

Transcatheter Aortic Valve Replacement (TAVR)

You have been referred to the Hamilton General Hospital to assess if getting an artificial heart valve by a transcatheter aortic valve replacement (also known as TAVR) is right for you. This procedure is also called a transcatheter aortic valve implantation (or TAVI).

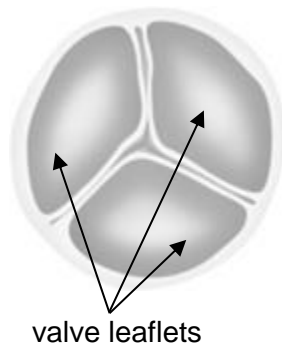
What is aortic stenosis?

Aortic stenosis is a disease of your heart valve.

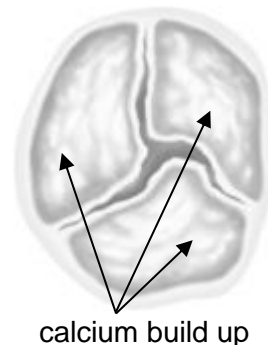
It causes narrowing of the aortic valve which may cause symptoms of shortness of breath, chest pain, passing out, weakness or feeling tired.

The cause of aortic stenosis is often related to calcium buildup on the valve leaflets that occur in some people as they age. We do not know why this occurs in some people and not others.

Normal valve



Severe aortic stenosis



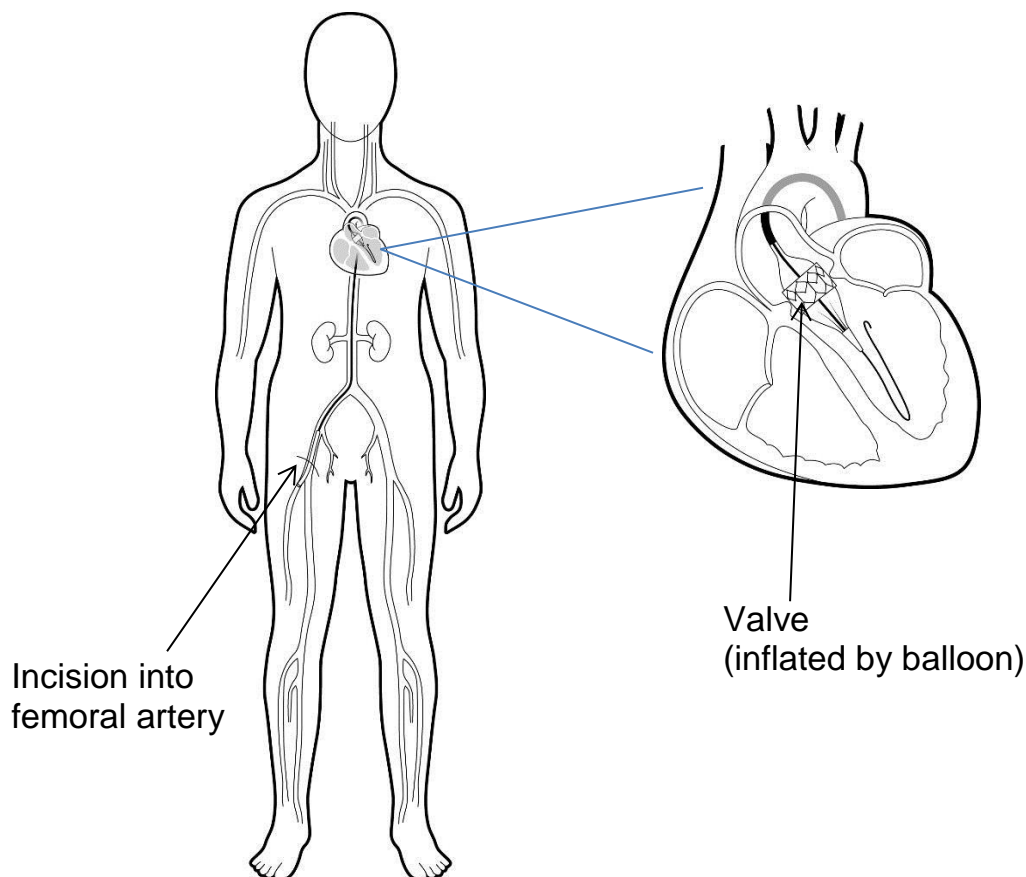
What is Transcatheter Aortic Valve Replacement (TAVR)?

TAVR is done for patients with severe symptomatic aortic stenosis who are not able to have traditional open heart surgery because they are high risk or have many other medical problems. The procedure is different from open heart surgery as your surgeon does not cut through your sternal bone and the recovery and hospital stay are often not as long.

How is a TAVR done?

Transfemoral approach

A small incision 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 incision. The valve is compressed 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.



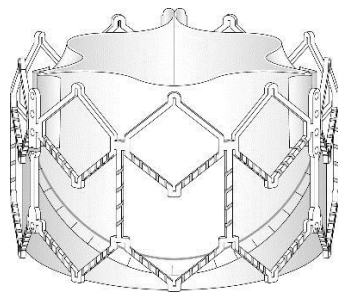
Axillary approach

A small incision is made near the shoulder below the collar bone in the axillary artery, instead of the femoral artery. This approach is used in patients who have blood vessels in the legs that are too small for the catheter to deliver the valve.

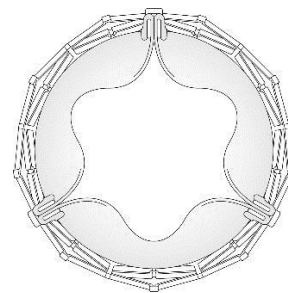
The artificial aortic valve

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 TAVR. Currently, the TAVR team at Hamilton General Hospital uses the Edwards valve.



Side view of valve



Overhead view of valve*

- * The size of the artificial valve is based on your own valve and ranges from the size of a quarter to a toonie.

What are the risks?

The risks vary with each person and are related to your health condition.

Your doctor will explain the risks to you before the procedure.

What tests do I need to have to see if I am a candidate for TAVR?

Some of these tests may need to be repeated at Hamilton Health Sciences.

- Physical exam.
 - Blood test (complete blood count, electrolytes, kidney function, and blood clotting).
 - Echocardiogram (ECHO) – A special type of ultrasound that uses sound waves to take pictures of your heart.
 - CT scan – A test that uses an x-ray machine to take detailed pictures of the body. The CT scan will take pictures of your heart. Contrast (dye) is injected into a vein to highlight the structures of your heart including the aortic valve. The CT scan will help doctors decide what size heart valve is best for you.
 - Coronary and peripheral angiogram – A test where the doctor injects a special dye into your arteries. An x-ray camera takes moving pictures that show your heart and the arteries that supply blood to the heart muscle and the lower extremities.
 - This test is ordered after the CT scan if the team needs more information about the arteries in your heart.
 - Transesophageal echocardiogram (TEE) – A special type of ultrasound that uses sound waves to take pictures of your heart. The pictures are taken from inside the esophagus.
 - This test is not commonly ordered
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The TAVR Team

The TAVR team is made up of several doctors, nurses and radiology technicians. You will meet with one of the TAVR doctors in consultation and that doctor will discuss your case with all members of the TAVR team. On the day of your procedure you may meet a different doctor or surgeon. However, the doctors work as a team and each doctor will be aware of your history.

If you have any questions or concerns, please contact the TAVR team at 905-869-0301.

Weeks before your procedure

- You will meet with a TAVR team cardiologist, surgeon and/or nurse practitioner. This will typically occur after your CT scan at McMaster University Medical Centre.
 - You will receive 1 or 2 phone calls from our pre-op anaesthesia team. They will instruct you on the pre-op tests needed.
 - If you are on blood thinners, you may be asked to see the Thrombosis Clinic at Hamilton General Hospital before your procedure.
 - If you do not have a permanent pacemaker, MHealth will mail you a heart monitor to wear before and after your procedure. You will wear the heart monitor for a total of 14 days.
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Night before your procedure

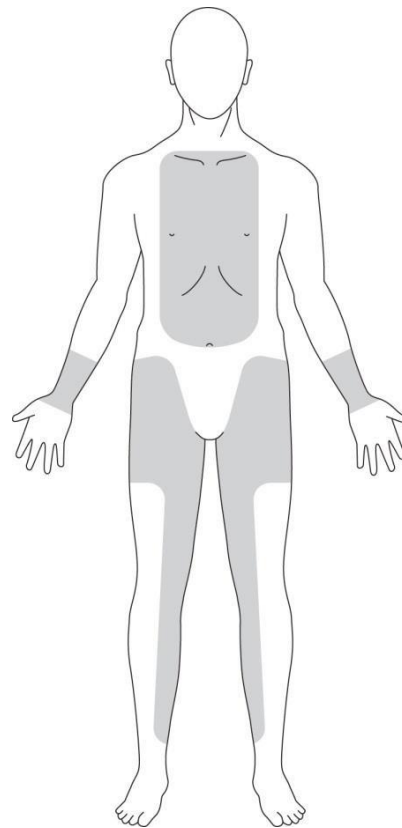
- You may eat or drink until 12:00 midnight the night before your procedure.
- After midnight, you cannot have anything to eat or drink. This includes sucking candies and chewing gum.
- You will need to have 2 packages

You can buy the sponges at any HHS pharmacy or local pharmacy.



- The night before your procedure and the morning of your procedure, wash and rinse your hair first using your normal shampoo. Make sure you completely rinse the shampoo from your hair and body.
- Wash your body with regular soap. Make sure you completely rinse off the soap from your body.
- Now begin using one of the scrub sponges you purchased. Wash the shaded areas as shown on the diagram, nipple to nipple, collar bone down to umbilicus, both wrists, inside of both legs and both groins. Avoid scrubbing your skin too hard.

- Never use the sponge near your eyes. 
- Once you have completed the scrub, rinse the soap solution off your body completely.
- Pat yourself dry with a clean freshly washed towel. **DO NOT** apply any powders, deodorants or lotions.
- Dress with freshly washed clothes.



Morning of your procedure

- You will be given instructions by the Pre-op Clinic on what medications you may take the morning of your procedure. Take with only a sip of water.
- Wash your body with the 2nd scrub sponge, as you did the night before.
- Remove contact lenses, make-up, nail polish, earrings and all other jewellery.
- **Do not eat or drink.**

Day of your procedure

Bring:

- your Ontario Health Insurance Plan (OHIP) card.
- all of your current medications in their original containers and your medication list.
- a pair of slippers with a back and non-slip sole.
- personal care items, such as a toothbrush, toothpaste, shampoo, soap and a housecoat.
- the MHealth heart monitor if one was sent to your home.

Registration

- When you arrive at the Hamilton General Hospital, go to Patient Registration on the Main Level.
- After you have registered, go to the Heart Investigation Unit (HIU) on the 3rd floor.

HIU Arrival

- Your nurse will prepare you for the procedure which takes about an hour.
 - Currently, family members are not allowed to wait due to COVID-19 restrictions. A TAVR team member will contact your family by phone after your procedure.
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Procedure

- When you arrive in the procedure room you will notice the room is very busy with nurses, radiology technicians and doctors preparing for your procedure.
- You will likely be awake for your procedure. You will be given medications by an anesthesiologist to relax you through your IV line.
- You will be asked to empty your bladder before the procedure.
- You will have small tubes in both of your groins.
- You will have a temporary pacemaker placed during the procedure.
- The procedure takes about 2 hours.

What should I expect after the procedure?

- You will recover in the HIU on the 3rd floor and stay overnight.
 - For the first couple of hours your nurse will remind you to keep your legs straight as you may still have catheters in your groins.
 - You will gradually increase your mobility with the help of your nurses.
 - You will be expected to get out of bed 4 to 6 hours after the procedure.
 - You will wear a cardiac monitor following the procedure.
 - You will have blood tests, electrocardiograms (ECGs), and an echocardiogram (ultrasound of your heart) done before you are discharged home.
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What should I expect after the procedure (continued)

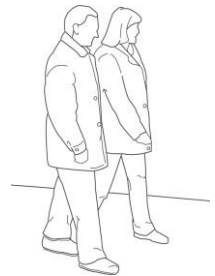
- Your nurse and/or doctor will check your groin sites to make sure they are healing properly. You may notice bruising at the site where the catheter was placed which may extend down your leg.
- You will be asked to take Aspirin® daily unless you are already on blood thinners.
- Expect to stay in the hospital overnight and be prepared to be discharged the day after your procedure at 9am.
- If you live alone, you may wish to have a family member or friend stay with you for 1 to 3 days after your surgery.

Going home

- Increase activity 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 pace.

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

- Week 1 – walk for 5 minutes 5 to 6 times a day
 - Week 2 – walk for 10 minutes 3 times a day
 - Week 3 – walk for 15 minutes twice a day
 - Week 4 – walk for 30 minutes daily
- Avoid strenuous activity or heavy lifting (nothing over 10 pounds) for 2 weeks.



Going home (continued)

- You cannot drive after your procedure. Usually, you are asked not to drive for 1 month. Ask your doctor when you can drive.
- You will be given medication prescriptions before you go home. If you have any questions ask the nurse, doctor, or pharmacist.
- Do not go to the dentist for 3 to 6 months following your TAVR unless you have an abscess or toothache. Tell your dentist that you had valve replacement. You will need to take antibiotics before each visit to the dentist. This will help prevent an infection. Your dentist or family doctor can give you a prescription for the antibiotic.

Care of your access site

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

Taking a bath or shower...

If your procedure was done through a small hole in your groin:

- 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 within 72 hours.
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If you had an incision in your groin or in your chest:

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

Call your doctor if you notice

- Pain at the access site.
- An increase in bruising or swelling from when you left the hospital.
- A lump larger than a golf ball at the access site.
- Redness, warmth to touch or pus draining from the access site.
- Fever greater than 38°C or 101°F, or chills.

If your doctor is NOT available,
go to an Urgent Care Centre.

If you develop any sudden severe pain or notice bright red blood at the access site:

- apply pressure and call 911 right away.

Follow-up appointments

- Family doctor – 1 week
- Cardiologist – 1 to 2 months
- Echocardiogram – 1 to 3 months
- In person or telephone follow up with a TAVR team member – 1 to 3 months
- Cardiac Rehabilitation, if you are interested

Visiting hours

- Currently, we have a no visitors policy due to COVID-19.
- Please do not hesitate to call the HIU with questions or concerns about your family member at **(905) 521-2100 ext. 46210**.

Fragrance restricted

We are a fragrance-restricted hospital. Please do not wear or bring perfume, cologne, aftershave, scented hair spray or other scented products.



We are smoke-free

Hamilton Health Sciences is smoke-free. This means that smoking is not allowed anywhere on the grounds, including parking lots, garages and vehicles.



For support or help to stay smoke-free:

- We can provide you with nicotine replacement products to make your hospital stay more comfortable. Talk to a member of your health care team at Hamilton Health Sciences.
- Contact Smoker's Helpline toll-free at 1-877-513-5333 or www.smokershelpline.ca