HEALTHCARE: Innovations in Heart Health Tri-City Medical Center Offering Transcatheter Aortic Valve Replacement (TAVR) - a Non-Surgical Option for Heart Valve Disease



Heart disease continues to be the leading cause of death for Americans, according to the American Heart Association (AHA). During the pandemic, many people experiencing chest discomfort, fatigue or shortness of breath are hesitating before going to the hospital believing that they are experiencing COVID-19 symptoms that will pass or they are afraid of getting the virus at the hospital.

Physicians and surgeons at Tri-City Medical Center's Cardiovascular Health Institute (CVHI) want to remind San Diegans about the importance of going to the hospital when they have these types of symptoms to ensure that they are properly diagnosed and receive the best possible cardiovascular treatment. The AHA's "Don't Die of Doubt" campaign was created to raise awareness about this issue and reinforce that hospitals are the safest place to be for heart-related emergencies – even during a pandemic.

Just ask James Robbins, a retired restaurant cook, who delayed going to the hospital until his daughter made him because he was having difficulty breathing and walking more than 10 feet on his swollen ankles. He attributed his symptoms to COVID-19. Once a negative test ruled this out, the emergency department staff at Tri-City quickly determined that James was having heart problems and brought in Aaron Yung, MD, FACC, an interventional and structural cardiologist, who diagnosed James with aortic valve stenosis.

Photo courtesy of Jillian Dunn



Photo courtesy of Jillian Dunn Dr Aaron Yung, physician who performed the TAVR procedure on James Robbins.

Aortic stenosis occurs when the heart's aortic valve, located between the aorta and left ventricle of the heart, has thickened and its flap doesn't fully open causing reduced blood flow from the heart to the body. In turn, this makes the heart work harder to pump blood, weakening the heart muscle, and may eventually lead to heart failure. Aortic stenosis is a progressive disease and will become more severe over time.

"In the past, the only way to replace this aortic valve was through openheart surgery," said Dr. Yung Director of the Structural Cardiology Program at Tri-City. "Today, we perform transcatheter aortic valve replacement, or TAVR, in our cardiac catheterization lab in about an hour. This safe, minimally invasive procedure involves deploying a collapsed replacement valve to the diseased valve site through a catheter



Photo courtesy of Jillian Dunn

inserted into the femoral artery in the leg. Once the new biological tissue valve is inserted inside the old valve, it is expanded and takes over regulating blood flow."

Using a collaborative approach, Dr. Yung and one of his colleagues, Dr. Darrell Wu or Dr. Yuan Lin, both cardiothoracic surgeons at Tri-City, assess a patient's age, condition, comorbidities and risk category to determine if a person is a surgical candidate or not. The surgical risk assessment is based on the Society of Thoracic Surgeons (STS) score which calculates the shortterm risk of mortality and morbidities



Photo courtesy of Jillian Dunn Patient who received TAVR procedure: James Robbins.

for cardiac surgery as low, moderate or high. If a patient is not a surgical candidate, then TAVR is performed with one of the physicians assisting Dr. Yung during the procedure to help deploy the heart valve into place. Tri-City began offering TAVR in June 2021; since then, Dr. Yung and his team have performed about 20 procedures and anticipate a yearly volume of 50 or more.

"For James, TAVR was the best therapeutic option," said Dr. Yung. "Numerous studies show that even for low-risk surgical patients, TAVR is a safe alternative resulting in better outcomes."

The benefits of TAVR may include:

- reduced hospital stay
- •shorter surgical and recovery times
- less infection, pain and/or anxietysmaller incisions so minimal scarring
- relief of symptoms.

"It was a good thing I came in when I did as my heart function was very low," said James. "If I had waited any longer, I might have had a heart attack and needed open-heart surgery. Even though people might consider going to the hospital and having a procedure to be a bad thing, it was the best thing that ever happened to me. TAVR has given me back my life."

To learn more about heart and vascular care at Tri-City Medical Center, visit Cardiovascular Health Institute. ■

