



# MYSTERIOUS MURMURS

The iconic black stethoscope is synonymous with physicians. For cardiologists it is a key tool to unravel the mystery of heart murmurs. Murmurs occur due to the flow of blood through various chambers of the heart. We have two valves that connect the upper (atria) and lower (ventricle) chambers of the heart (tricuspid valve on the right and mitral on the left side), one pulmonic valve that connects the right ventricle to the lungs through the pulmonary artery, and, one aortic valve that connects the left ventricle to the rest of the body through the aorta. If the valve is too tight (stenosis) or too loose (prolapse or regurgitation) it will result in a murmur.

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By listening to the timing, intensity, quality and location of the murmur, physicians can quite often determine exactly which valve is involved and how severe that involvement is. Occasionally the murmur is related to

a hole in the heart or an abnormal blood vessel connection. Fortunately we now have high resolution safe ultrasound technology called ‘echocardiography’ to image the entire heart, its valves and blood flow in great detail. Many of you may have been born with a murmur which is often called ‘innocent’ or ‘physiologic’. As our heart enlarges and our body fat increases the murmur usually disappears. Murmurs that persist later in childhood should be investigated to make sure that a congenital heart defect is not present. In parts of the world where rheumatic or scarlet fever still persist, the valves can become scarred and result in murmurs later in life.

Identifying a murmur is important since abnormalities of the heart valve can lead to many different problems. They can trigger rhythm disturbances of the heart such as skipped beats or atrial fibrillation. Murmurs can cause shortness of breath, congestion in the lungs or swelling of the feet. Tight

valves can result in chest pain, fatigue, lightheadedness or even a fainting spell. Infected valves can lead to strokes.

The most common reason for heart valves to get damaged is the wear and tear of repeatedly opening and closing 60-80 times a minutes 24/7 over a lifetime. Preventing damage to heart valves is achieved by good blood pressure/heart rate control and good dental hygiene since bleeding of the gums can result in the valves becoming infected or damaged further. Antibiotics prior to dental work however are no longer routinely recommended.

If you are diagnosed with a heart murmur your cardiologist will identify which valve is involved and monitor changes to the valve clinically and with an echo at varying intervals. In general, valve damage progresses slowly. Many murmurs never require any surgical intervention.

The treatment for advanced heart valve damage is to either attempt a repair of the valve or replace the valve. Some valve repairs can now be done robotically at specialized centers. Similarly, some valves can be replaced through a catheter-based technique called TAVI at specialized centers. The majority of valves still require a major open heart surgical procedure. Valves that are removed can either be replaced with a tissue valve or a mechanical valve. Mechanical valves last longer but require the lifelong use of strong blood thinners such as warfarin.

If you have a heart murmur let your physician solve the mystery and help you protect your valves.



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