



Centre for  
Heart Valve Innovation  
St. Paul's Hospital, Vancouver

# **Transcatheter Aortic Valve Implantation: Information for Patients and Families**



How you want to be treated.



*Promoting wellness. Ensuring care.*

**Transcatheter Aortic Valve Implantation:**  
Information for Patients and Families

Previously titled:  
*Deciding to Have a Transcatheter Aortic Valve Implantation*

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Thanks to:  
Sandra, Leslie, Thomas and Rosy

**Y**OUR DOCTOR HAS ASKED the Vancouver Transcatheter Heart Valve Program team to see if having a special procedure called a **transcatheter aortic valve implantation** (called 'TAVI') would help you. TAVI is a way of replacing the aortic valve in your heart.

This booklet provides you with information about your valve disease and possible options for treatment.

Please bring this booklet with you when you come for your appointment at the TAVI Clinic. We will review the information with you and explain information you are not sure about.

**T** is for **transcatheter**: This means we use a small flexible and hollow tube called a catheter. The doctor makes a small opening in the artery in the leg (called transfemoral) or in the chest wall (usually called transapical). The doctor then threads the catheter and the new valve into the right position.

**A** is for **aortic** and **V** is for **valve**: The aortic valve is one of 4 valves in the heart that opens and closes to let blood through in the right direction at the right time. The aortic valve controls the way oxygen-rich blood flows from the heart to the rest of the body.

**I** is for **implantation**: The new valve is placed (implanted) inside the existing valve.

## Your aortic valve

Your doctor has told us that your aortic valve is not working properly. There are two types of aortic valve disease:

**Aortic stenosis** (*ay-or-tic sten-oh-sis*): This means that the valve is too tight ('stenosed'), and does not open normally. For some people, aortic stenosis happens with aging. Over time, the valve stiffens and cannot open enough to let blood through. This may cause you to feel short of breath, to have chest pain, or to feel faint or very tired.

**Aortic regurgitation** (*ay-or-tic ree-gurr-gee-tay-shon*): This means that the valve does not close properly and is leaky.

The only way to treat aortic valve disease is to replace the valve. This can be done in two different ways, depending on each patient:

- 1. Surgical aortic valve replacement:** The doctor does open heart surgery to remove the diseased valve and replace it with a new valve. Open heart means the person's chest and the heart itself are opened so the doctor can operate directly on the heart. Surgical aortic valve replacement is a well-established surgery, and is an excellent treatment for many patients.
- 2. TAVI:** The doctor uses a small opening in the groin or the chest. TAVI may be the best treatment for patients who are at higher risk for surgery. TAVI is recommended if:
  - you are older than 80 years and have other diseases like kidney, lung disease or cancer that can limit your recovery after open heart surgery, **OR**
  - you have had one or more open heart surgeries in the past, **OR**
  - you are not well enough for open heart surgery, **AND** the doctors on the Heart valve team agree that TAVI is the best treatment for you.

## **The TAVI assessment**

We need a lot of information about you, your heart, and your general health to decide if TAVI is the best treatment for you. The TAVI assessment includes meeting our team and having heart tests. Our goal is to let you know what the doctors recommend for you as soon as possible.

These are the steps of the TAVI assessment that most people go through:

Step 1: Notification of appointments

Step 2: TAVI Clinic appointment and heart tests

Step 3: Treatment recommendation

Step 4: Letting you know and planning the next steps

### ***Step 1: Appointments***

- We send you a letter with the days and times of your appointments.
- Depending on where you live, the heart tests may not be done in the same hospital as your TAVI Clinic visit. We try to coordinate all your appointments.
- This usually takes at least 2 hospital visits, on at least 2 separate days.
- If you are from out of town, we schedule your TAVI Clinic appointments over 2 or 3 days in a row. You are responsible for making your own arrangements for travel and accommodation.

If you do not speak or understand English well enough to have conversations about your health or to make medical decisions, we can arrange for a medical interpreter. Please let us know at least 3 to 5 days before your appointment to request an interpreter.

If you are in hospital right now, you may have your assessment done while you are admitted. If you are at St. Paul's Hospital or Vancouver General Hospital, one of the TAVI doctors will explain the plan to you and answer your questions.

## ***Step 2: TAVI clinic appointment, and heart tests***

### **TAVI clinic appointment:**

The TAVI Clinic is located on the 5th floor of the Providence Building at St. Paul's Hospital. Please check-in at the reception desk. If walking is difficult for you, make sure you bring your walking aid (cane, walker or wheelchair).

The appointment usually takes 30 to 60 minutes. It is a good idea to arrive rested, and bring something to eat and drink. This is what you can expect:

- we explain the TAVI procedure, discuss the risks and benefits, and review how the Heart valve team makes a treatment recommendation for you.
- we ask you questions about your everyday life, what you can and cannot do for yourself, your living situation, and your heart symptoms. You do a walking and simple memory tests. There are no 'right' answers - we simply want to get to know you.
- we take a picture of you standing in the Clinic. This picture is kept in the chart and helps us when the Heart valve team meets.
- a doctor may give you a medical check-up and ask you questions about your heart and your health. We may ask you to have an appointment with one of our heart surgeons.
- you may meet with a member of the Research Team to discuss if you are eligible for a research study. You may be interested in hearing more about a research study. You are never obliged to participate.

### *What to bring to your appointment:*

- ✓ This booklet, with your questions written. It is a good idea to keep all your TAVI information and documents in one folder. Bring the folder with you to all your TAVI appointments.
- ✓ A list of the medicines you are taking. Please ask your pharmacist to print the list.
- ✓ The completed questionnaires called 'Quality of Life Patient Questionnaires' that we send you.
- ✓ Any forms we send you about research studies that you are eligible for.
- ✓ A person who knows you well, such as your spouse or an adult child or good friend. This person meets the team with you, helps give information about you, and can help you.

### **Heart Tests**

These tests will help the Heart valve team make a treatment recommendation for you. You may have already had some of these tests in the past. We may do them again because we need more information specific to TAVI.

Most people have these tests:

**1. Cardiac angiogram** - ('Cardiac' meaning heart, 'angio' meaning blood vessels, and 'gram' meaning print-out): This test is also called a 'cardiac cath'. It is a test to check the blood vessels around the heart and the blood pressures inside the heart.

The doctor inserts a catheter (small, hollow and flexible tube) in an artery in the groin through a small needle. Contrast (also called x-ray dye) is injected through the catheter so that we can see your blood vessels better. The test is done in the Cardiac Catheterization Laboratory ('Cardiac Cath Lab').

It takes about one to two hours, but you stay in the hospital for about 4 to 6 hours after the test. You will receive an additional booklet to learn more about this test.

**2. Computed tomography** - ('Computed' meaning using a computer, 'tomo' meaning a slide or section, and 'graphy' meaning an image or print-out): This test is also called a 'CT scan' or 'CAT scan'. It is a special TAVI x-ray that takes many pictures in small 'slices' of your heart and hips. The computer puts these pictures together to create a three-dimensional (3-D) view of your heart and blood vessels. We start a small intravenous ('intra' meaning into, 'venous' meaning vein, also called an 'IV'). We give you contrast (also called x-ray dye) so that we can see your heart and blood vessels better. The test is done in the Radiology Department. It takes about 30 to 60 minutes.

**3. Echocardiogram** - ('Echo' meaning sound waves, 'cardio' meaning heart, and 'gram' meaning a print out.): This test is also called an 'echo'. It is an ultrasound test of the heart. It gives information about the heart muscle, the valves, and how blood flows through the heart. While you are lying down on a bed, we slide an ultrasound probe (special camera) across your chest with the help of clear gel. The test is usually done in the Cardiac Echocardiogram Department. It takes about 30 to 60 minutes.



### **Step 3: Treatment recommendation**

After your appointments, the Heart valve team meets to review your information and makes a recommendation about the best treatment for you. These are the 4 options:

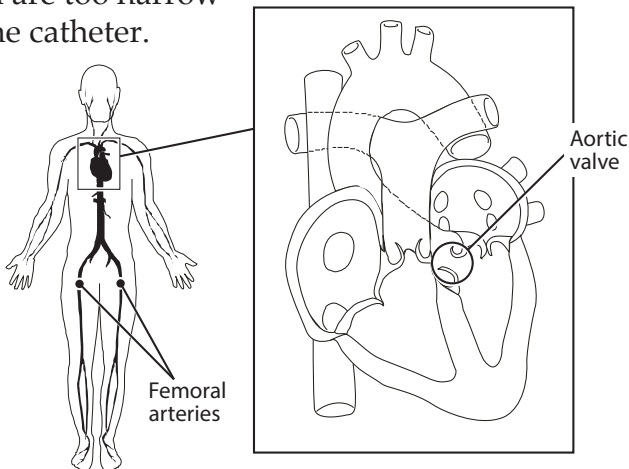
#### **1. TAVI:**

TAVI will be recommended for you if:

- (1) you meet the criteria (see p.2),
- (2) if the heart tests show that TAVI can be done, and
- (3) if the Heart valve team agrees that this is the best treatment for you.

The team decides the best way for your TAVI. There are two different ways that TAVI can be done:

- Transfemoral TAVI ('Trans' meaning through, 'femoral' meaning through the artery in the groin): The doctor inserts the catheter in a small opening in your groin. This approach is the best if the arteries in your groin are large enough for the catheter.
- Transapical ('Trans' meaning through, 'apical' meaning the pointed end of the heart called the apex) or transaortic ('Trans' meaning through, 'aortic' meaning the large vessel called the aorta; also called 'direct aortic'): The doctor inserts the catheter in a small opening in your chest. This approach is best if the arteries in your groin are too narrow for the catheter.



## **2. Open heart surgery:**

This treatment will be recommended if the Heart valve team decides that your heart valve disease requires surgical aortic valve replacement. You will receive more information about open heart surgery and meet the surgeon to discuss this recommendation.

## **3. Medical management:**

This treatment will be recommended if your heart valve disease is best treated without TAVI or open heart surgery for now. Your family doctor or heart specialist ('cardiologist') will continue to monitor your aortic stenosis and treat you with medications if needed. Your doctor may ask you to return to the TAVI Clinic in the future.

## **4. Palliative approach:**

This treatment will be recommended if the Heart valve team decides that replacing your heart valve would not help you live longer or better. We will suggest to your doctor that you be referred to a health care team that focuses on helping you with your symptoms with the goal of improving your quality of life.

## ***Step 4: Letting you know and planning the next steps***

### **When will you know?**

If TAVI is the recommended treatment for you, we call you as soon as the Heart valve team has decided. If a different treatment is recommended for you, we send a letter to your doctor(s). Your doctor is the best person to continue to coordinate your care and speak with you about the next steps if TAVI is not recommended.

## **What is your role?**

Take some time to think about whether you want to go ahead with the recommended treatment. There are always risks associated with medical procedures. The risks that can be associated with TAVI include:

- having a stroke;
- needing a permanent pacemaker;
- bleeding from the insertion site;
- leaking around the new valve.

If it's helpful, speak with your doctor who knows you best. If TAVI is the recommended treatment for you, please call the TAVI Clinic to tell us if you wish to be placed on the wait list.

## **What does it mean to be on the wait list?**

We will place your name on the wait list once you confirm that you agree to have the procedure, and are able and willing to come to the hospital when we give you a procedure date.

## **How long will you wait?**

It is hard to predict the exact wait time because it depends on many factors, including the type of new valve you need, how the procedure will be done, and how you are feeling. We will give you a wait time estimate when we call you.

## **What should you do while you wait for TAVI?**

Your family doctor or heart specialist (cardiologist) continues to monitor and treat you. We may call you to ask questions about your health while you are on the wait list. Please have someone call the TAVI Clinic if any of the following happen:

- you are admitted to the hospital to treat your heart disease or another health issue.
- you go to the emergency department to treat your heart disease.
- your heart symptoms (shortness of breath, chest pain, fainting or fatigue) are getting worse

If we are not able to speak with you when you call, we will call you back as soon as we can. This can take one or two days.

## **Contact information**

### *TAVI Clinic*

#### **St. Paul's Hospital**

5th Floor, Providence Building (Out-Patient Clinics)

**604-682-2344 extension 62658**

If you are coming from the parking lot, take the elevator at the far end of the parking to the 5th floor. If you are coming from the Burrard Street entrance, follow the blue line to the elevators in the Providence Building.

### *Cardiac Catheterization Laboratories*

#### **St. Paul's Hospital:**

5th Floor, Providence Building (Out-Patient Clinics)

#### **Vancouver General Hospital:**

Station 7, Ground Floor, Jim Pattison Pavilion (JPP)

***Radiology Departments***

**St. Paul’s Hospital:**

2nd Floor, Providence Building (Follow the double blue and red line: The department is half way down the long hallway)

***Echocardiography Departments***

**St. Paul’s Hospital:**

2nd Floor, Providence Building (Follow the red line to ‘Cardiac Echo’ at the very end of the line)

**Vancouver General Hospital:**

Level 9, 2775 Laurel Street, Diamond Health Care Centre

**Your questions**

Please bring this list with you when you come for your TAVI Clinic appointment.

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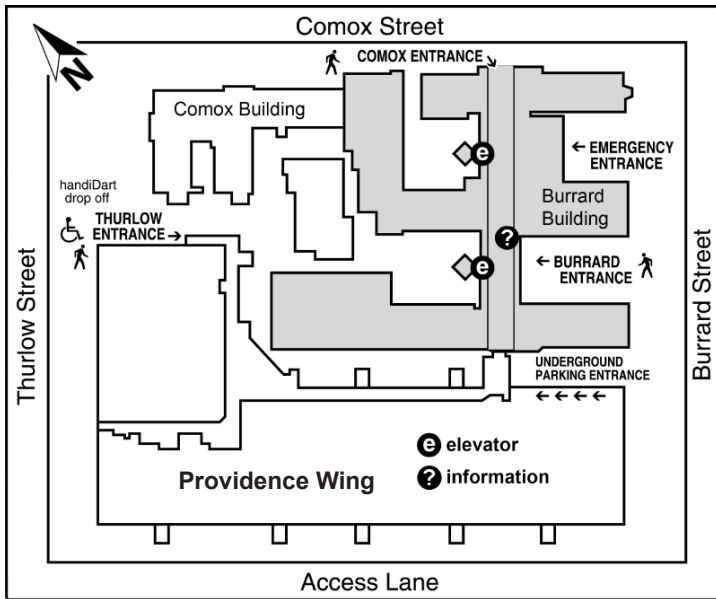
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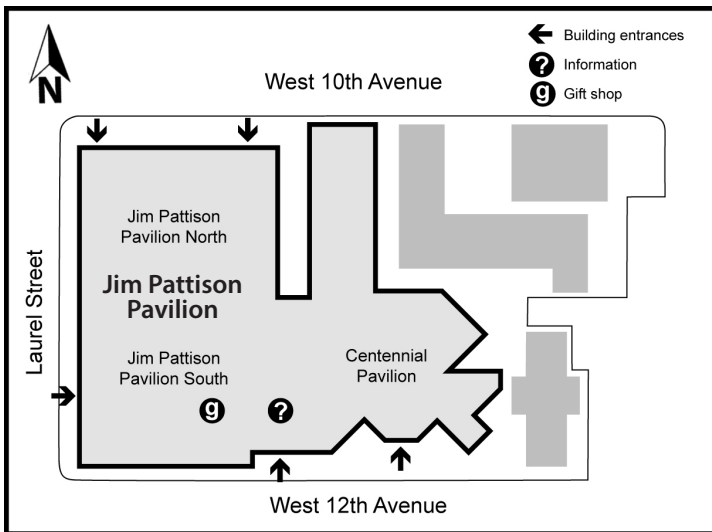
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## St. Paul's Hospital



## Vancouver General Hospital



# Notes



Centre for  
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Heart Valve Program Office

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The information in this document is intended solely for the person to whom it was given by the health care team.

This material has been  
reviewed and approved by  
patients, families and staff.

