

# Mitral Valve Regurgitation

## What is mitral valve regurgitation?

Mitral valve regurgitation is an abnormal, backwards flow of blood in the heart through the mitral valve.

The mitral valve is 1 of 4 valves in the heart. It lies on the left side of the heart between the left upper chamber (atrium) and lower chamber (ventricle). The valve has 2 flaps called leaflets that normally close every time the ventricle squeezes to pump blood out of the heart. If the mitral valve does not close properly, some of the blood from the ventricle is forced back up (regurgitated) into the left atrium instead of flowing out to the rest of the body. The added workload on the heart and increased blood pressure in the lungs may eventually cause problems.

## How does it occur?

Many things can damage the mitral valve and cause regurgitation.

- Rheumatic fever can damage valve leaflets and cause scarring. The scars caused by this infection can deform the leaflets so that they don't close properly.
- A condition called mitral valve prolapse can also cause mitral regurgitation. When you have mitral valve prolapse, one or both of the leaflets bulge (prolapse) into the atrium. A small amount of mitral regurgitation is common with mitral valve prolapse.
- If one or more of the cordlike structures attaching the leaflets to the heart muscle breaks, the valve may leak.
- Heart attacks, diseases of the heart muscle, or other heart valve problems may cause the heart to get bigger. The enlargement stretches the mitral valve ring and muscular attachments, pulling the valve leaflets apart. When the leaflets no longer meet, the mitral valve will leak.

## What are the symptoms?

People who don't have a lot of leaking may not have any symptoms. Over time, the added workload on the heart may cause shortness of breath with exercise, or it may cause an abnormal heart rhythm. The abnormal rhythm feels like your heart is pounding, racing, or skipping in your chest.

If a valve leaflet cord breaks, the sudden regurgitation may quickly cause heart failure. The main symptoms of heart failure are:

- tiredness
- shortness of breath or trouble breathing, at first during

- exercise and later with any activity or even when you are resting
- waking up at night with trouble breathing or having a hard time lying flat in bed because of shortness of breath
  - swollen ankles and feet and weight gain due to too much fluid in the body
  - loss of appetite.

### **How is it diagnosed?**

Most MR causes a heart murmur that can be heard when your healthcare provider listens to your heart with a stethoscope. Enlargement of the heart may be discovered during a physical exam.

You may have an echocardiogram. The echocardiogram uses ultrasound waves to make pictures of the heart. The pictures show the size of the heart chambers, the thickness of the heart muscle, and the movement of the heart valves. Doppler echo is a special kind of ultrasound that shows the backflow of blood through a valve. The echocardiogram can measure how severe the leak is.

### **How is it treated?**

If you have mitral regurgitation with a normal-sized heart and no symptoms, you need no treatment except for antibiotics before having dental work or procedures that involve the rectum, bladder, or vagina. The antibiotics prevent infection of the mitral valve.

Moderate to severe regurgitation eventually results in heart enlargement and symptoms. Most people with symptoms need surgery to repair the valve repair or replace it. If you wait too long to get treatment, your heart muscle may already be seriously damaged.

If the valve is not too badly deformed, it may be possible for the surgeon to repair it instead of replacing it. Surgeons repair the valve by narrowing the valve ring and tailoring the valve leaflets. A plastic support ring is stitched around the valve to bring the leaflets closer together. An advantage of this kind of surgery is that long-term use of blood-thinning drugs to prevent clots is not needed afterwards.

Sometimes the mitral valve leaflets are damaged so badly that they must be replaced. Artificial heart valves made of human or pig tissue do not require long-term blood thinners after surgery but may not last as long as man-made

(mechanical) valves. Artificial mechanical valves also work very well. These valves last longer without wearing out, but blood thinners must be taken for the rest of your life.

Other than surgery, drugs that expand (dilate) blood vessels and slightly lower blood pressure are the only medicines helpful in treating mitral regurgitation. They work best if you are very ill, because they help you feel better. Though the drugs work well at first, they don't seem to be the answer for the long term.

### **How long will the effects last?**

Over time the added workload on the heart may cause heart failure. Heart failure occurs when the heart can't pump enough blood to keep the lungs or other body tissues from filling with fluid.

Mitral regurgitation may cause both the left ventricle and left atrium to get larger. If the left atrium becomes big enough, an irregular heart rhythm called atrial fibrillation may result.

### **How can I take care of myself?**

- With your healthcare provider's supervision, take antibiotics to prevent infections that could spread to the heart valve if you are having any kind of dental work or surgery. This includes having your teeth cleaned or procedures involving the bladder, vagina, or rectum. Damaged valves are more likely to become infected by bacteria. Infection of the valve can damage it more and may destroy it. Antibiotics can prevent this. If there is any doubt, be sure to ask if you should take antibiotics.
- Talk to your provider before you use any other medicines, including nonprescription medicines.
- If you smoke, stop.
- Get regular checkups.
- Lose weight if you are overweight.
- Learn ways to reduce or manage stress.
- Avoid taking aspirin if you're taking an anticoagulant (blood thinner).
- Cut back on the salt in your diet if recommended by your provider.
- Ask your provider about a potassium supplement if you are taking diuretics that could cause potassium loss.
- If you have high blood pressure, make sure you follow your healthcare provider's treatment plan for it.
- If you have a lot of mitral regurgitation, you should

- probably avoid heavy exercise.
- Tell all other healthcare providers you see that you have mitral valve regurgitation.
- Call your healthcare provider if your symptoms worsen.

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