The Melody TAVR is indicated for use in adults who require surgery. In clinical studies, the Melody TAVR has shown the following benefits:

- Improved conduit function
- Lengthened conduit lifespan
- Reduced pulmonary valve incompetence
- Reduced conduit obstruction
- Delayed the need for repeat intervention

The Melody TAVR is a balloon-expandable transcatheter aortic valve inserted through a small incision in the femoral or subclavian artery and deployed inside an existing aortic valve. It is manufactured by Medtronic Inc. in Minneapolis, MN, USA.

Please consult with your healthcare provider for more information and specific details on the procedure and aftercare.
Melody® Transcatheter Pulmonary Valve
Ensemble® Transcatheter Valve Delivery System
The Melody TPV is indicated for use as an adjunct to surgery in the management of pediatric and adult patients with the following clinical conditions:
- Existence of a full (circumferential) RVOT conduit that was equal to or greater than 16 mm in diameter when originally implanted and
- Dysfunctional RVOT conduits with a clinical indication for intervention, and either:
  - regurgitation: ≥ moderate regurgitation, or
  - stenosis: mean RVOT gradient ≥ 35 mm Hg

Contraindications: None known.

Warnings/Precautions/Side Effects:
- DO NOT implant in the aortic or mitral position.
- Preclinical bench testing of the Melody valve suggests that valve function and durability will be extremely limited when used in these locations.
- DO NOT use if patient's anatomy precludes introduction of the valve, if the venous anatomy cannot accommodate a 22-Fr size introducer, or if there is significant obstruction of the central veins.
- DO NOT use if there are clinical or biological signs of infection including active endocarditis.
- Assessment of the coronary artery anatomy for the risk of coronary artery compression should be performed in all patients prior to deployment of the TPV.
- To minimize the risk of conduit rupture, do not use a balloon with a diameter greater than 110% than the nominal diameter (original implant size) of the conduit for pre-dilation of the intended site of deployment, or for deployment of the TPV.
- The potential for stent fracture should be considered in all patients who undergo TPV placement.
- Radiographic assessment of the stent with chest radiography or fluoroscopy should be included in the routine postoperative evaluation of patients who receive a TPV.
- If a stent fracture is detected, continued monitoring of the stent should be performed in conjunction with clinically appropriate hemodynamic assessment. In patients with stent fracture and significant associated RVOT obstruction or regurgitation, reintervention should be considered in accordance with usual clinical practice.

Potential procedural complications that may result from implantation of the Melody device include the following: rupture of the RVOT conduit, compression of a coronary artery, perforation of a major blood vessel, embolization or migration of the device, perforation of a heart chamber, arrhythmias, allergic reaction to contrast media, cerebrovascular events (TIA, CVA), infection/sepsis, fever, hematoma, radiation-induced erythema, pain at the catheterization site.

Potential device-related adverse events that may occur following device implantation include the following: stent fracture resulting in recurrent obstruction, endocarditis, embolization or migration of the device, valvular dysfunction (stenosis or regurgitation), paravalvular leak, valvular thrombosis, pulmonary thromboembolism, hemolysis.

For additional information, please refer to the Instructions For Use provided with the product.

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician.

Humanitarian Device. Authorized by Federal law (USA) for use in pediatric and adult patients with a regurgitant or stenotic Right Ventricular Outflow Tract (RVOT) conduit (≥ 16 mm in diameter when originally implanted). The effectiveness of this device for this use has not been demonstrated.

For more information about Melody Transcatheter Pulmonary Valve Therapy, contact your Medtronic Sales Representative, your local Medtronic office or visit www.Melody-TPV.com.

Reference

Melody and Ensemble are registered trademarks of Medtronic, Inc.
Transcatheter pulmonary valve design for surgical intervention. A revolutionary treatment option designed to delay the need for surgical intervention.
PATIENT LABELING
Melody® Transcatheter Pulmonary Valve, Ensemble® Transcatheter Valve Delivery System

The Melody TAV is indicated for use as an adjunct to surgery in the management of pediatric and adult patients with the following clinical conditions:

- Existence of a full (e.g., bioprosthetic) RVOT conduit that was equal to or greater than 15 mm in diameter when originally implanted.
- Dysfunctional RVOT conduit with a clinical indication for intervention, and severe:
  - regurgitation, moderate stenosis, or
  - severe > 5 mm Hg RVOT gradient at 15 mm Hg.

Contraindications: None known.

Warnings/Precautions/Side Effects:

- DO NOT implant in the aortic or mitral position. Preclinical bench testing of the Melody valve suggests that valve function and durability will be extremely limited when used in these locations.
- DO NOT use if patient’s anatomy precludes introduction of the valve; if the ventricular septum prevents accommodation of a 25-mm introducer, or there is significant obstruction of the central ventricle.
- DO NOT use if there are clinical or biological signs of infection including active endocarditis.
- Assessment of the coronary artery anatomy for the risk of coronary artery compression should be performed in all patients prior to deployment of the TAV.

www.medtronic.com

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Medtronic


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At Medtronic, our culture continually inspires us to push the boundaries of medical technology to help patients live better, longer.

Melody™ Transcatheter Pulmonary Valve (TPV) therapy exemplifies our commitment to providing innovative therapies to the lifetime management of patients with congenital heart disease.

With Melody™ TPV therapy, children and adults with failed pulmonary valve conduits have a revolutionary treatment option designed to restore pulmonary valve function and delay the need for surgical intervention.

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Please go to pages 11-12 for important risk information.

This booklet is provided to help you and your loved ones learn more about Melody™ Transcatheter Pulmonary Valve (TPV) Therapy. Please discuss any questions with your heart doctor. Only your doctor can help you decide if Melody™ TPV is the right therapy for you.
About The Heart

Congenital Heart Disease
Congenital (from birth) heart disease (CHD) is the most common birth defect, affecting eight in one thousand children born each year. There are many different types of CHD. Most have to do with a heart that doesn't develop like it should or with problems with the large blood vessels (the pulmonary artery, and/or aorta) connected to the heart.

How The Heart Works
A healthy heart beats about 100,000 times a day and pumps about five quarts of blood each minute or 75 gallons (284 liters) of blood every hour.

A normal heart has four chambers. The upper two chambers are the right and left atria. The lower two chambers are the right and left ventricles. The heart's job is to supply the body with oxygen-rich blood. Blood is pumped through the four heart chambers with the help of four heart valves—the tricuspid, pulmonary, mitral and aortic valves.

What Heart Valves Do
Normal heart valves repeatedly open and close as the heart beats to ensure that blood flows forward through the heart's chambers but not backwards. Any problem with this normal flow will make it hard for the heart to pump the blood where it needs to go.

- The tricuspid valve sits between the right atrium (upper chamber) and right ventricle (lower chamber). The tricuspid valve directs blood flow from the right atrium to the right ventricle.
- The pulmonary valve directs blood flow from the right ventricle into the pulmonary artery, which splits into two arteries so that the blood from the body can get to both lungs.
- The mitral valve sits between the left atrium (upper chamber) and left ventricle (lower pumping chamber). The mitral valve directs blood flow from the left atrium into the left ventricle.
- The aortic valve directs blood flow from the left ventricle into the aorta. The aorta is the major blood vessel that carries blood from the heart out to the rest of the body.
Pulmonary Valve Conditions

If your doctor has recommended that you read this booklet, you may have one of the following congenital heart conditions that most commonly affect the pulmonary valve:

- Pulmonary Atresia
- Transposition of the Great Arteries
- Tetralogy of Fallot
- Double Outlet Right Ventricle

Children and adults with these conditions have narrowed or missing pulmonary valves and need surgery for placement of a right ventricular outflow tract (RVOT) or pulmonary conduit. A pulmonary conduit is a tube that opens up the RVOT and contains an artificial valve to control blood flow between the right ventricle and the pulmonary artery.

Pulmonary Valve Conduit Failure

Over time, the conduit may become narrowed or begin to leak. This may happen as you outgrow the conduit or as the conduit wears out from the pressures of pumping blood or from calcium build up.

A Narrowed Conduit (Stenosis). The conduit opening is narrowed, which limits blood flow from the heart to the lungs and forces the heart to work harder than normal. Stenosis may be caused by calcification of the conduit walls. Stenosis can make the heart muscle thicken and prevent it from working well. It can also limit the amount of blood pumped to the lungs.

A Leaky Conduit (Regurgitation). The valve does not fully close, which allows blood to leak backward into the right ventricle of the heart. This causes the heart to pump harder than it should to bring blood to the lungs and the rest of your body.

Pulmonary Valve Conduit Failure Symptoms

- Becoming tired or short of breath with activity
- Feeling tired, dizzy or too weak to do your normal activities
- Irregular heartbeats or the feeling that your heart is flip-flopping in your chest
- Pain in your chest
- Palpitations

Symptoms can range from mild to severe. If you are experiencing any of these symptoms, talk with your doctor. Regular check ups and testing can help determine how your pulmonary valve conduit is working.
Surgical Conduit Replacement

Standard treatment for failed pulmonary valve conduits has been conduit replacement. During the surgery, your doctor removes your failing conduit and puts a new pulmonary conduit containing an artificial pulmonary valve in its place.

Balloon Angioplasty

During this procedure, a catheter (a thin, hollow tube) is inserted into a vein in your leg and guided up to your heart. An uninflated balloon is placed through the opening of the narrowed pulmonary conduit. Your doctor then inflates the balloon, which forces the stent to expand and pushes the narrowed conduit open for better blood flow.

Transcatheter Pulmonary Valve Therapy

During transcatheter pulmonary valve therapy, a catheter holding an artificial heart valve is inserted into a vein in your leg and guided up to your heart. The heart valve is attached to a stent (wire frame) that expands with the help of balloons to deliver the valve. The new valve begins to work immediately.

Bare Metal Stenting

With this procedure, a catheter is inserted into a vein in your leg and guided up to your heart. An uninflated balloon placed inside a stent (wire frame) is placed through the opening of the narrowed pulmonary conduit. Your doctor then inflates the balloon, which forces the stent to expand and push the narrowed conduit open for better blood flow.

About Melody TPV Therapy

Melody Transcatheter Pulmonary Valve (TPV) Therapy treats narrowed or leaking pulmonary valve conduits without open-heart surgery. With Melody TPV Therapy, a thin, hollow tube (catheter) holding a specially designed heart valve is inserted into a vein in your leg and guided to your heart. The heart valve is attached to a wire frame that expands with the help of a balloon to push your blocked pulmonary conduit open.

Melody TPV Therapy is an alternative to surgery for children and adults with Right Ventricular Outflow Tract (RVOT) conduit failure. Melody TPV Therapy does not replace open-heart surgery as a treatment for conduit failure; however, it is intended to delay the need for surgical intervention.

Is Melody TPV Therapy Right For You?

Melody TPV Therapy may be an option for treating your pulmonary valve conduit failure if you have a narrowed or leaking conduit that connects the right ventricle to the pulmonary artery.

When Melody Is Not An Option

There are certain circumstances where Melody TPV Therapy should not be used. Melody TPV Therapy should not be used in a patient:

• Whose conduit is too large or too small;
• Whose veins are too small for the delivery system; and/or
• Who has signs of infection.

Your heart doctor can help you decide if Melody TPV Therapy may be right for you.
The Melody TPV Procedure

The following section describes what happens during the Melody TPV procedure. It is intended as a general overview. Your experience may be different. Please talk to your doctor for more information about what to expect.

During The Procedure
Typically, the Melody TPV procedure takes 1-2 hours. Patients are asleep for the procedure and usually don’t feel any pain.
1. Your doctor will insert the delivery system into your leg through a small access site.
2. The catheter holding the Melody valve will be placed into the vein and guided into your heart.
3. Once the Melody valve is in the right position, the balloons will be inflated to deliver the valve.
4. The Melody valve will expand into place and begin to direct blood flow between the right ventricle and your lungs.
5. The catheter will then be removed and the doctor will conduct a test to make sure the valve is working properly.
6. The access site in your leg will be closed, and the procedure will be complete.

After The Procedure
After the Melody TPV procedure, you will go to a recovery room. Once you are fully awake and able to drink and eat, you will be moved to a regular hospital room.
You likely will need to stay in the hospital overnight as most people go home the next day. Your doctor will provide you with more specific care instructions as well as any limitations you will have. You will need about one week to recover from the procedure before returning to your everyday activities. If you have any questions, please ask your heart doctor or nurse.

Follow-up Care
After your Melody TPV procedure, it is important to follow your doctor’s instructions to ensure the best possible results.
• Continue to take medications as prescribed
• Follow your daily care plan
• Keep appointments to have your heart and Melody TPV checked
• Talk with your doctor if you have pain or other symptoms
• Tell your dentist that you have a tissue valve. (During dental work, bacteria may be released into the bloodstream and cause infection in any biological valve. This means that you will need to be on antibiotics before any dental procedure, even routine cleaning.)
• Inform your other doctors about your heart valve before any medical procedure
Talk with your heart doctor or nurse if you have more questions about living with your Melody valve.
Possible Adverse Events
As with any cardiac catheterization procedure, certain complications may occur. The potential risks associated with Melody TPV are similar to those if you had a cardiac catheterization procedure to have the narrowing in your heart graft or conduit stretched with a balloon and/or a wire frame placed to hold the conduit open.

Cardiac catheterization has been associated with serious complications, including death. Complications that may occur from any catheterization procedure include the following:
• Tearing of the blood vessel where the catheter is inserted
• Bleeding from the site where the catheter is inserted
• Irregular heart beat
• Perforation of a heart chamber
• Allergic reaction to the x-ray dye
• Infection
• Pain, swelling, and bruising at the site where the catheter was inserted
• Fever
• Reddening of the skin due to x-ray
• Stroke

Other complications that may result from implantation of the Melody TPV include the following:
• Breakage of the wire frame that supports the tissue valve
• Ineffective function of the valve (leakage of the valve)
• Dislodgment of the valve from where it was implanted
• Clot formation within the valve that affects its function or travels to the lung
• Infection of the valve (endocarditis)
• Tearing of the conduit during the procedure
• Blockage of arteries that supply the heart

Important Information About Stent Fracture
In some patients, the wire frame (stent) of the Melody TPV may break because of the forces it is exposed to in your body. The chance of the stent breaking may increase the longer the device is in your body. There is up to a 35 percent chance that the Melody TPV stent will break within one year of placement. In some cases, the broken stent does not require additional treatment.

However, you should realize a broken stent has the potential to become serious and could result in the need for another catheter intervention, an operation to replace your conduit, or could lead to death. Your doctor will decide your best treatment option.

For the complete data set, additional information and instructions for use documentation, contact Medtronic LifeLine CardioVascular Technical Support at 877-526-7890.
Frequently Asked Questions

- Are physical activities safe?
  Physical activities are safe for most patients but you should talk with your heart doctor to decide what is best for you.

- Is it safe to have an x-ray with a Melody valve?
  It is completely safe to have an x-ray with a Melody valve.

- Is it safe to have an MRI with a Melody valve?
  You may safely undergo MRI scanning under specific conditions. If you need a magnetic resonance imaging (MRI) scan, tell your doctor or MRI technician that you have a Melody valve.

- Is it safe to go through airport security with a Melody valve?
  Yes. Airport security systems do not affect Melody valves, and the valve will not set off airport alarms.

- How long will my Melody valve last?
  Because relatively few patients have had a Melody valve implanted for more than three years, it is hard to predict how long your Melody valve will last beyond that duration. However, from the information we have, you should understand there is up to a 15% chance that you may require another catheterization procedure to restore function of the Melody valve within one year of placement. Catheterization procedures to restore function of the Melody valve may include balloon angioplasty or placement of another Melody valve within the first year. In addition, you should understand there is up to a 25% chance your conduit may require surgical replacement within three years after placement of your Melody valve.

Online Resources
- Adult Congenital Heart Association: www.achaha.org
- American Heart Association: www.americanheart.org
- Children's Heart Foundation: www.childrensheartfoundation.org
- Children's Hospital Boston: www.childrenshospital.org
- Congenital Heart Information Network: www.chin.org
- European Congenital Heart Disease Organization: www.echdo.org
- Johns Hopkins: www.pted.org
- The International Society for Congenital Heart Disease: www.isschd.org
- Mayo Clinic: www.mayoclinic.com/health/congenital-heart-defects/D501117
- Melody TPV Therapy: www.Melody-TPV.com

We're There When You Need Us
Medtronic Lifeline Technical Support
With more than 60 years of experience, Medtronic has a very knowledgeable staff who can speak directly with you about non-medical questions you may have about your Melody valve.

Please contact us with any questions or concerns about living with your Melody valve.
Medtronic Lifeline
CardioVascular Technical Support
877-526-7890