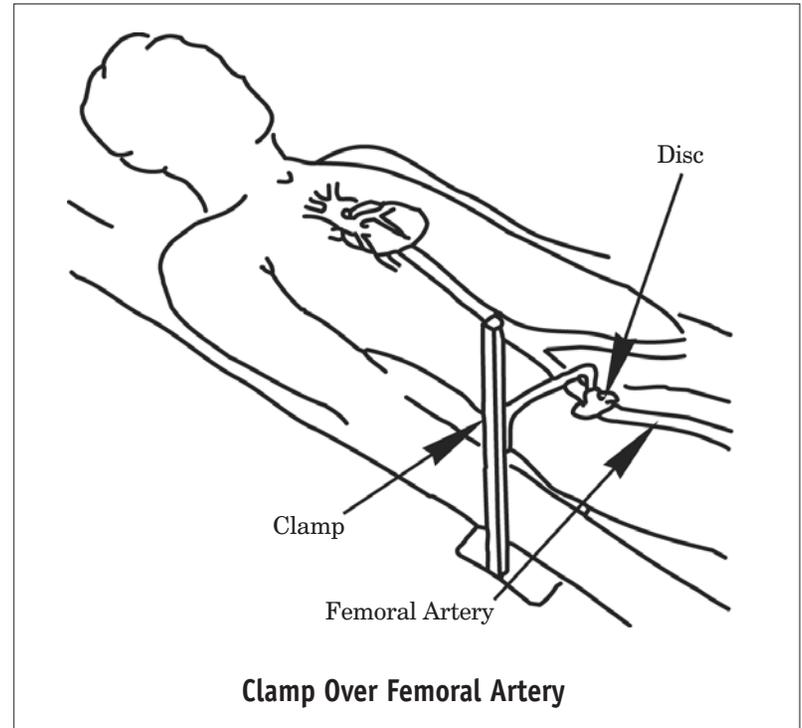
- Keep your wrist straight 6 hours after the removal of the radial band.
- For the next 2 days, do not do any lifting, sports or heavy work with the arm
- Keep the bandage dry and remove it the next morning. Do NOT apply another bandage.

### Femoral Artery Access

**While the femoral sheath is in:**

**You may not:**

- bend the leg the sheath is in
- lift your head off the pillow or
- move in bed by yourself
- Any of the above actions may cause bleeding and damage to your artery.
- Call the nurse to help you move safely if your back becomes uncomfortable.



### Taking the sheath out:

- The nurse will remove the sheath from your femoral (groin) artery when it is safe (minutes to a few hours after the procedure).

### Just before the sheath comes out:

- The nurse will flatten your bed.
- The nurse will help you move closer to the edge of the bed and may position you with pillows.
- The nurse may give you medication to help you relax and feel comfortable just before the sheath comes out.

## As the sheath comes out:

- The nurse will apply pressure via a disc over the sheath site with a clamp to stop the bleeding.
- The nurse will check your blood pressure, pulse and heart rhythm frequently.
- The nurse will check your groin area and feet pulses frequently.
- The clamp will stay on until the bleeding has stopped.

### You May Not:

- bend the leg the sheath is in
- lift your head off the pillow or
- move in bed by yourself
- If you do any of the above actions you may cause bleeding and damage to your artery.

## After the clamp is removed from the groin area:

- The nurse will apply a bandage over the site.
- **You may not bend** your leg for 2 hours after the clamp is off. Bending your leg may cause bleeding to start in the artery.
- **Call the nurse** if you feel a warm, wet feeling or pressure or a sharp pain where the sheath was. You may be bleeding.
- It is normal to feel some discomforts after the angiogram. However, **tell the nurse** if you are not comfortable or having pain.
- **You may not eat** until the nurse tells you it is okay.

## Treatment Options

- After the angiogram, the cardiologist will tell you what your angiogram showed.
- If you have normal coronary arteries, you may not need treatment.
- If you have abnormal coronary arteries, there are four options for treatment:
  1. medications
  2. percutaneous coronary intervention (PCI)
  3. coronary artery bypass surgery (CABG) or a combination of the last three treatments may be necessary
  4. no treatment
- Your cardiologist will discuss with you which treatment is best for you.
- Here is some information about these options:

## 1. Medications

Your cardiologist will adjust your medications as needed.

For your safety, we recommend that you:

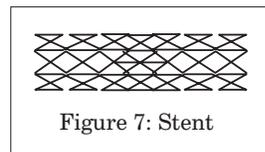
- **Know** the names, doses and how often you take all the medications prescribed to you by your doctor.
- **Know why** you are taking all your medications.
- **Talk** with your doctor before taking any herbal supplements.
- **Always** bring a current list of your medications and the correct pill bottles each time you come to the hospital.
- If you have any questions, speak with your pharmacist. Your pharmacist is a good resource for more information.

## 2. Percutaneous Coronary Intervention (Coronary Stent)

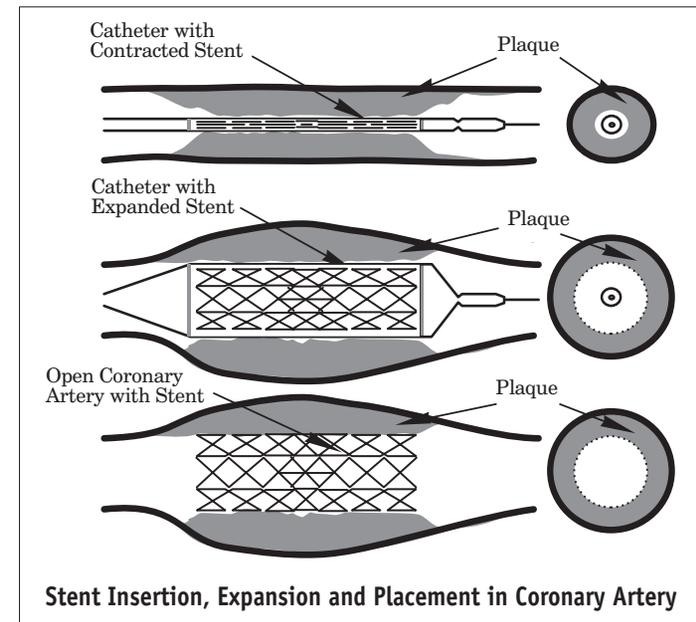
- If needed, and you agree, a PCI may be done at the same time as the angiogram or on another day.

### Coronary Stent

- A stent is a small, expandable wire mesh tube used to prop open an artery that has been narrowed or blocked. The stent pushes the plaque against the coronary artery wall to make more room for blood flow.



- The cardiologist inserts a wire with the stent on it through the sheath in your wrist or groin. Once the stent is at the site of the blockage a balloon under the stent is inflated. This deploys the stent against the coronary artery wall. The balloon is deflated and removed with the wire.
- The stent stays in the artery permanently and holds it open to improve blood flow to the heart muscle and relieve symptoms such as angina (chest pain).
- Different stents are used depending on certain features of the artery blockage (ask your cardiologist).
- Stented arteries can narrow or block again. This is called restenosis. It is important to take the antiplatelet medications prescribed to you by the cardiologist because they will help prevent this.



- Preparation instructions and events during and after the procedure are similar to the angiogram.

### 3. Coronary Artery Bypass Surgery (CABG)

- This is a type of heart surgery. It is sometimes called CABG.
- The surgery reroutes or “bypasses” blood around clogged arteries to improve blood flow and oxygen to the heart.
- Surgeons take a segment of a healthy blood vessel from another part of the body and make another route around the blocked part of the coronary artery.
- It involves an incision in the breastbone and about 4–6 days in the hospital.

### 4. No treatment

- If you wish to have no treatment please speak with your cardiologist.

### Community and other Resources

- **Heart and Stroke Foundation of Canada**  
www.heartandstroke.bc.ca  
1-888-473-4636
- **Vancouver General Hospital – Cardiac Rehabilitation and Risk Factor Management Centre**  
Gordon and Leslie Diamond Health Care Centre  
6th floor  
604-875-5389
- **St. Paul’s Hospital Heart Centre**  
www.heartcentre.ca
- **Becel Canada**  
www.becelcanada.com  
1-800-563-5574  
Meal planning to eat heart healthy and risk factors of heart disease.

### Stop Smoking

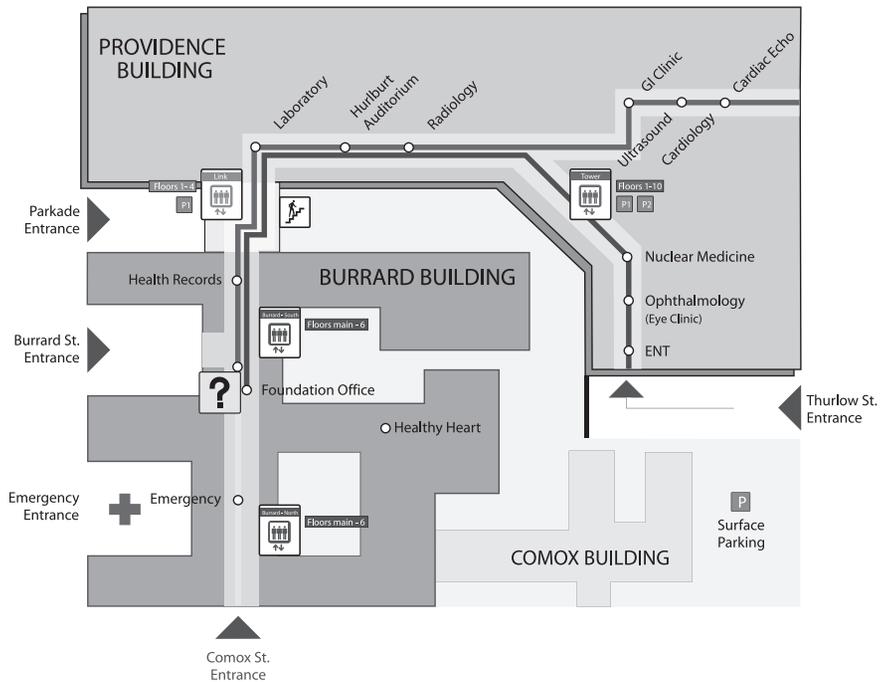
- **B.C. Lung Association: Freedom from Smoking**  
www.bc.lung.ca  
1-800-665-5864 or 604-731-5864
- **Quit Now By Phone**  
1-877-455-2233  
24 hours/day, 100 languages spoken
- **Vancouver Coastal Health Authority**  
www.vch.ca - click on “Healthy Living”
- **Health Canada: Go Smoke Free**  
www.gosmokefree.com  
1-866-318-1116  
The facts about health effects, second hand smoke, toxic emissions, quitting and the tobacco industry.



## Directions and Maps

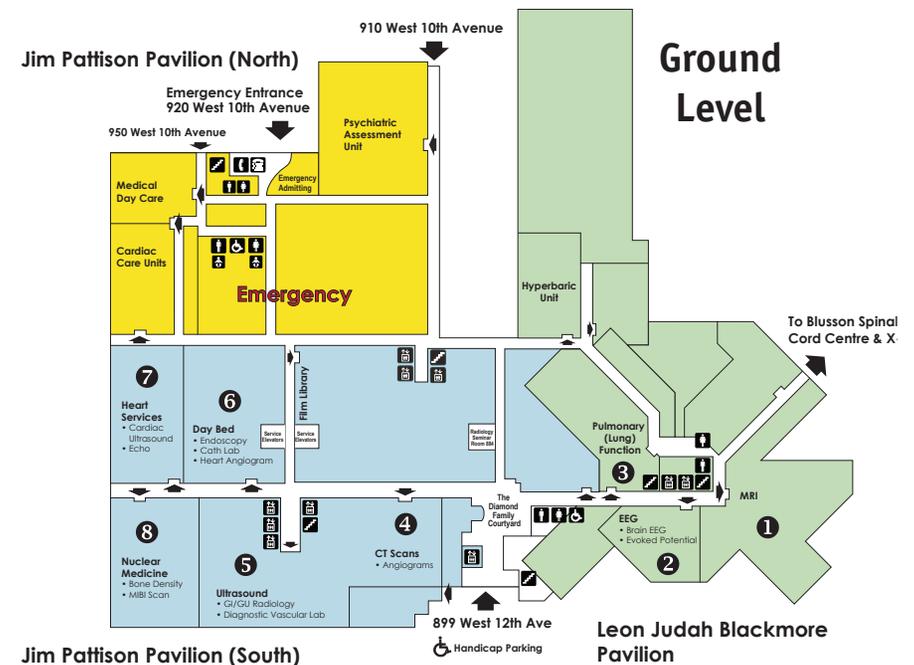
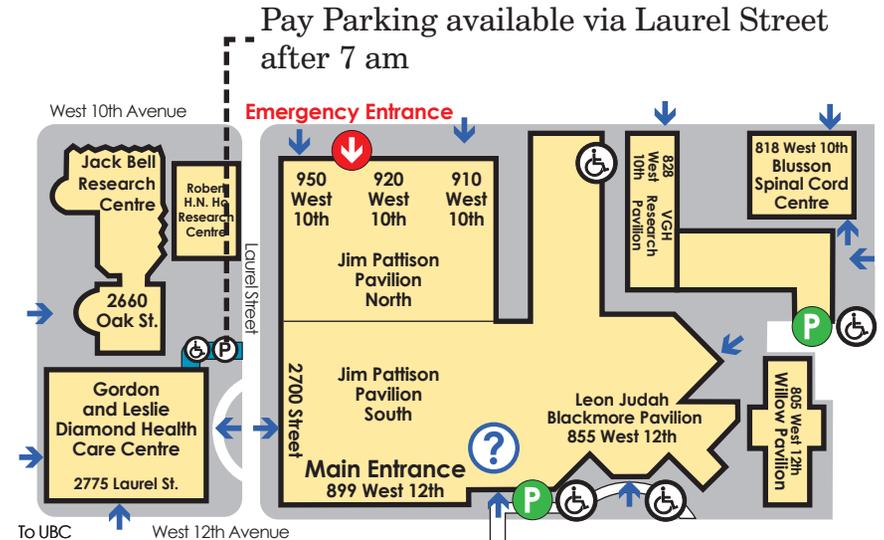
### St. Paul's Hospital Heart Centre Cardiac Short Stay and Outpatient Clinics

- ▶ Follow the blue line to the West Elevator (Providence Building) or take elevators from Parkade
- ▶ Take elevators to 5th floor (5C) - Cardiac Short Stay & Outpatient Clinics
- ▶ Report to Reception



### Vancouver General Hospital Cardiac Services

- ▶ The booking clerk will give you directions on where to report when they call you with an appointment date.



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