



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

You Are Having Transcatheter Aortic Valve Implantation

Alternative Access Approach

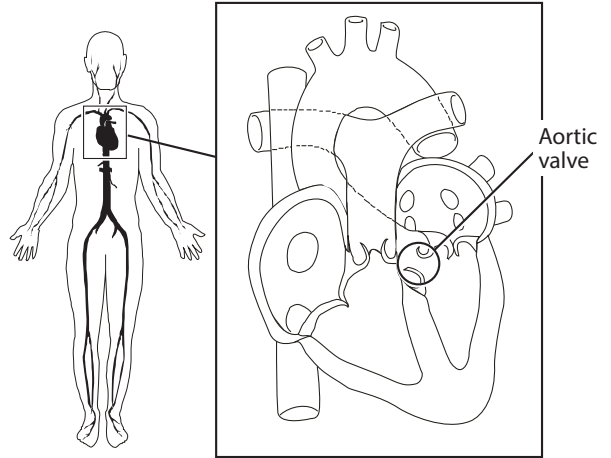


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YOU RECENTLY HAD HEART TESTS and meetings to discuss the treatment of your aortic valve disease. The heart valve team recommended transcatheter aortic valve implantation (TAVI) as your best option. The team has decided that you will receive your new valve using an alternative access approach. This means that the doctor will implant your new valve through an artery in your chest or near your shoulder.

This booklet will help you prepare for TAVI, plan for your return home, and give you information to use after TAVI.



We have included information about the different steps you can expect along your TAVI journey:

1. Waiting for TAVI
2. Preparing for TAVI
3. Planning ahead
4. Coming to hospital for TAVI
5. The TAVI procedure
6. In hospital after TAVI
7. Going home

Use the page at the back of the book to keep track of important dates and write questions you have.

Waiting for TAVI

How long will you be on the wait list?

It depends on many things, including your overall health and your symptoms. Wait time is usually several weeks from the time of your TAVI appointments. The Transcatheter Heart Valve (THV) Clinic nurse gives you an approximate wait time.

Who looks after your medical health while you are on the wait list?

Your regular doctor continues to be responsible for your medical care while you are waiting for TAVI. Our TAVI doctors are responsible for your medical care when you come to hospital for the procedure. After you go home, you continue to see your regular doctor. If you are not clear who this doctor is, please ask us.

What if your health changes while waiting for TAVI?

Your TAVI cards: We send you a card that says that you are waiting for TAVI and that someone must call the THV Clinic if your health changes. If you go to a hospital emergency department, if you are admitted to hospital, or if you see a doctor who is not your regular doctor, show them this card so that they know they must call the Transcatheter Heart Valve Clinic.

Vancouver TAVI Clinic

604-682-2344 ext. 62658

What health changes could happen: Over time, your aortic valve stiffens and the opening gets smaller. It gets harder for the heart to pump blood through the valve. Health changes can be difficult to understand. These are some basic guidelines:

- **Small changes:** It is normal to have small changes in how you feel. For example, you might feel a bit more tired or more short of breath. Your regular doctor monitors and treats these small changes.



Health changes, *continued*

- ***Worrisome changes:*** If you are feeling quite a bit more tired or more short of breath, it is best to let us know. Call the THV Clinic.
- ***Sudden changes:*** If you are feeling much worse than you did recently, follow your doctor's instructions or call 911. Ask a family member to call our office.
- ***If you go the hospital:*** Show your TAVI card to the doctor or nurse. Ask the doctor or nurse to call the THV Clinic. Once the THV Clinic is alerted, we contact you and your regular doctor and follow your progress. Depending on your situation, we will let you know if the changes in your health affect the wait time for your procedure. If our doctors feel that TAVI is no longer the best treatment for you, we recommend other options for your heart condition.

Preparing for TAVI

Here are some guidelines for what you should do while waiting for TAVI:

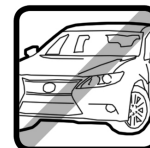
Keep active

Exercise every day, even if it is only for a short period of time. Exercise is important for your heart and general health. Slow down if you get short of breath, have chest pain, or feel faint. Talk with your regular doctor about which activities are best for you.



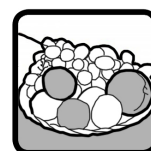
Driving

If you have symptoms of severe aortic stenosis (like shortness of breath, chest pain, fainting or significant fatigue), we recommend that you do not drive until your valve is replaced. Talk to your regular doctor about whether or not it is safe for you to drive during this time.



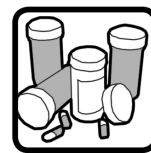
Eat healthy

It is important that you eat as well as possible to prepare for TAVI. If your doctor has restricted the amount of liquids and/or salt you should have, continue to follow your doctor's recommendations.



Take your medicines

Continue to take the medicines that your doctor has prescribed. If you are taking blood thinners, the THV Clinic nurse may call you to make some changes a few days before TAVI.



See your dentist

Book an appointment with your dentist if you have your own teeth and you have not had a dental check-up in the last 6 months. If you need dental work done, arrange to have it done before your procedure date. Dental work done right after receiving a new heart valve could cause the new valve to become infected.



See other healthcare providers

The THV Clinic nurse or doctors may want you to see other medical specialists while you are waiting for TAVI. For example, you might benefit from seeing a geriatrician (a doctor who specializes in the care of older adults), a physiotherapist (a therapist who helps people move as well as possible), a dietitian, or a psychiatrist.



Planning Ahead

How long you stay in hospital will depend on what type of approach the doctor uses to implant your valve.

For some, this is 1 to 3 days and for others, it will be longer.

Your Going Home Plan should include the following:

Getting home: You must make your own arrangements for your trip home. This includes road transport, flights, and accommodation payment. Even if you came to hospital by ambulance or air ambulance, you must arrange your return home. Ambulance services cannot be used to return people to their home.

Arrange to have someone travel with you for the trip home. If this is not possible, let the TAVI nurse know. If you are from outside the Vancouver area, we suggest you stay one night close to the hospital before your trip home.

Going Home Plan, *continued*

Help at home: You will need some help when you first go home. It is hard to predict how much help you will need, and for how long. It is best to plan ahead so that you are sure to have the help you may need.

We suggest you arrange to have someone stay with you for the first 2 days or longer to help you recover. If you do not have family or friends to help you, speak to the TAVI nurse.

Recovering after TAVI: Most people say that it takes them about one month to fully recover after TAVI. It is hard to predict how long your recovery will be because every patient is different.

Understanding the Consent for TAVI

A medical consent is an agreement between you and your doctor. The doctor explains the benefits and risks of TAVI, and answers your questions. You are then asked to sign the consent form. This form means that you agree to the procedure. You agree to have the doctor to provide care for you while you are in the hospital, and treat any complications you may have.

Like any medical procedure, there are risks to having TAVI. The risks from TAVI include:

- having a stroke
- needing a permanent pacemaker
- bleeding from the puncture site
- leaking around the new valve
- worsening of kidney function

In very rare cases, there can be a life-threatening complication. In this situation open-heart surgery may be the best option. The doctor discusses this with you before your procedure. Depending on the situation, your doctor may proceed if this is what you/your family have decided. This procedure involves putting the patient to sleep, opening the chest, possibly using the heart-lung bypass machine, and doing surgery to fix the problem.

Emergency open heart surgery has risks. Complications are hard to predict. When you sign the consent, your doctor asks you to agree to have TAVI as well as open-heart surgery, in case it is needed.

If this is not what you want, discuss this with your TAVI doctor before or when you sign the consent. Contact the THV Clinic if you have any questions or concerns.

Advanced Care Planning

Before any medical procedure, it is important to plan for the care you wish to receive should your health worsen. Think about your personal and financial affairs and what's most important to you at the end of your life.

You can obtain more information about Advanced Care Planning at the following website: <http://www.advancecareplanning.ca>

Talk to your family about your future health care, in case you cannot speak for yourself later.

The Pre-Admission Clinic Visit

You will need to come to the Pre-Admission Clinic at St. Paul's Hospital before the procedure date.

- If you live in the greater Vancouver area, your appointment will be 1 to 2 weeks before the procedure.
- If you live further away, your appointment will be scheduled before your procedure. You may need to come to Vancouver a few days before your procedure.

At your Pre-Admission Clinic visit, you see a cardiac nurse and an anaesthesiologist. (The anaesthesiologist gives you medicine to make you sleepy and so you do not remember the procedure.)

We take a health history, get an update on your medications, check your blood pressure and heart rate, and listen to your chest. You will have an x-ray of your chest, an electrocardiogram, and some blood and urine tests.

Please tell us if you have frequent bladder infections or have ever been told that you have an enlarged prostate.

We will give you instructions on how to prepare for your TAVI and where to go on the day of your procedure.

Coming to the Hospital for TAVI

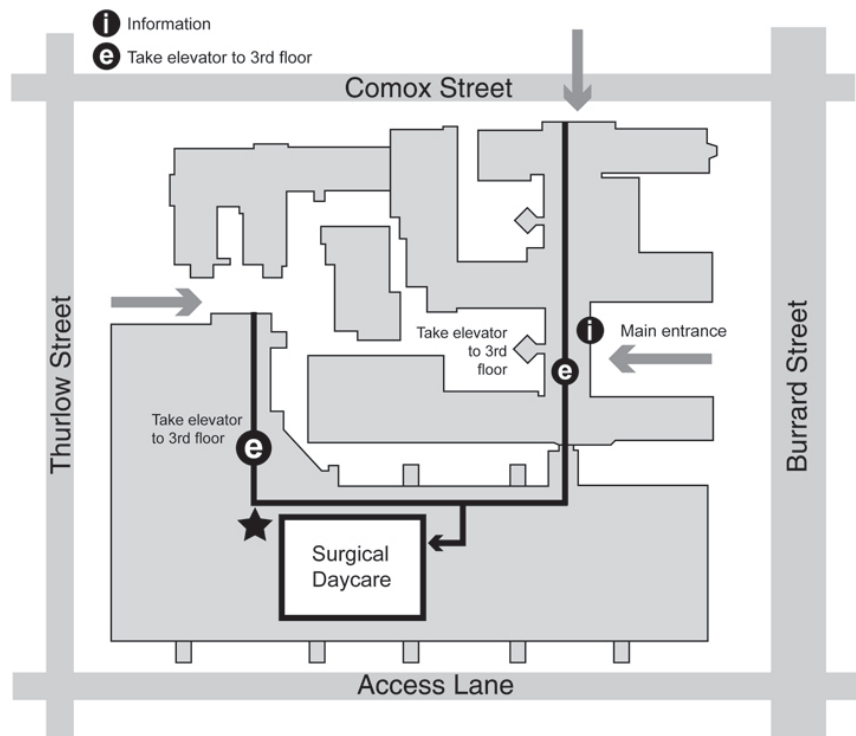
Your Procedure Date

The THV Clinic nurse calls you to tell you the date of your procedure.

Your procedure will take place at St. Paul's Hospital Operating Room.

To check in, go to the *Surgical Day Care on the 3rd floor of the Providence Building.*

The Goal is to let you know early enough to allow you to plan. However, we may call you on short notice if there is a change in our wait list. Sometimes we need to reschedule procedures because of emergencies.



Before the Procedure

We let you know what time you should arrive at the hospital for your procedure.



Do not eat anything (any solid food) ***after midnight (12:00 am)*** the night before your procedure.

- Take your usual medicines in the morning with a small sip of water. If you take insulin, pills for diabetes, aspirin, or blood thinners (such as warfarin or Coumadin), we give you specific instructions during your Pre-Admission Clinic visit.

While in hospital, you might need the following:

- | | |
|---|--|
| <input type="checkbox"/> Toothbrush and toothpaste | <input type="checkbox"/> CPAP machine
(if you use one at home) |
| <input type="checkbox"/> Comb or brush | <input type="checkbox"/> Reading material |
| <input type="checkbox"/> Slippers with non-slip soles | <input type="checkbox"/> Your walking aid, such as a cane
or walker |
| <input type="checkbox"/> Glasses and/or hearing aid | |

Bring only few personal items and clothing. It is best if your family can keep your clothes until you are ready to leave the hospital.

We suggest that you leave your valuables at home.

Once you are checked in at the Surgical Day Care, we will give you a hospital gown to change into.

You will have an intravenous (IV, pronounced “*eye-vee*”) in your arm or hand. This is a tiny soft plastic tube that goes into a vein. We use it to give you medications during your surgery.

We attach a cardiac monitor to measure your heart rate and function.

Before your TAVI

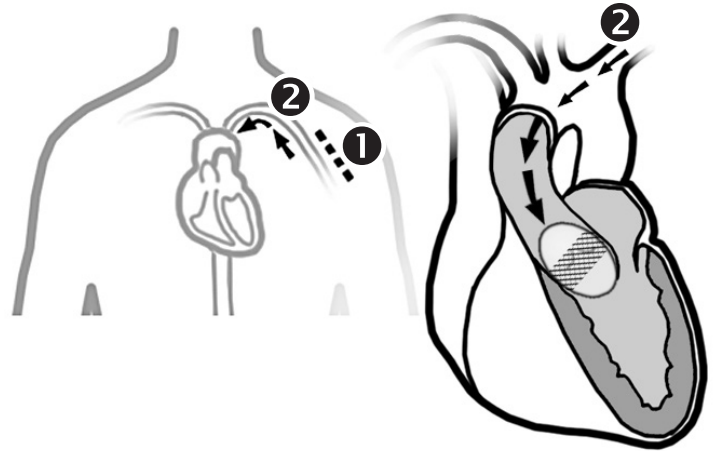
- You may have a catheter, a small soft plastic tube, placed in an artery in your wrist. This is called an arterial line. We use it to monitor your blood pressure continuously.
- You may have a central line. This is an IV line that is inserted into a vein in your neck.
- You may have a catheter in your bladder to drain urine into a bag. This will be removed as soon as possible, usually 8 to 12 hours after your procedure.
- You may have an epidural catheter. This is a small tube inserted near your spine to give pain medicine.
- During the procedure, some people receive medicines to help them relax and sleep lightly. Others may need general anaesthesia to put them in a deep sleep and completely relax all their muscles.
- If you have general anaesthesia, the doctor puts a breathing tube in your throat and into your lungs to give you oxygen and help you breathe.

The TAVI Procedure

There are different types of TAVI procedures. Each uses a different approach (path) to move the new valve to your heart. All the different approaches use a catheter, a soft hollow tube, to move the new valve.

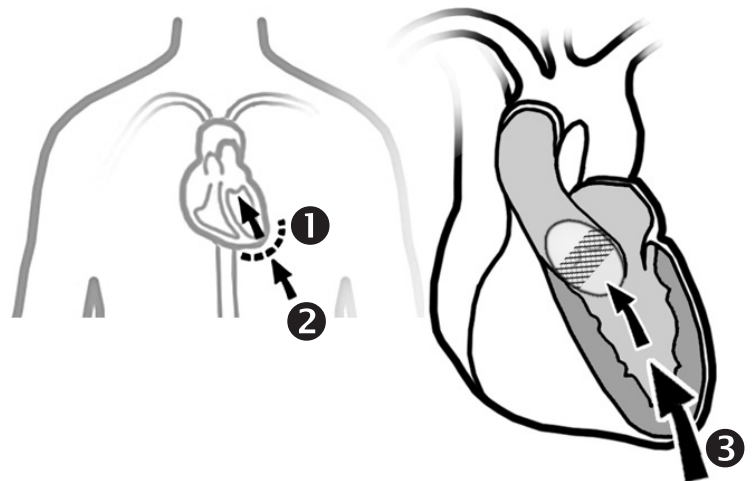
Subclavian/axillary approach

- The doctor makes a small incision **1** into the subclavian artery **2** from a place near the shoulder.
- We insert the catheter through the incision and move the new valve through the subclavian artery to the heart.



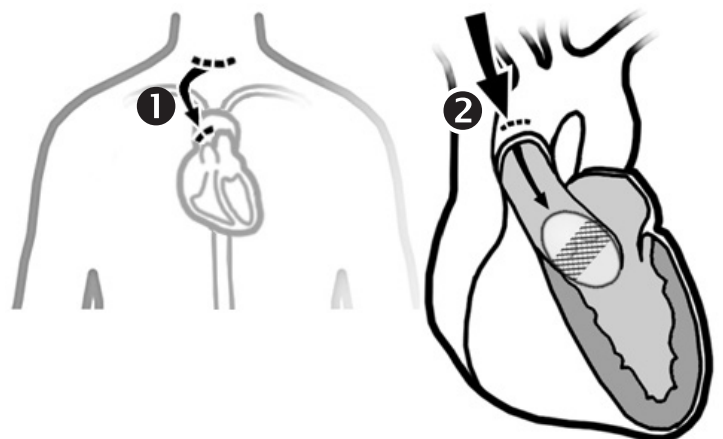
Transapical approach

- The doctor makes a small incision **1** in the left chest between your ribs to access the lowest part of your heart.
- We insert the catheter through the incision **2** and move the new valve to your heart. **3**



Trans-aortic approach

- The doctor makes a small incision **1** into your aorta from the upper chest.
- We insert the catheter through your aorta **2** to the top of your heart.



For all of these approaches, the doctor moves the new valve through the catheter to your heart. This is done using echocardiography (ultrasound of your heart) to guide the catheter. The ultrasound probe is placed in your stomach.

The new valve is placed inside your diseased valve. The new valve pushes the leaflets of your diseased valve aside.

Once the new valve is securely in place, we take out the catheter and place a dressing over your incision.

The whole procedure takes between 2 and 3 hours.

In Hospital after TAVI

After the Procedure

After the TAVI procedure, you are moved to the Cardiac Surgery Intensive Care Unit (CSICU). Your nurses tell your family when you arrive in the CSICU and the TAVI doctor speaks to you and your family.

Equipment

You have a heart monitor, several intravenous lines (one in your arm and one in your neck) and an arterial line in your wrist to monitor your blood pressure. You may have chest tubes to drain fluid from around your heart.

You may still have the breathing tube in your throat. This will be removed when you are awake enough to breathe on your own.

If you still have a small catheter in your groin, the nurse removes it using a pressure device (like when you had a cardiac angiogram). Your nurse changes and removes your dressing as necessary.

Activity

Your activity level will be continually assessed by your nurse. If there is no bleeding from your wound and your vital signs are stable, we will help you to sit or stand at the side of the bed. The time may be different depending on what approach the doctor used for your TAVI.

It is important for you to be as active as you can on the evening after the procedure. This will help you recover faster and prepare to leave the hospital.

After the procedure, *continued*

Eating and Drinking

Once you feel well enough, you can start drinking clear fluids.

The goal is for you to have water and juice on the evening of the procedure and a light breakfast the next day. Again, this will depend on what approach the doctor used for your TAVI.

Pain and Discomfort

Most people who have TAVI will have some pain.

We ask you to rate your pain using a number scale: “On a scale from 0 to 10, where 0 means no pain at all, and 10 means the worst pain ever, how much pain are you having right now?” We use the same scale all the time so we can compare your pain over time.

Sleeping in the Hospital

Some people do not sleep well in hospital. Let us know if you have certain sleeping habits that work for you, or you take a sleeping pill at home.

Visitors

Families are welcome to be present at any time. The hospital does not restrict visiting hours for family members. Of course, you must follow a few guidelines.

- Sick people need rest. You can visit often, but please respect your loved one’s wishes for privacy or rest.
- Children under 14 must be under adult supervision (from someone other than the patient) at all times.

Going Home after TAVI

The goal is for you to go home or leave the hospital between 1 to 3 days after your TAVI.

Once at home, your priorities are to recover safely, rest, get back to your regular activities, and do a bit more every day until you feel well.

Wound Care

Check your wound sites every day. It can be normal to have a bruise or soft lump.

See your doctor as soon possible if you have any of these problems:

- redness and warmth that does not go away
- any fluid draining from the wound
- fever and chills
- numbness in your legs that is getting worse
- numbness in your arm or hand (if you had the axillary or subclavian approach) that is getting worse
- pain in the wound site that is getting worse

It is **not normal** if the lump gets bigger or harder quickly. This can mean that you are bleeding. If this happen, you must:

- lie down
- ask someone to press down hard for 15 minutes just above the hole in your skin where the procedure was done. They will know if they are doing this right if the lump does not get bigger or harder. They must not stop pressing for the first 15 minutes.
- if the bleeding stops after 15 minutes, rest and stay lying down for at least 2 hours.
- if the bleeding does not stop after 15 minutes, call 911 for an ambulance to take you to the hospital.
- do not drive yourself. Do not ask anyone else to drive you.

Medicines

If we give you a prescription before leaving the hospital, go to the pharmacy in the first 24 hours (or have someone go for you). We may give you information about your medicines. Keep this information for future reference.

You regular doctor reviews your medicines during your first appointment. If you have questions about your medicines, speak to your doctor or your pharmacist.

After TAVI, continued

Follow-Up Appointments

- **1 to 2 Weeks after TAVI:** See your family doctor after you get home. Your doctor checks your wound site and your heart.
- **1 Month after TAVI:** You will either come to the THV Clinic at St. Paul's Hospital or have a check-in by telephone for your TAVI follow-up. This will depend on where you live and if you are able to travel to Vancouver for an appointment. We give you an appointment letter for the clinic visit and an echocardiogram (heart ultrasound) before you leave the hospital.
- **2 to 3 Months after TAVI:** See your heart doctor (cardiologist or internist). Make an appointment as soon as you get home. Your heart doctor continues to be your heart specialist.
- **1 Year after TAVI:** The THV Clinic calls you to ask you questions about your health. You have an echocardiogram (heart ultrasound) in a hospital close to you.

Your Heart Valve Card

We give you 3 copies of your Heart Valve Card when you leave the hospital.

- It is important for you to always tell your doctors, your dentist and your health care teams about your new heart valve in the future.
- We recommend that you keep one in your wallet or purse, put one on your fridge door and give one to a family member or close friend.



If you go to the emergency department or are admitted to hospital in the first month after TAVI:

- Show your Heart Valve Card to the doctor or nurse
- Ask the doctor or nurse to call the THV Clinic at St. Paul's Hospital

If you must have major dental work or other medical procedures (like surgery):

- show your Heart Valve Card to your dentist, doctor or nurse.
- tell your dentist that you have a prosthetic heart valve. Dental work done right after receiving a new heart valve could cause the new valve to become infected. You might have to take antibiotics before the procedure to prevent an infection.

Driving

Most people can start driving one to four weeks after TAVI. Speak with your TAVI doctor about your driving restrictions.

You must have someone with you the first time you drive.

If your regular doctor has told you in the past that you could not drive, you must check with them before you drive again.

Eating and Drinking

Eating nutritious foods every day is important for your recovery. Some people find that they have a poor appetite for a few weeks after TAVI. Eating small frequent meals in the first week helps you regain strength.

If you had to restrict the amount of fluids you could drink before TAVI, you must continue to do so until you speak with your regular doctor. If you don't have any fluid restrictions, make sure you drink enough to stay well hydrated.

Activity and Exercise

Daily activity and exercise are an important part of your recovery. People recover at different rates depending on their general health. Most people take approximately one month to feel recovered.

Do not lift, push or pull anything that weighs 10 pounds or more (like vacuuming, laundry, groceries, gardening, or a golf cart) for one week after TAVI.

Activity and exercise, *continued*

Follow these activity and exercise guidelines:

- move ahead from Step 1 to Step 4 . Take 1 to 4 days to complete each step
- always pay attention to how you feel whenever you increase your activity or add a new activity
- if you have any symptoms (unusual tiredness, shortness of breath, chest pain for dizziness), you must stop the activity and go back to the step that you had no symptoms.

	At home	Walking
Step 1	Get up and get dressed. Take care of your personal needs (like washing, making simple meals). Keep your activities easy for short amounts of time, and with many rest periods.	Walk around your home. Go slowly on stairs.
Step 2	Slowly return to activities around the house that don't involve a long time standing or using your arms (this causes more strain on your body)	Walk for 5 to 10 minutes at a time once or twice a day. Stay close to home. Avoid hills. These walks should feel 'light' or 'easy'.
Step 3	Do a few more activities around the house (like making your bed, making simple meals, watering plants)	Continue to walk once or twice a day. Make your walks longer. For example, add 5 minutes every day or two. These walks should feel 'easy'.
Step 4	Slowly start returning to your regular activities (like shopping, light gardening, going out with friends)	When a 15-minute walk feels easy, increase your walking speed that feels 'moderate'. Continue to lengthen your walks until you are walking 30 to 60 minutes every day, or for as long as you are comfortable.

Cardiac Rehabilitation

We strongly suggest that you attend a cardiac rehabilitation program such as “Healthy Heart” Program. This type of program helps you:

- learn how to return to your daily activities and hobbies
- participate in safe and heart-healthy activities
- learn about your heart health
- prevent more heart problems

Talk to your regular doctor(s) about which cardiac rehabilitation program is best for you.

I am having TAVI: My Planning Form

Pre-Admission Clinic Visit	
My Pre-Admission Clinic Visit Date:	
Location: <input type="checkbox"/> St. Paul's Hospital: 3 rd Floor, Burrard Building,	
Procedure Date, Time and Location	
My Procedure Date:	
My Time to be at the Hospital:	
My TAVI Doctor:	
Location: <input type="checkbox"/> St. Paul's Hospital: Surgical Day Care, 3 rd Floor, Providence Building	
Things to Remember	
<input type="checkbox"/> Clothes, shoes, coat to wear home	<input type="checkbox"/> Toothbrush and toothpaste
<input type="checkbox"/> Comb or brush	<input type="checkbox"/> Slippers (with non-slip soles)
<input type="checkbox"/> Hearing aid(s)	<input type="checkbox"/> Glasses
<input type="checkbox"/> Reading materials	<input type="checkbox"/> Other:
My Contacts	
My regular doctor(s):	
My family contact person is:	
Telephone number (Cell phone preferable):	
Notes:	

This material is for informational purposes only.

It does not replace the advice or counsel of a doctor or health care professional.

Providence Health Care makes every effort to provide information that is accurate and timely,
but makes no guarantee in this regard.

You should consult with, and rely only on the advice of, your physician or health care professional.

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

