

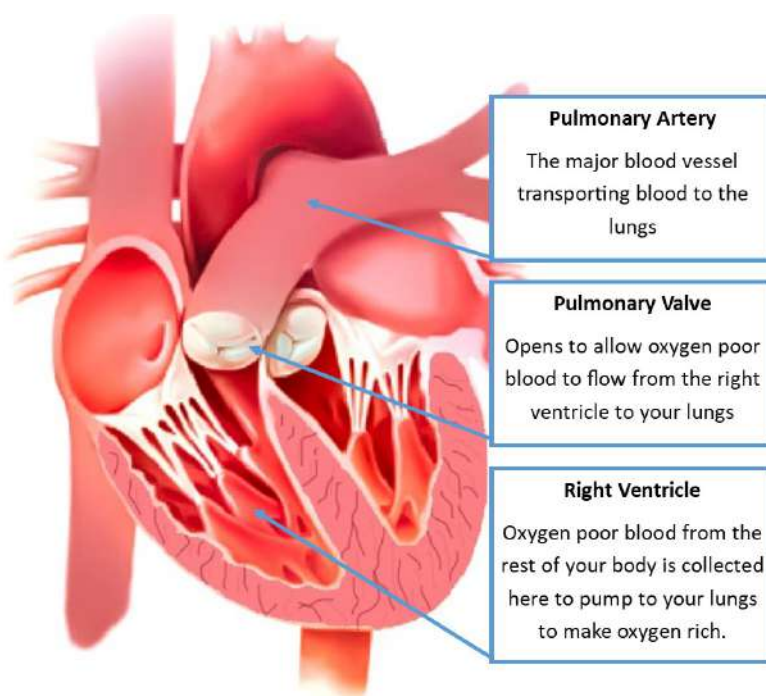
Transcatheter Pulmonary Valve Implant (TPV)

A Guide for Patients and Families

For further information please talk to your Cardiologist.

YOUR HEART AND VALVES

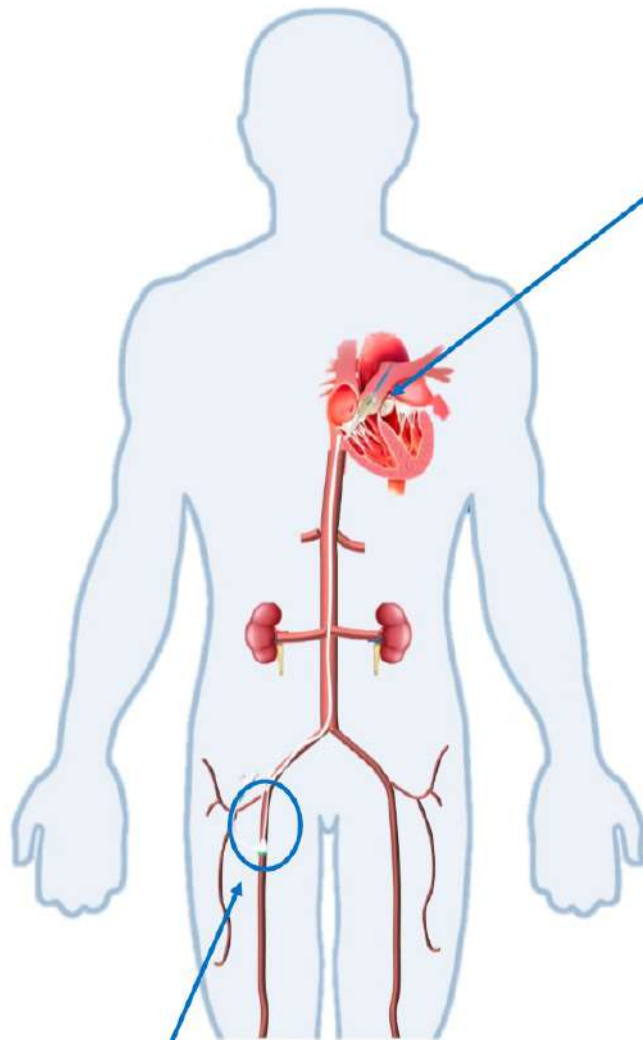
Your heart is a muscle that pumps blood around the rest of your body. There are four chambers of the heart, each with a valve with two or three leaflets. Your valves act as doors that open and close to allow blood to flow in one direction through the heart



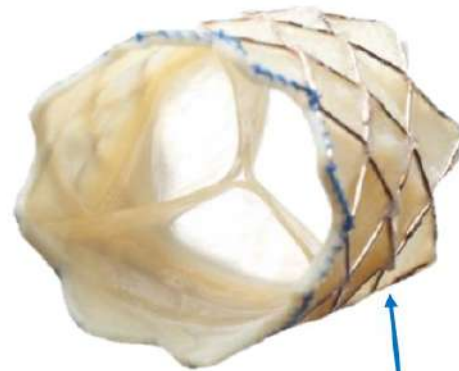
A TPV IS DONE IF YOU HAVE EITHER OF THE FOLLOWING;

- Severe right ventricular to pulmonary artery stenosis (narrowing) **OR**
- Severe pulmonary valve regurgitation. This is when the valve does not close properly, causing blood to flow backwards **OR**
- Combined pulmonary valve stenosis and regurgitation
- Usually, this is performed in a surgically created tube (conduit) connecting the right ventricle (right lower chamber) to the pulmonary artery (major blood vessel that transports blood to the lungs). It can occasionally be performed in the native (your own) right ventricular outflow tract.

WHAT IS A TRANSCATHETER PULMONARY VALVE IMPLANT?



A balloon catheter (tube) is used to deliver your new valve to the site of your old pulmonary valve. This is done using x-ray and ultrasound to see the valve is in the correct position.



The valve is made out of pig or cow heart tissue and stitched on to a small metal frame (stent). The valve is made to work like the valve you are born with.

The valve implant is done through a small cut in your femoral vein (via the groin)

The aim of a transcatheter pulmonary valve (TPV) implant is to replace your original pulmonary valve without the need for further open heart surgery. Your old valve is not removed but will stay inside your heart behind your new working pulmonary valve.

HOW LONG WILL THE PROCEDURE TAKE?

The procedure will take approximately 2-3 hours.



WHAT ARE THE RISKS?

Your doctor has recommended you for a Transcatheter Pulmonary Valve (TPV) Implant as they believe the benefits to you outweigh the risk of not going ahead with the procedure. There are risks and complications related to this procedure. They include but are not limited to the following.

Common risks and complications (more than 5%) include:

- Minor swelling or bruising at the puncture site.
- Bleeding from the groin which you may need a blood transfusion for.

Uncommon risks and complications (1-5%) include;

- There is a possibility that the procedure can not be completed as the coronary arteries or aorta would be compressed if a valve is implanted. This may only be found out when a balloon is inflated in the pulmonary valve prior to inserting the valve.
- Major bruising or swelling at the groin puncture site. This may need surgery to drain the blood from the bruise.

Rare risks and complications (less than 1%) include:

- Accidental tear or puncture of the blood vessels, myocardium (heart muscle) pulmonary artery (major artery) or valve structures which may need emergency major surgery.
- The valve moves from its position, this may need to be removed with a special catheter or open heart surgery.
- Skin injury from radiation. This may cause reddening of the skin
- Blood clots in the lungs (Pulmonary embolism) or leg (DVT) causing pain and swelling.
- Numbness in the arms that can persist for months
- Death as a result of this procedure is rare.

Late risks of infection:

- There is an increased risk of late infection following the transcatheter valve. It is important to have any Infections (e.g skin, urinary or dental infections) promptly treated. Avoidance of infections is also important such as never injecting drugs. If you develop an unexplained fever, you will need to have blood tests arranged by your doctor.



BEFORE YOUR PROCEDURE

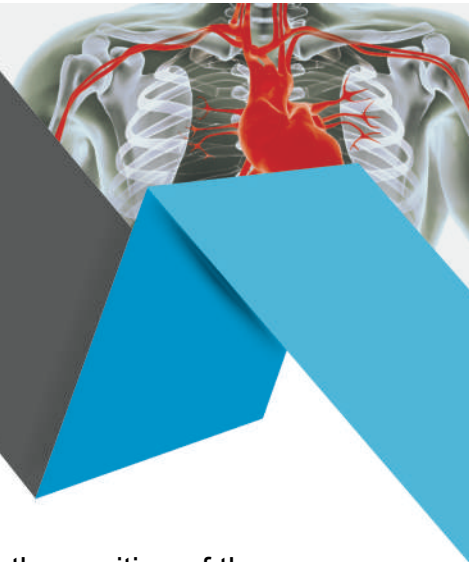
- Please see your dentist 2 weeks before your procedure and get a letter to clear you of any active infection. If there is an infection you may need to have this fixed before your procedure.
- Do not eat anything 6 hours before your procedure, you may drink only clear fluids up until 2 hours before your procedure.
- If you take Metformin (Diabex[®], Diaformin[®]) stop taking 2 days before and 2 days after your procedure.
- If you take Empagliflozin (Glyxambi[®], Jardiamet[®], Jardiance[®]) or Dapagliflozin (Forxiga[®], Xigduo XR[®], Qtern[®]) stop taking 3 days before.
- Your Cardiologist may stop your Warfarin, Dabigatran (Pradaxa[®]), Rivaroxaban (Xarelto[®]) & Apixaban (Eliquis[®]) 2-3 days before the procedure.
- Please let us know if you are allergic to Iodine Contrast or any other medications.
- Ask any questions that you or your family may have and sign a form consenting to the procedure.
- Please arrange a friend or family member to take you home from hospital and stay with you for your first night at home. You cannot go home alone or in a taxi.
- You will change into a hospital gown, an ID band applied
- Your procedure site (groin) clipped of any hair. The healthcare team will take your blood pressure and pulse and insert an IV (intravenous) line into a vein in your arm.

DURING THE PROCEDURE

- The procedure is done in a Cardiac Catheterisation Laboratory (Cath Lab) that looks like an operating theatre. You will lie on a narrow x-ray table flat on your back. It is a sterile lab and the staff will be wearing gowns, masks and caps. A heart tracing (ECG) is put on your chest, a blood pressure sleeve on your arm and monitored during the procedure.
- The Anaesthetist will give you medications to make you fall asleep. You may have an oxygen mask on your face. Once you are asleep a breathing tube will be put into your trachea (wind pipe) and you will be connected to a ventilator (breathing machine) for the procedure.



- Your groin will be cleaned with antiseptic solution and you will be covered with a drape.
- The pulmonary valve is implanted through a small cut in your groin (transfemoral) though rarely it needs to be performed via the neck (jugular approach)
- A catheter (thin flexible tube) is inserted through the cut and passed up to your heart and valve.
- X-ray is then used to see where the catheters are and check the position of the pulmonary valve.
- Once the new pulmonary valve is in the correct position, the balloon is inflated and the pulmonary valve is delivered. The frame of the new valve pushes your old pulmonary valve leaflets against the wall. Once in position your new valve will start working.
- During procedure you will be asleep and should not feel any discomfort.
- When the procedure is over the catheters (tubes) are removed. The incision is closed by pressing firmly on the site and also by external internal stitches.



AFTER THE PROCEDURE

- You will be woken up and taken to the recovery unit. You will return to the ward where you will stay overnight.
- You will need to lie flat for 4 hours after your procedure, we will remind you to keep your legs straight. This is to stop the cuts in your legs from bleeding. The cuts in your groin will be checked by the nurse frequently.
- As soon as it is safe the nurses will get you out of bed to sit in the chair and walk around the ward. It is important to start moving and getting back to normal activity as soon as it is safe to do so.
- Once you are awake enough you will be allowed to eat and drink.
- The next morning you will get a Transthoracic Echocardiogram (TTE) to check your new valve is working well.
- If everything is well overnight and on your Transthoracic Echocardiogram (TTE) you may be discharged home the morning after your procedure.

ACTIVITY AFTER THE PROCEDURE & AT HOME

- Rest on the day of your procedure in a bed or recliner chair.
- Avoid strenuous activity such as mowing, running or hard labour and do not lift objects more than 5kg (10lbs) for 5 days afterwards. Slowly return to normal activities the next day.
- Limit stair climbing as much as possible for the first 3 days after your procedure.

MEDICATIONS

- You will be placed on aspirin after the procedure possibly long-term
- With an artificial valve, you will need to take antibiotics prior to dental procedures. Your dentist or cardiologist can prescribe these.

WOUND SITE CARE

- The dressing on your groin can be removed the day after your procedure.
- You may take a shower the day after your procedure, do not take a bath or go swimming for 1 week after your procedure. Do not scrub the wound site for a week, lightly wash and pat dry. Avoid creams, lotions or ointments to the wound site
- Notify your nurse or doctor if you notice any of the following at the procedure site:



IF THERE IS BLEEDING OR A LUMP GETTING BIGGER AT THE WOUND SITE

- 1) Lie down straight away and apply firm pressure (enough to feel the heart beat under your fingers) to the site for 15 minutes.
- 2) If the bleeding continues or is a large uncontrolled amount or you feel faint or dizzy **immediately call a nurse (if you are in hospital) or '000' (if at home).** **Do not drive yourself to the hospital.** Continue to apply pressure until help arrives.

DRIVING ONCE YOU ARE HOME

- Do not drive for at least 2 days after your procedure.
- More information can be obtained from your Cardiologist or Transport for NSW

FOLLOW UP

Please see your local doctor in 3-5 days. An appointment will usually be made 1-2 months after the procedure to see your cardiologist.

QUESTIONS FOR YOUR CARDIOLOGIST

