

Transcatheter Aortic Valve Implantation TAVI



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You have been referred to St. Mary's General Hospital (SMGH). We need to find out if getting an artificial valve by Transcatheter Aortic Valve Implantation (TAVI) procedure, is right for you.

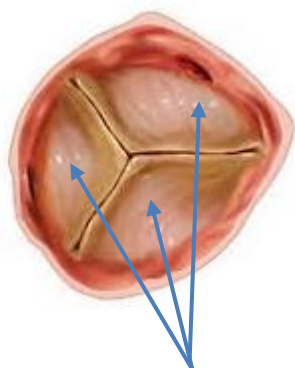
What is Aortic Stenosis?

Aortic stenosis is a disease of your aortic heart valve.

It causes narrowing of the aortic valve. It can cause symptoms such as shortness of breath, chest pain, weakness, feeling tired and at times passing out.

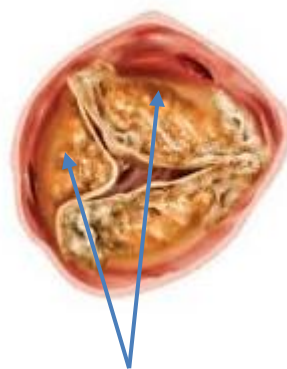
Aortic stenosis is often caused by calcium build-up on the valve leaflets. This occurs in some people as they age. We do not know why this happens in some people and not others.

Normal Valve



Healthy valve leaflets

Severe Aortic Stenosis



Calcium build-up

Images provided by Edwards Lifesciences

What is Transcatheter Aortic Valve Implantation (TAVI)?

TAVI is a procedure that implants a new valve inside the damaged aortic valve with an artificial valve. It is offered to patients with severe symptomatic aortic stenosis who are not able to have open heart surgery. They may be considered high risk or have many other medical problems. TAVI is different from open heart surgery. Your doctor does not cut through your chest bone and the recovery time is much shorter.

The artificial aortic valve

The artificial heart valve is made of bovine (cow) tissue. The valve is attached to a flexible mesh frame.

There are several valves used for TAVI. The TAVI team at St. Mary's General Hospital will select a valve that is right for you.



Side view of the valve



Images provided by Edwards Lifesciences

Overhead view of the valve

The size of an artificial valve used is based on the dimensions of your own valve. Size ranges from that of a quarter to a toonie.

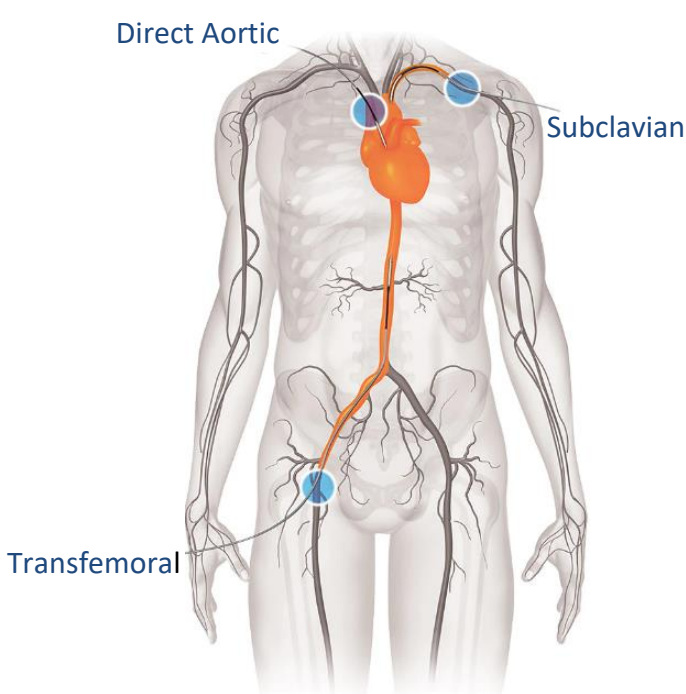
What are the risks?

The risks vary with each person. They are related to your overall health conditions. Your doctor will explain your risks to you before the procedure.

How is TAVI Done?

Transfemoral approach

A small cut is made in the femoral artery, a blood vessel in the groin or upper leg. Then, a small thin hollow tube, called a catheter, is inserted into the artery. The valve is passed up to the heart and then inflated by a balloon on the catheter. Once inflated, the new valve is placed inside your existing valve and the catheter is removed. The new valve starts working right away.



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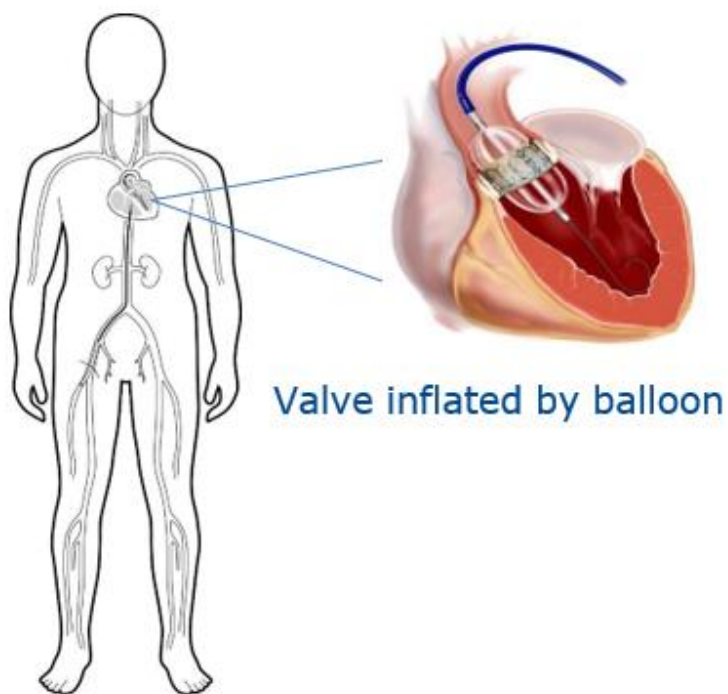


Image provided by Edwards Lifesciences

Transaxillary approach

An incision is made in the upper chest near the shoulder, instead of the femoral artery. This method is used in patients whose blood vessels are too small for the catheter and valve delivery.

The TAVI Team

During your stay at St. Mary's General Hospital, you will encounter many members of the health care/multidisciplinary team. Some of these members will include:

Interventional Cardiologist and Cardiac Surgeon	<ul style="list-style-type: none"> • Will perform your TAVI procedure • You will meet one or more of the TAVI doctors during your consultation • They will discuss your case with all members of TAVI team • On the day of your TAVI procedure, you may meet a different doctor or surgeon • All TAVI doctors work as a team and each doctor will be familiar with your history
Cardiac Anesthesiologist	<ul style="list-style-type: none"> • Will see you before your TAVI procedure during your pre-surgical clinic visit • They will monitor and provide care for you in procedure room, by keeping you comfortable and relaxed while managing your breathing, blood pressure and heart rate during procedure.
Nurse Practitioner (NP)	<ul style="list-style-type: none"> • Works closely with the doctors and medical team to coordinate and manage your discharge home after your procedure. • You will see the nurse practitioner on the morning of your discharge.
Regional Cardiac Care Coordinator (RCCC)	<ul style="list-style-type: none"> • Manages all testing in preparation for your procedure • Provides support and manages the details related to your booking as you wait for TAVI procedure. • Is a contact for you, your family, and your doctor(s) while you are with the program. • Ensures you understand the care plans for your TAVI procedure.

Registered Nurses (RN)	<ul style="list-style-type: none"> • You will encounter different nursing teams, before your procedure, in the operating room, and after your procedure. • Care for you 24 hours a day, while you are in hospital. • Help you to meet your goals for recovery and going home. • Provide you with the information you need to understand your recovery. If you have any questions or concerns, please talk with your RN at any time.
Medical Radiation Technologist (MRT)	<ul style="list-style-type: none"> • Manages the x-ray equipment during your procedure • Works closely with medical team to manage imaging necessary to perform your procedure.

If you have any questions or concerns, please contact the TAVI coordinator at 519-744-3311 ext. 1992.

What Tests Do I Need to Find Out If I Am a Candidate For TAVI?

Some of these tests may need to be repeated at St. Mary's General Hospital after you have been seen by the TAVI team.

- Physical exam.
- Blood tests.
- Echocardiogram – a special type of ultrasound that uses sound waves to take pictures of your heart.
- Coronary and peripheral angiogram – a test where a doctor injects a special dye into your arteries. An x-ray camera then takes moving pictures. It shows your heart and the arteries that supply blood to the heart muscle and legs.
- CT scan – a test that uses an x-ray machine to take detailed pictures of your body. The CT scan will take pictures of your heart. Contrast (dye) is injected into a vein. It will show parts of your heart, including your aortic valve. The CT scan will help doctors decide what size heart valve is best for you.
- Transesophageal echocardiogram (TEE) – a special test that uses sound waves to take pictures of your heart. These pictures are taken from inside the esophagus. Only specific patients will have this done.

Waiting For Your TAVI Procedure at Home

Most people will be waiting at home for their procedure. Your Regional Cardiac Care Coordinator will arrange for you to have an appointment in the Pre-surgery Clinic. This appointment will take place within 1-3 weeks of your procedure date. You will receive the appointment information and some questionnaires and forms that you will need to fill out before your clinic appointment.

Chance of cancelation

We will make every effort not to change your procedure date. There is always a chance, however, that it may change. Sometimes events occur without warning. If your procedure needs to be changed, the Coordinator will let you know as soon as possible. A new date will be arranged. Ensure that your Coordinator has the correct day and evening phone number(s) to reach you.

Getting Ready for Your TAVI Procedure

Weeks before your procedure

- You will meet with a TAVI team cardiologist and coordinator.
- You will have all needed tests.
- St. Mary's General Hospital is located at 911 Queen's Boulevard in Kitchener. You will go to the Pre-surgery Clinic. The clinic is located off the main lobby next to the gift shop. If you are unsure where to find the clinic, you can ask for help from one of the hospital volunteers. Volunteers can be found in the main lobby.



The Pre-surgical clinic

The goal of the pre-surgical clinic is to help prepare you and your family for your upcoming procedure.

Your appointment will last 2 to 3 hours. Please bring 1-2 family member(s) or support person(s) with you to this appointment. You will receive a lot of information about your hospital stay and recovery.



It will include meeting an anesthesiologist and nurses, reviewing your medications and blood work. Your pre-surgical clinic nurse will also review a TAVI care plan with you.

If you have a pacemaker or an ICD, you may be asked to see Pacemaker Clinic at SMGH before your appointment.

On the day of your clinic visit, please:

- Eat and drink as usual. You may bring lunch with you if your appointment is before noon or eat lunch before you arrive for your afternoon appointment.
- Take your usual medicines.
- Wear loose-fitting, comfortable clothes, wear socks instead of pantyhose.

Please bring the following items with you to the clinic:

- ☐ Completed forms and questionnaires.
- ☐ Health card
- ☐ This booklet (TAVI patient education booklet)
- ☐ All of your medications in their original containers. This includes any herbals, naturopathic, or vitamin products and inhalers.
- ☐ If English is not your first language, please bring someone who can translate for you.

Medication instructions before TAVI

Pre-surgical clinic nurse will review all of your medications with you during your clinic visit. It is important to take all of your regular medicines unless otherwise instructed below.



Medicines to stop **before** TAVI:

When to stop:

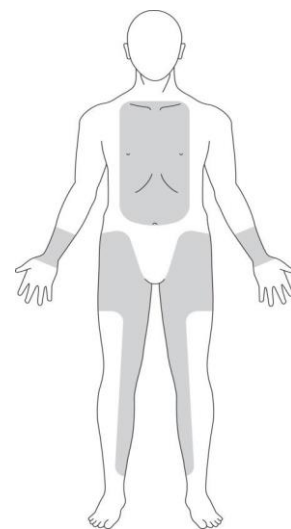
Medicines to take **the morning** of TAVI (with a sip of water only):

Night before your procedure:

- You may eat and drink until 12:00 midnight the night before your procedure
- After midnight, you cannot have anything to eat or drink (this includes sucking candies and chewing gum).
- The night before your procedure and the morning of your procedure, wash your body with regular soap. Make sure you completely rinse off the soap from your body.
- Pay close attention to the shaded areas as shown on the picture, nipple to nipple, collar bone to bellybutton, both wrists, inside of both legs and groins.

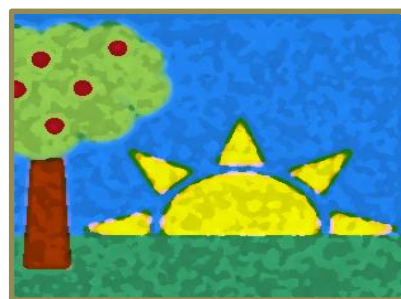
Avoid scrubbing your skin too hard.

- Pat yourself dry with a clean freshly washed towel. DO NOT apply any powders, lotions, or deodorants.
- Dress with freshly washed clothes.



Day of Your TAVI Procedure

- You will be given instructions by the pre-surgical clinic on what medications you may take the morning of your procedure. Take them with only a sip of water.
- Wash your body as you did the night before.
- Remove contact lenses, make-up, nail polish, earrings and all other jewelry.
- **Do not eat or drink.**



- **Please bring with you:**

- ☐ Your Ontario Health Insurance Plan (OHIP) card.
- ☐ All your current medications in their original containers.
- ☐ A pair of slippers with back and non-slip sole.
- ☐ Personal care items, such as toothbrush, toothpaste, , soap, comb or brush and a housecoat.
- ☐ Wear your dentures, eyeglasses, and hearing aids as needed. These will be removed before your procedure. Bring all your cases and protective devices.
- ☐ If you use CPAP machine, please also bring it with you.
- ☐ Any walking aids you use e.g., walker or cane
- ☐ This booklet (TAVI patient education booklet)



Leave money, credit cards, jewelry, and valuable at home.

When you arrive at St. Mary's General Hospital, go to main registration desk on 1st floor.



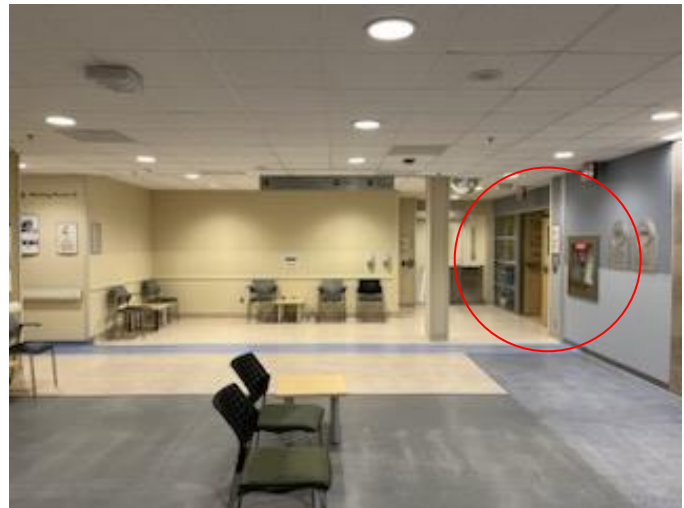
After you are registered, you will be directed to Pre/Post Heart Investigation Unit (PHIU) located on the 2nd floor.

Your PHIU nurse will prepare you for your procedure. This will include:

- Assistance with getting you changed into hospital gown.
- Review of your health history, medicines, blood work and ECG.
- Going over pre-operative checklist with you, including consent.
- Shaving an area on both of your groins, chest and possibly wrists and then wiping them with special antimicrobial wipes.



Your family will be asked to wait in the 2nd floor waiting room. They will be provided with a privacy code, to protect your privacy and sensitive health information. The doctor will talk to your family after your procedure.



Privacy Code

The nurse will give you a privacy code number. Your designated support person will have to repeat this number to staff when they want to obtain updates on your condition.

Your privacy code number is: _____

What to Expect During TAVI Procedure?

Before going into TAVI procedure room, you will be asked to empty your bladder.

Once you enter the TAVI room, you will notice it to be very busy. Nurses, doctors, and x-ray technologists will be setting up for your procedure.

The anesthesiologist will ensure you are comfortable for your procedure. You will be given medications to help you relax. Sometimes that means putting you completely to sleep. If so, you will have a breathing tube.

You will have small tubes in both of your groins, wrist and sometimes neck.

You will have a temporary pacemaker wire inserted during the procedure. Let the doctors know if you already have a pacemaker.

The procedure takes about 1-2 hours.



What to Expect After TAVI Procedure?

If you have a breathing tube, it will be taken out when you are awake and breathing on your own.

Most patients will return to PHIU for their recovery. Sometimes you might need to go to Coronary Care Unit. The TAVI team and TAVI coordinator will ensure your family is aware.



You will have to lie flat in bed for 4-5 hours. This will prevent you from using the bathroom, but a bedpan or urinal will be provided for you if needed. Please expect that only minimal nutrition intake can be provided for you at this time.

You will slowly increase your mobility with the help from your nurses. You will likely be expected to get out of bed 4-5 hours after your procedure.

You will be wearing a cardiac monitor.

You will likely have few blood tests and electrocardiogram (ECGs) done.

Echocardiogram (ultrasound of your heart) will be done after your procedure or before you are sent home.

Your nurse will check your groin sites frequently, to make sure they are healing properly. There may be bruising at the site where the tubes

were placed. This bruising may spread down your leg. If you experience numbness or coolness in either your arm or leg, it is important to notify your nurse immediately.

If you are not already on, you will be started on medications that thin your blood.

Expect to stay in the hospital overnight. The majority of patients go home the morning after their procedure. A small number of patients may be going home the same day as their procedure. Your recovery plan and length of hospital stay will depend on your overall health and complexity of your procedure.

If you live alone, you should have a family member, or a friend stay with you overnight after your procedure.

You may also wish to go to a retirement home for few days after your procedure for help while you recover. There is a cost for this type of care. Call your local Home and Community Care for more information. You will have to make these plans before your procedure. Your TAVI coordinator can help with arrangements.

St. Mary's General Hospital policies

Visiting Hours

Please check with the individual unit about visiting hours. There may be times that your health care team will ask your family to leave your bedside. This can happen when they need to do assessments, care rounds, tests, and treatments. We will always try to keep you and your family informed and involved.

We ask that only one family member or close friend visits. This may change based on infection prevention protocols.

Please do not visit if you are ill.

We are fragrance restricted and smoke free hospital:

Please do not wear or bring perfume, cologne, and scented products.

Smoking is not allowed anywhere on the hospital grounds.
For support or help to stay smoke-free:



- We can provide you with nicotine replacement products that make your hospital stay more comfortable. Talk to a member of your health care team.

Contact Smoker's Helpline toll-free at 1-866-797-0000 or www.smokershelpline.ca

Going Home

The majority of patients will be going home the morning after their TAVI procedure.



Patients going home the same day as their procedure, will receive a Holter monitor. It is a small, wearable device that records your heart's rhythm.

The PHIU nursing team and NP will ensure you are ready for discharge and have all the resources needed.

Your discharge home time will be communicated to your family.

Have a family member or a friend bring your clothes and shoes if you do not have them with you.

You may be given medication prescriptions before going home. Your nurse and/or NP will go over all the medications with you.

You might be referred to your local Cardiac Rehab program.

At Home Selfcare



Activity

The goal is to have you buildup your activity level as tolerated. We recommend you walk at a pace that you are still able to talk. Listen to your body and go at your own comfort level.

Take short walks daily that you may slowly increase with time. For example:

- Week 1 – walk 5 minutes 5-6 times daily
- Week 2 – walk 10 minutes 3 times daily
- Week 3 – walk 15 minutes twice a day
- Week 4 – walk 30 minutes daily



Avoid tough activity or heavy lifting (over 10 pounds) for 2 weeks.

Do not strain when having a bowel movement.

You can drive 1 month after your procedure.



Medications

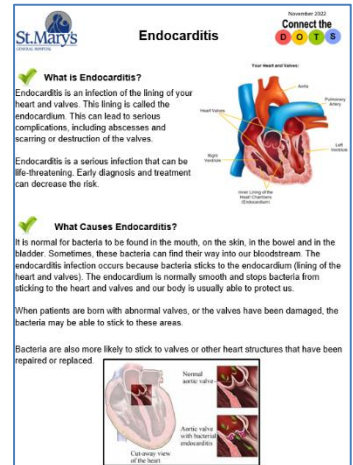
Most TAVI patients will need to take Aspirin lifelong. You may also be taking another blood thinner medication, Plavix (Clopidogrel) or Ticagrelor (Brilinta), if you had a coronary stent placed in the past 12 months. If you are already taking a blood thinner like Warfarin (Coumadin), Rivaroxaban (Xarelto) or Apixaban (Eliquis) for atrial fibrillation, you will not need to take Aspirin, just your regular blood thinner.



Endocarditis prevention

Antibiotics may be given before some procedures and surgeries to help decrease the risk of getting endocarditis (an infection of the lining of the heart and valves). You will have teaching and be given an **endocarditis pamphlet** during your hospital stay.

Remember to always tell your doctor, nurse practitioner and dentist of your replaced valve. You will need to take antibiotics **before each visit** to the dentist. Your dentist or family doctor can give you the prescription for antibiotics.



Take good care of your teeth and gums. People with dentures should have checkups twice a year to make sure their gums are healthy, and their dentures fit properly.

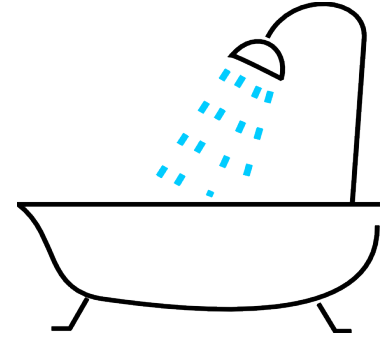


Care of your access site

Look at your access site every day for a couple of weeks. It may be tender and slightly red, have a small lump or mild swelling, or have clear discharge. You may have bruising that spreads down your leg.

Continue to support your groin by applying pressure to it for 3 days after the procedure. Your nurse will show you how.

Taking a bath or shower....



If your procedure was done through a small puncture site in your groin:

- Remove the dressing from your groin 24 hours after procedure.
- You may shower the day after your procedure.
- You may have a bath after the access site is healed. Healing is when the site is dry with no open areas and no drainage. This is usually after 3 days.

If you had a cut in your groin or chest:

- You may have a sponge bath for the first 5 days.
- You may shower 5 days after your procedure.
- You may let soapy water run over your cuts but do not scrub them.
- Gently pat your cuts dry.
- Do not take a bath until your cuts are healed. Your cuts are healed when they are dry with no open areas and no drainage.



Call your doctor if you notice:



- You develop a rash.
- Redness, warm to touch or puss draining from the access site. These may be signs of infection.
- Fever greater than 38°C or 101°F, or chills

If your doctor is NOT available, go to An Urgent Care Centre or nearest Emergency Department



Go straight to emergency department or call 911 if:

- You have changes in your sight or speech.
- You have severe pain, numbness, coolness, or weakness in you leg.
- You experience any signs of heart arrhythmia. This may feel like flutter or racing heart, anxiety, fatigue, light headedness or dizziness, sweating, fainting or near fainting.
- You have sudden bleeding, swelling or severe pain at the puncture site. Have someone apply direct pressure over the puncture site and call 911.
- You have a visibly pulsating lump over the puncture site. Loosely cover it with a bandage but do not apply pressure.

Follow-up appointments

- ☐ Family doctor – 1 week.
- ☐ Cardiologist – 4 to 6 weeks.
- ☐ TAVI doctor – 1 to 2 months, prearranged before your discharge
- ☐ Cardiac Rehabilitation Centre – if ordered by your doctor

Cardiac Rehabilitation

Before you leave the hospital, staff will talk to you about taking part in a Cardiac Rehabilitation program. This program can help you get stronger and maintain a heart-healthy lifestyle. Not all post TAVI patients are referred. The TAVI team will decide if this is appropriate for you.

The program offers education and support to promote heart-healthy habits. These habits will help you reduce your risk of future cardiac visits. The program team will work with you to improve your heart-healthy behaviors.

For patients in the Waterloo-Wellington region:

While in the program you will benefit from:

- ☐ Full cardiac assessment
- ☐ Group education classes
- ☐ Individual education
- ☐ Exercise stress test
- ☐ Personalized exercise prescription
- ☐ Nutrition counselling
- ☐ Smoking cessation advice
- ☐ Stress coping strategies
- ☐ A 4-month supervised physical fitness programs



The program will contact you with an appointment date and time. You will also receive a letter in the mail, that confirms the date(s) and gives direction to the program location.

If you are interested in more information on whether cardiac rehabilitation is right for you, you can access information and other education sessions, on their website.



Website: <http://www.smgh.ca/patient-care-programs/regional-cardiac-care-centre/cardiac-rehabilitation-hearts-in-motion/>

For patients outside of Waterloo-Wellington region:

If you are from outside the area, you will be given information about a program closer to your home.

How should I contact you?

You can contact us at:

St. Mary's General Hospital
911 Queens Blvd
Kitchener, ON. N2M 1B2



Regional Cardiac Care Coordinator

Phone: 519-749-6578 ext. 1992

PHIU

Phone: 519-749-6578 ext. 6750