Deborah Heart and Lung Center

HURLEY IN THE MORNING › PODCAST TRANSCRIPT

Managing Aortic Valve Disease

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FEATURED PHYSICIAN

Muhammad Raza, MD

Interventional Cardiologist

Harry Hurley

I'm very pleased to welcome back the distinguished interventional cardiologist Dr. Muhammad Raza. Dr. Raza is board certified in cardiovascular disease and interventional cardiology. He completed his internal medicine residency and fellowships in cardiology and interventional cardiology at Drexel University College of Medicine in Philadelphia, Pennsylvania. Dr. Raza has extensive experience in interventional cardiology, with a primary focus on structural heart disease interventions, which we've discussed on previous episodes of Deborah Heart and Lung Center Presents.

His special interests include valvular heart disease, adult congenital heart disease, complex coronary interventions, and peripheral vascular disease. He has authored numerous articles in peer-reviewed journals, spoken at regional and national professional society meetings, and participated in several clinical research projects. Dr. Raza also holds several leadership titles at Deborah Heart and Lung Center: Division Director, Director of the Structural Heart Program, and Director of the Interventional Cardiology Fellowship Program.

Our topic this half-hour on Deborah Heart and Lung Center Presents is managing aortic valve disease. Dr. Raza, it's great to welcome you back, my friend.

Dr. Muhammad Raza

Good morning, Harry.

Harry Hurley

Good morning to you, sir. We'll get right into it: What is aortic valve disease?

Dr. Muhammad Raza

To put things in perspective, the aortic valve is the exit valve of the heart. All the blood that goes out to the body has to pass through this valve. For any valve to function properly, it has to open and close properly. If the aortic valve isn't opening or closing properly, that's aortic valve disease.

Harry Hurley

And how is it diagnosed, Dr. Raza?

Dr. Muhammad Raza

It's usually diagnosed when a patient's doctor listens to the heart with a stethoscope and hears a murmur. That leads to a simple test called an echocardiogram, which is a noninvasive ultrasound of the heart performed through the chest. It takes about 20 to 30 minutes and gives us nearly all the information we need about the aortic valve, including whether it's narrowed and not opening well, or whether it's leaking. Occasionally, we do further testing, such as a CT scan or a transesophageal echocardiogram. But the vast majority of the time, diagnosis begins with a stethoscope and an echocardiogram.

Harry Hurley

Could someone listening right now have an aortic valve problem, perhaps in an early stage, and not even know it?

Dr. Muhammad Raza

Yes, and that's very common. Aortic valve disease, and valvular disease in general, often develops from wear and tear over years or even decades. It progresses very slowly. If it isn't significant yet, it may not cause any symptoms. The only way to pick it up at that stage may be for a doctor to listen to the heart or perform an echocardiogram. There's real value in finding valve disease before it causes symptoms.

Even when the valve disease becomes significant, it can still be missed because patients gradually scale back their lifestyles. Someone who used to golf or walk their dog a mile or two might cut that down to half a mile to avoid symptoms. It happens so slowly that they may not even realize they're doing it.

Aortic valve disease is often missed because people attribute their symptoms to something else — allergies, aging, or another cause. That's why it's important to see a doctor and have an echocardiogram when appropriate.

Harry Hurley

We're having a very important discussion on Deborah Heart and Lung Center Presents about managing aortic valve disease. Dr. Raza, what is aortic valve stenosis?

Dr. Muhammad Raza

As I mentioned earlier, a valve can malfunction because it isn't opening well or because it isn't closing well. When calcium accumulates on the aortic valve, the parts of the valve — called cusps or leaflets — become stiff. The opening becomes narrower, and when the valve is supposed to open, it can't open all the way. It may open only halfway or even less. That's aortic valve stenosis.

When the valve doesn't close properly and leaks, we call it aortic valve regurgitation. Most aortic valve regurgitation occurs without the calcification we see with stenosis. They're two different problems. Stenosis is mostly caused by calcification, while regurgitation can occur when the aortic root enlarges or part of the valve prolapses. Think of the aortic valve as a door and the aortic root as the door frame. If the frame gets bigger, the door no longer closes with a tight seal, and blood leaks backward.

Harry Hurley

You mentioned another important topic, Dr. Raza: aortic insufficiency, or aortic valve regurgitation. You've explained what it is. How common is it?

Dr. Muhammad Raza

Aortic valve stenosis is the most common, but aortic valve regurgitation isn't uncommon. Like stenosis, it often develops very slowly. Blood flows out of the heart when the aortic valve opens, and then the valve is supposed to close so blood doesn't flow backward into the heart.

With aortic valve regurgitation, some of that blood leaks back into the left lower chamber of the heart. The heart then has to work much harder to pump blood forward. Over time, that extra volume of blood puts stress on the heart and causes it to dilate, or enlarge. Although it develops slowly, aortic valve regurgitation can damage the heart muscle if it isn't caught in time.

Harry Hurley

We take just one break during Deborah Heart and Lung Center Presents. Today our guest is Dr. Raza, an outstanding interventional cardiologist who serves as Division Director, Director of the Structural Heart Program, and Director of the Interventional Cardiology Fellowship Program at Deborah Heart and Lung Center.

When we return, we'll talk about what causes aortic valve regurgitation and whether it can be inherited.

We'll also cover the symptoms people should watch for and the ways this condition can be treated. Dr. Raza will share much more in the second half of the program.

To make an appointment, visit demanddeborah.org or call 609-621-2080. That's 609-621-2080. We'll be back with Dr. Raza after a short break.

Harry Hurley

Welcome back. It's my privilege to welcome Dr. Muhammad Raza from Deborah Heart and Lung Center. Our topic on Deborah Heart and Lung Center Presents is managing aortic valve disease, and the information he's sharing could save your life.

We've talked about what aortic valve disease is. Now let's discuss its causes. Dr. Raza, what causes aortic valve regurgitation, and can it be inherited?

Dr. Muhammad Raza

Aortic valve regurgitation can be inherited in some patients. If a family member has aortic valve regurgitation or an aortic aneurysm, that's something to be aware of and get checked for. Family history can predispose someone to developing aortic valve regurgitation.

But many patients develop aortic regurgitation without any family history. As with many diseases, there may be genetic factors we don't yet understand.

It can also result from disease of the aorta, the large blood vessel that carries blood away from the heart. If the aorta becomes enlarged, the valve may no longer close properly, leading to regurgitation.

Some patients have a bicuspid aortic valve, meaning their valve has two leaflets instead of three. These patients are inherently more predisposed to aortic valve regurgitation.

Other times, we simply don't know the cause. We call those cases idiopathic: We know the regurgitation is present, but we can't clearly identify what caused it.

Harry Hurley

We've discussed what it is and what causes it. Here's something especially important for listeners: What symptoms might someone with aortic valve regurgitation experience?

Dr. Muhammad Raza

Normally, the valves keep blood moving in one direction. When the aortic valve leaks, the heart has to work much harder to pump the blood forward. Eventually, the heart begins to dilate, or enlarge, and pressure in the lungs increases. Patients may experience shortness of breath, fatigue, tiredness, and swelling in the legs. If the condition isn't treated, it can lead to hospitalization for heart failure.

These symptoms generally develop slowly. If someone notices shortness of breath or unusual tiredness, they shouldn't ignore it or assume it's simply aging. They should be checked so we can identify the disease early, monitor it, and replace the valve at the appropriate time, before it's too late.

Harry Hurley

That leads right into my next question about early detection. How important is it to detect and treat aortic valve regurgitation early? Does catching it sooner make treatment easier?

Dr. Muhammad Raza

It's critical to catch it early. Initially, the heart can compensate for a leaky aortic valve. But eventually, it reaches a point where it can no longer compensate. By then, the heart muscle may already be damaged, and some of that damage may be irreversible.

Patients with risk factors should be checked. Anyone experiencing shortness of breath, dizziness, fatigue, tiredness, or swelling in the legs should also be evaluated. If we find the disease early, we can monitor it and intervene before the heart muscle is significantly damaged.

That offers the best outcome for the patient. We still treat patients who have more advanced heart muscle damage, but it's not ideal. The right time for treatment depends on symptoms and how severe the valve leak is. Timing is key in managing aortic valve regurgitation.

Harry Hurley

To schedule an appointment with Deborah Heart and Lung Center, visit demanddeborah.org or call 609-621-2080. You'll find the appointment scheduling link right on the website.

If you're just tuning in, be sure to listen to the podcast when it's available. Dr. Raza has shared a great deal of important information about managing aortic valve disease.

We've discussed what the condition is, its causes, and its symptoms. Now let's talk about treatment. Dr. Raza, how is aortic valve regurgitation managed?

Dr. Muhammad Raza

If aortic valve regurgitation is detected early and isn't significant, we usually monitor the patient carefully with periodic echocardiograms and symptom checks, perhaps every six months or once a year.

But if the patient develops symptoms or we see that the left ventricle — the lower left chamber of the heart — is beginning to enlarge, we need to treat the valve.

Traditionally, aortic valve regurgitation has been treated with open-heart surgery. It's an invasive operation in which a cardiothoracic surgeon opens the chest, places the patient on a heart-lung machine, and implants a new valve.

For patients who are at high risk for open-heart surgery, including many older patients, we now have a transcatheter valve replacement option.

Let me explain that approach. For aortic valve stenosis, where calcification keeps the valve from opening properly, we perform transcatheter aortic valve replacement, or TAVR. We insert a small catheter through the groin and guide it to the heart. The replacement valve is compressed inside the catheter and delivered to the existing aortic valve. Its metal frame grips the calcium buildup in the old valve, which helps hold the new valve in place. That's how TAVR has traditionally worked for aortic valve stenosis.

Aortic valve regurgitation presents a different challenge because the valve generally has little or no calcium to anchor a replacement valve. That's where a newer technology comes in: the JenaValve Trilogy valve. It has three anchors that fit behind the valve leaflets and secure the replacement valve in place. It doesn't need calcium to hold it there.

With this newer technology, patients who have aortic valve regurgitation without significant calcification may be candidates for minimally invasive transcatheter aortic valve replacement through the groin. Deborah Heart and Lung Center is the first center in New Jersey, Pennsylvania, and Delaware to offer this therapy commercially.

Harry Hurley

That's so impressive. You described open-heart surgery, where the chest has to be opened. Who is a good candidate for TAVR, which can avoid that more invasive surgery?

Dr. Muhammad Raza

That's a great question, Harry. It's a decision made by the heart team, which includes interventional cardiologists, cardiothoracic surgeons, imaging specialists, and general cardiologists. Together, we determine which patients are best suited for open-heart surgery and which are best suited for TAVR.

Generally speaking, younger patients — perhaps 45, 50, or 55 years old — with a leaky aortic valve may be reasonable candidates for open-heart surgery because their risk of surgical complications is relatively lower.

Older patients who are considered high risk for open-heart surgery may be good candidates for transcatheter aortic valve replacement using this newer technology.

Harry Hurley

How does recovery compare between open-heart surgery and TAVR?

Dr. Muhammad Raza

Open-heart surgery is relatively invasive. Patients generally spend several days in the hospital and need several weeks to recover before returning to their usual activities.

Transcatheter aortic valve replacement is much less invasive. We use a tiny catheter through the groin, and the procedure generally takes about 30 to 45 minutes. We monitor patients overnight, and they often go home the next morning.

We tell them to take it easy for a couple of days. Within about two weeks, they can usually return to their normal activities.

Harry Hurley

Wow. Before we wrap up, I'd like to ask about prevention. Are there ways to lower your risk of aortic valve regurgitation in the first place?

Dr. Muhammad Raza

There are some general measures: Keep your blood pressure well controlled, because high blood pressure can affect the aorta and heart valves. Healthy eating, walking, exercising, and maintaining a healthy weight are also important and may help reduce the risk of valvular heart disease to some degree.

And if you have a family history, make sure you get checked so we can catch any valve disease early.

Harry Hurley

One bonus question: For someone who has already undergone, or may need, open-heart surgery or TAVR, what is life like after the procedure?

Dr. Muhammad Raza

Fortunately, when valve disease is caught and treated in time, patients often recover well. That's the critical point: Don't wait too long to replace the valve. Patients who are good candidates for surgery, often those on the younger side, generally recover well and return to their usual lives after open-heart surgery.

The same is true for transcatheter aortic valve replacement. It's minimally invasive, and recovery can happen within days. As long as there hasn't been too much damage to the heart muscle and we catch the disease early enough, patients can recover and return to their usual lifestyles quite quickly.

Harry Hurley

Any closing comments you'd like to leave with our listeners?

Dr. Muhammad Raza

I think we've covered everything. Thank you to everyone for listening. It's important to take care of your heart. Heart-healthy eating habits and lifestyle choices go a long way. If you have symptoms, don't simply blame the weather or allergies. Get checked by your

primary care physician or a cardiologist. And if you have a family history, be especially vigilant and get checked early rather than waiting until the last minute.

Harry Hurley

To make an appointment, visit demanddeborah.org or call 609-621-2080.

It's been my privilege to speak with Dr. Raza. Thank you for your time and expertise. It's great to do the program with you again, Doctor.

Dr. Muhammad Raza

Thank you so much, Harry.

Harry Hurley

You're welcome. Talk to you again soon.