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Mitral Regurgitation and MitraClip

Information and Procedure Guide





The Heart and Heart Valves

The heart has 4 chambers and 4 heart valves. The chambers squeeze and relax. The valves act as one-way gates, allowing blood to move forward in one direction between the chambers.

On the left side of the heart is the mitral valve; between the left atrium and the left ventricle. The mitral valve is composed of two leaflets, an anterior and posterior leaflet. These leaflets open and close to allow blood to flow from the top chamber into the bottom chamber of the heart.

What is Mitral Regurgitation?

Mitral Regurgitation (MR) is a condition where the mitral valve leaflets do not close properly and let blood flow backwards into the upper chamber of the heart. This leaking, called regurgitation, results in the heart working harder and, over time, causes fatigue, shortness of breath (most commonly with exertion and lying down), cough, irregular heartbeats, and heart failure. Mitral regurgitation is progressive, many patients have no symptoms for years but, as the regurgitation becomes more severe, they may find daily activities difficult.



Normal mitral valve



Degenerative MR caused by mitral valve prolapse



Degenerative MR caused by fail



Functional MR

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Treating Mitral Regurgitation

Although symptoms can be managed with medications, the underlying valve problem will continue to progress. Eventually, the valve needs to be repaired or replaced to improve quality of life and prevent permanent damage to the heart.

Cardiovascular (open heart) surgery is the gold standard to either repair or replace a damaged mitral valve. Open heart surgery involves an incision through the bone in the middle of the chest. This is called a sternotomy. Some specialty surgical centers perform the surgery through a smaller incision in the chest, called minimally invasive mitral surgery. Open heart surgery is a major operation and may be too high risk for patients advanced in age or with multiple medical conditions. If a cardiovascular surgeon assesses you to be too high risk to undergo surgery, they may refer you for a MitraClip procedure.

The MitraClip Team will assess you in the clinic, discuss your symptoms, and review your heart ultrasounds and blood work. A different type of heart ultrasound called a transesophageal echocardiogram (ECHO) is ordered to take a detailed look at your valve and determine if you are eligible for the procedure. If you have not recently had an angiogram (cardiac catherization), it will be ordered to assess any blockages in the arteries and to measure pressures inside your heart.

ENDOCARDITIS PREVENTION

Endocarditis is an infection of the heart that can occur when bacteria (germs) enters the blood stream and travels to your heart. It is important to have any major dental work done before the procedure. If you have a tooth infection, or require a root canal or extraction, these conditions must be dealt with before your procedure is booked to prevent infections from traveling to the new device.





Actual size close to a dime.



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MitraClip Procedure

WHAT TO EXPECT

You are given 1 to 2 weeks notice of your upcoming procedure date. You are mailed instructions about when to stop eating and drinking before the procedure. Generally, no solid food after midnight but you can continue to drink clear fluids like apple juice or water until 2 to 3 hours before your procedure. You are notified if there are any medications you need to stop taking before the procedure. Do not take any medication the morning of your procedure. Bring them with you to the hospital and a Registered Nurse on the Cardiac Short Stay Unit (CSSU) assists you in taking your morning medication that day.

When you will arrive at the hospital the morning of your procedure, you are directed to the CSSU. Be sure to bring your provincial health card, all your medications in their original containers and any medical devices you will need (i.e. CPAP, cane, etc.) as you will be spending the night in hospital. Do not bring any valuables.

When you arrive to CSSU, the nurses take your vital signs, do an assessment and give you your morning medications from your medication supply. Blood work is done and an intravenous line is inserted.

When it is time for your procedure, you are taken to the cardiac catheterization laboratory. An anesthesiologist provides medications to help you relax. Sometimes a general anesthetic is needed, but most people tolerate the procedure well with just relaxing medications. The procedure takes 2 to 4 hours.

AFTER THE PROCEDURE

After the procedure, you are transferred to the Coronary Care Unit (CCU) or Cardiac Short Stay Unit (CSSU).

You are monitored closely for 4 to 6 hours and are on bedrest. When your bedrest is over, a registered nurse helps you sit at the edge of the bed. You are encouraged to start mobilizing slowly with the assistance of the nurses, and then by yourself. Most patients can walk short distances (i.e. to the washroom and back) that same night.

The next morning, a chest x-ray and a transthoracic ECHO done to assess how well your heart is functioning and ensure the clip(s) are in good position. It is normal to have mild regurgitation after the procedure, as this is present in many normal, healthy adults. Registered nurses and doctors review your lab work, ECG, chest x-ray, ECHO, and examine your groin incisions to make sure there are no concerns.

After the Procedure

Going Home

Most patients go home the day after the procedure. You are able to resume gentle activities, like walking, before you go home. Gently increase your activity over the next 1 to 2 weeks. It is important not to push, pull, or lift anything over 5 kilograms (10 pounds) for the first 7 days to let the small incisions in your groin heal. However, exercise is important to help you recover and get back to your normal routine. Try to walk 20 to 30 minutes every day after you have healed.

You are told what medications to continue after the procedure. Generally, patients go home on all their previous medications, with the addition of low dose acetylsalicylic acid (ASA) (example: EC ASA 81mg; Aspirin[®]) and a medication called clopidogrel (Plavix[®]) for 3 to 6 months. ASA and clopidogrel are medications to help prevent blood clots from forming on the device while it is healing. Patients are seen in 9 to 12 weeks and 1 year after their procedure. Another ECHO is done at that time and medications are reviewed. Other than these visits, you continue to be seen by your regular cardiologist.

Endocarditis can happen when bacteria (germs) gets into your blood, travels to you heart and causes an infection. To prevent or lower you risk of endocarditis, you will need to take antibiotics 30 minutes prior to any dental work that results in gum manipulation and bleeding such as routine cleanings, root canals, etc. for 6 months post ASD closure procedure. Your family doctor or dentist can prescribe this antibiotic when needed.

Personal Care:

- Remove the bandage on your groin 24 hours after your procedure. The site may be left uncovered or a new bandage applied for comfort.
- Do not soak in a bathtub, hot tub or swim for 7 days following the procedure.
- You may shower as usual 24 hours after the procedure. Cleanse the site gently with mild soap and water. Do not scrub. Pat dry. Keeping the site dry will improve healing.
- It is normal to have a small lump, bruise, or tenderness at the puncture site. Sometimes the bruise will get bigger before it starts to go away. Bruising, lumps and tenderness should gradually improve over the next 2 to 4 weeks

After Procedural Care

Notify your healthcare provider if you notice any of the following:

- Redness, swelling, drainage (pus) or warmth at the incision site.
- Increased in pain around the puncture site.
- The lump at your puncture/incision site is growing in size, is firm, or is pulsating under your skin.
- You develop a chill and have a fever of greater than 38.5°C.

Go to Emergency Department or call 911 if you have:

- Persistent or significant bleeding from puncture site.
- Severe pain, numbness, loss of colour, and/or significant swelling in limb of puncture site.
- Chest pain or sudden shortness of breath.
- Symptoms of a stroke:
 - One sided arm or leg weakness or facial drooping.
 - Slurred speech, difficulty speaking or understanding speech.
 - Changes in vision in one or both eyes.

If your puncture/incision site begins to bleed follow these steps:

- Lie down on a firm surface.
- Apply pressure yourself, or have someone help you. Press firmly with 2 to 3 fingers above the bleeding site for 15 minutes straight.
- If it continues to bleed, call 911, or have someone drive you to the closest Emergency Department. Do not drive yourself.

Physical Activity

- You can go back to your normal activities gradually over 3 to 5 days. Try to do a bit more each day.
- Avoid strenuous activities like jogging, running, or lifting anything greater than 5 kilograms (10 pounds) for the next 7 days.

After Procedural Care—Continued

Driving and Travelling

- Do not drive for 48 hours after your procedure.
- If you are travelling a long distance, stop, get out of the car and walk around every 1 to 2 hours .
- If you drive a commercial vehicle, speak to your doctor about driving.
- If you are travelling by airplane, most people are able to fly on the second day after the procedure.
- If you are travelling out of the county, speak to your doctor. You may not be covered by travel insurance immediately after the procedure. Contact your insurance company for their policy.

Returning to work

- If you do office work, where you are sitting most of the time, you can return to work 48 to 72 hours (2 to 3 days) after your procedure.
- If your work involves heavy lifting (more than 5 kilograms or 10 pounds), you can return to work after 7 days.
- If you have concerns about going back to work, speak to your family doctor.

MitraClip Implant Card

After your procedure, you receive your temporary procedure card . A permanent is sent to you in the next several months. This card holds information about your device and should be shared with your healthcare providers, including your dentist. It is important to share that you had a MitraClip procedure before any invasive medical or dental procedures, magnetic resonance imaging (MRIs).

Appointments after MitraClip

You need to have follow-up bloodwork done 1 week after your procedure. You are provided with a lab requisition upon discharge from hospital.

See your family doctor or nurse practitioner 10 to 14 days after your procedure. You, or your family, need to make this appointment.

Follow up clinic appointments with your **Structural Heart Doctor** are 9 to 12 weeks and 1 year after the procedure. An echocardiogram is scheduled about 9 to 12 weeks and 1 year after the procedure. You are notified of these appointments by mail or phone call.

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STRUCTURAL HEART PROGRAM

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Healthy People, Healthy Saskatchewan

The Saskatchewan Health Authority works in the spirit of truth and reconciliation, acknowledging Saskatchewan as the traditional territory of First Nations and Métis People.

PIER—Patient Information and Education Resource

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