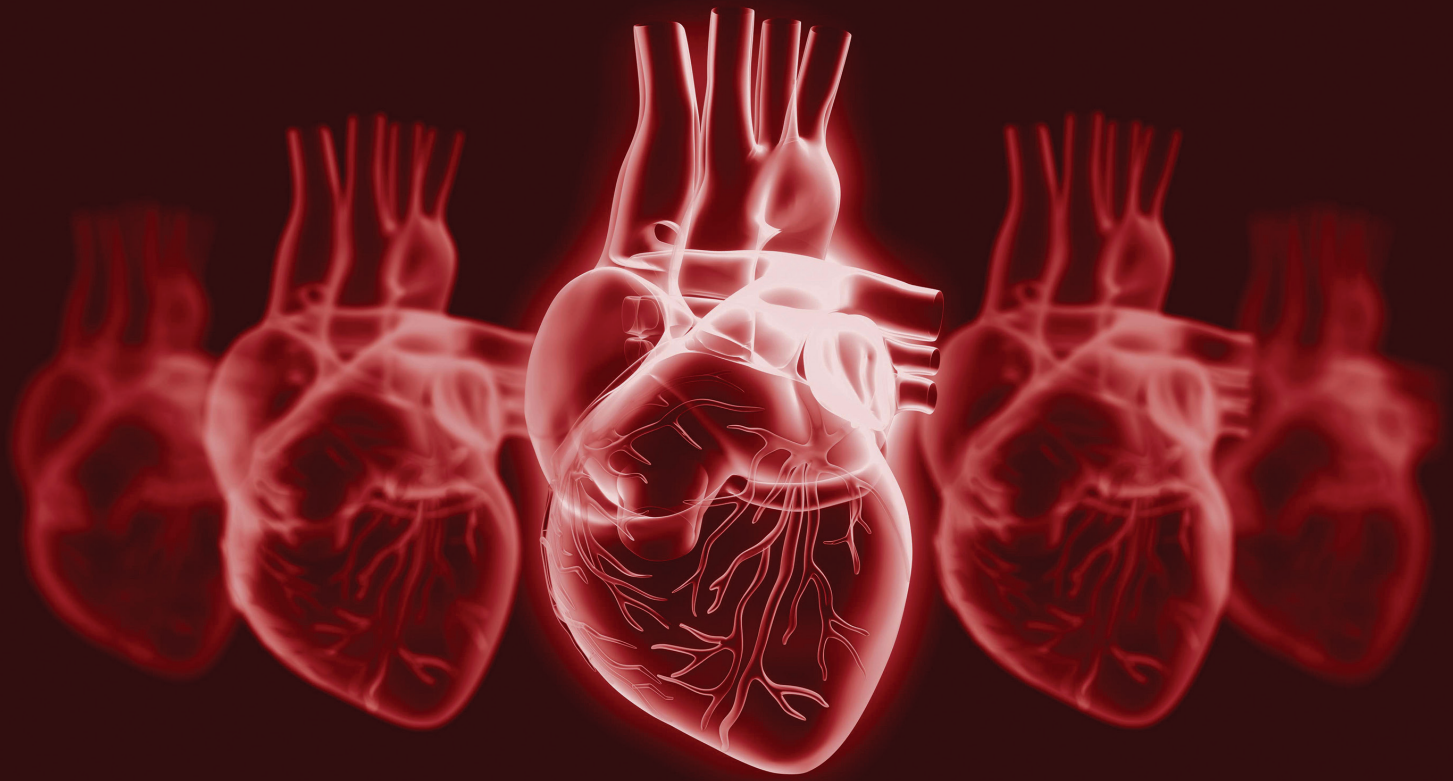
THE VALLEY HEART AND VASCULAR INSTITUTE

SPRING 2022

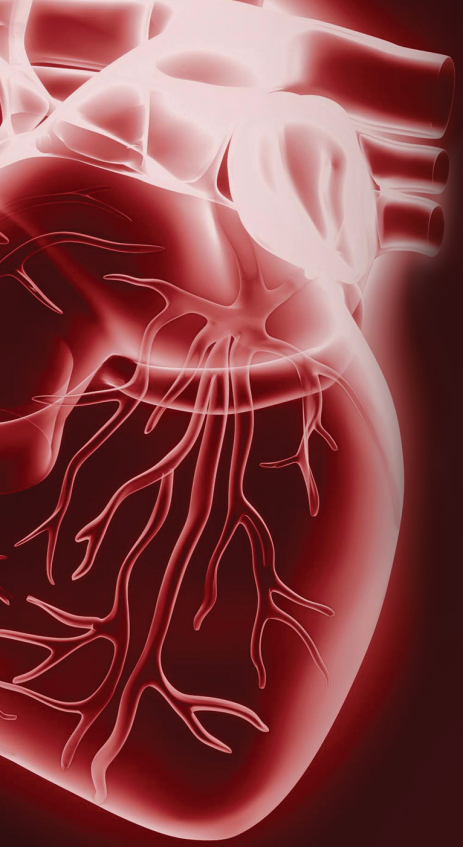


TAKING STEPS TO ADVANCE HEART CARE LIKE NO OTHER

Valley Health System

In alliance with

Cleveland Clinic
Heart, Vascular and Thoracic Institute



THE VALLEY HEART AND VASCULAR INSTITUTE

The Valley Heart and Vascular Institute is known for its **DEPTH OF EXPERIENCE**, **HIGH-QUALITY CARE**, and its alliance with the world-famous Cleveland Clinic Heart, Vascular & Thoracic Institute. Cleveland Clinic is ranked No. 1 in heart care by *U.S. News & World Report* (2021-22). Valley's multidisciplinary team approach to care represents a **FORWARD-THINKING** and **INTEGRATED STRATEGY** for the treatment of cardiovascular pathologies that is centered on each individual patient's needs.

We are pleased to present a snapshot of our cardiovascular program. For more information about The Valley Heart and Vascular Institute, please visit ValleyHealth.com/Heart.

HEALING HEARTS: CELEBRATING 1,000 TAVR PROCEDURES

This April, the Valley Heart and Vascular Institute celebrated the 1,000th transcatheter aortic valve replacement (TAVR) procedure. Members of the structural heart, interventional cardiology, cardiac surgery, and cardiovascular leadership teams celebrated this milestone.

Through a collaborative effort, our structural interventionalists and cardiac surgeons thoroughly evaluate a select group of patients to determine their eligibility for this minimally invasive procedure used to replace the aortic valve in patients with severe aortic stenosis.

From left to right: Francis Y. Kim, MD, Navin Budhwani, MD, Habib Jabagi, MD, Alex Zapolanski, MD, Hussein M. Rahim, MD, Juan B. Grau, MD, and Rajiv Tayal, MD. Missing from this photo are Howard Z. Goldschmidt, MD, and Srinivasa Edara, MD.

COLLABORATIVE EFFORT

To learn more about TAVR at Valley, please visit ValleyHealth.com/TAVR or scan the QR code.

ADVANCING THE CARE OF VALVULAR HEART DISEASE

Together, Valley's interventional cardiology and cardiac surgery teams have reinvigorated our Comprehensive Valve Program, which provides safe, leading-edge care for individuals diagnosed with valvular heart disease. Through a streamlined care approach, patients are seen under one roof by an interdisciplinary team of practitioners that include cardiac surgeons, interventional cardiologists, and advanced practice providers. Together, with the patient, our team develops a personalized treatment plan to meet the patient's needs.

This collaborative effort has also launched a timely transcatheter aortic valve replacement (TAVR) initiative. Under this initiative, our team will provide patients and referring physicians with streamlined access to the valve program, expanded access to treat both high-risk and low-risk patients, shorter procedural time, and enhanced follow-up and improved communication with the referring physician.

Our team will soon shift our focus to our percutaneous mitral and tricuspid valve programs to offer patients increased access to leading-edge technologies and clinical trials. We look forward to continuing to expand our transcatheter armamentarium.

STREAMLINED ACCESS TO THE VALVE PROGRAM

The Valve Team

INTERVENTIONAL CARDIOLOGISTS

- Rajiv Tayal, MD
- Francis Y. Kim, MD
- Hussein M. Rahim, MD

CARDIOTHORACIC SURGEONS

- Juan B. Grau, MD
- Habib Jabagi, MD
- Alex Zapolanksi, MD

CARDIOVASCULAR IMAGING SPECIALISTS

- Himanshu Gupta, MD
- Howard Z. Goldsmchmidt, MD

ADVANCED PRACTICE NURSES

- Andrea J. Rein, APN
- Sandie Romain, APN
- Carolina Lopez, APN

CORONARY ARTERY BYPASS GRAFTING: ONE SIZE DOES NOT FIT ALL

The cardiothoracic surgeons at The Valley Hospital do not believe in a "one-size-fits-all" approach to coronary artery bypass grafting (CABG). "Every single patient benefits from a very particular operation, conduit selection, platform, and assessment of the degree of stenosis in different areas of the heart," said Juan B. Grau, MD, Director of Cardiothoracic Surgery. "That's what we do at The Valley Hospital."

Each operation is planned specifically for the individual patient, taking into account the anatomy of their heart, other health conditions they might have, and a number of other factors. Our team has expertise in specialized surgical techniques and approaches, including endoscopic vessel harvesting, off-pump coronary artery bypass surgery (beating heart surgery), minimally invasive approaches, advanced multi-arterial grafting, and repeat coronary artery bypass grafting and grafting of stenosed or occluded stents.

Juan B. Grau, MD, Director of Cardiothoracic Surgery.

Working together with you, as the referring physician, we will create a tailored approach to ensure optimal outcomes for your patients.

A TAILORED APPROACH

CABG PROCEDURE

To learn more about the program, please visit ValleyHealth.com/CABG or scan the QR code.

CARDIOVASCULAR CARE
IN A HOSPITAL LIKE NO OTHER

Valley's cardiovascular service line is excited to bring **heart care like no other** to The Valley Hospital in Paramus, a state-of-the-art, 372-bed hospital on a brand-new campus, opening in 2023.

Rendering of a single-patient room.

When complete, the new acute-care hospital will be the centerpiece of a comprehensive healthcare campus that will also include a medical office building and the Robert & Audrey Luckow Pavilion, which houses Valley-Mount Sinai Comprehensive Cancer Care, The George R. Jaqua Same Day Services Center, a full-service retail pharmacy, and more. The Valley Hospital in Paramus has been designed with the needs of patients and families as the top priority, featuring single-patient rooms, a vastly expanded Emergency Department, and enhancements to our cardiovascular facilities, including:

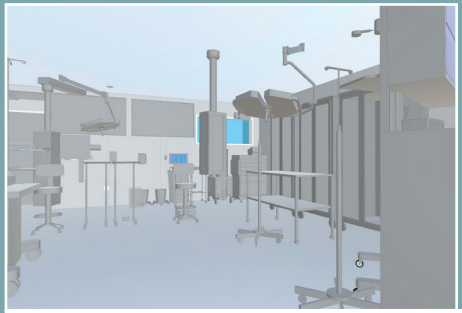
- An interventional platform that will include state-of-the-art cardiac catheterization laboratories, electrophysiology laboratories, and cardiac operating suites;
- A dedicated elevator from the Emergency Department that leads directly to the hybrid operating rooms, cardiac catheterization labs, and electrophysiology labs, which is critical in the event of emergent cardiac care;
- A dedicated cardiac floor encompassing two towers, including a dedicated cardiac critical care unit;
- Advanced cardiac imaging located on campus; and
- A dedicated space for the cardiac clinical trials team that is conveniently located adjacent to cardiovascular procedural rooms.

"I think in this day and age, especially when technology is readily available, you need to have a facility that matches your technological capabilities. This will be that facility," said Gerald Sotsky, MD, Director of the Cardiovascular Service Line, The Valley Hospital. "It's an amazing opportunity for me, for cardiology, for all of Valley, really for the whole community."

To learn more about the project, please visit ValleyHealth.com/TVHinParamus or scan the QR code.

OPENING IN
PARAMUS
2023

Three-dimensional rendering of The Valley Hospital in Paramus.



Three-dimensional renderings of a hybrid operating room.

VALLEY'S ELECTROPHYSIOLOGY TEAM

Back row (from left to right): Laura Flynn, APN-C; Dan Musat, MD; Advay Bhatt, MD; Thalia Lopez, APN-C; Tina Sichrovsky, MD; Suneet Mittal, MD; Erica M. Wisely, PA-C; Mohammadali Habibi, MD; Aleksandra Bozovic, APN-C; Mark Preminger, MD; and Nurten Fidan, PA-C. Front row: Jeromane Tenido-Ng, APN; Carissa Pistilli, APN-C; and Joanna Builes, APN-C.

Valley's electrophysiology services, offered through the Snyder Center for Comprehensive Atrial Fibrillation, are provided by the region's leading team of doctors specialized in treating arrhythmia and other heart rhythm abnormalities.

Using the latest evidence-based approaches to care, our team employs a dynamic and effective range of procedures and treatments to diagnose and care for patients.

With a longstanding commitment to research, our team was invited to serve as presenters during the 71st Annual Scientific Session & Expo, hosted by the American College of Cardiology; the annual meeting of the European Heart Rhythm Association, hosted by the European Society of Cardiology; and Heart Rhythm 2022, hosted by the Heart Rhythm Society. Team members discussed Valley's latest research and innovations, including the recent Rx.Health initiative to improve communication between the patient and their care team, risk factors of mortality after secondary procedures during the WRAP-IT trial, and yearly incidence and pattern of late atrial fibrillation recurrence, with their colleagues from around the world.

To meet our physician team, please visit ValleyHealth.com/EPTeam or scan the QR code.

CARING FOR PATIENTS IN CARDIOGENIC SHOCK

Cardiogenic shock – as a complication of acute conditions such as myocardial infarction, pulmonary embolism, or drug overdose – is a medical emergency that must be treated immediately. The Shock Team at The Valley Hospital, a multidisciplinary group comprised of interventional cardiologists, cardiac surgeons, congestive heart failure specialists, and cardiac interventionists, with support from advanced practice providers, is equipped to provide timely intervention to patients in cardiogenic shock. Using the extracorporeal membrane oxygenation (ECMO) machine and the Impella® Ventricular Support System, as needed, our team can intervene through femoral artery, jugular, or central access at the patient's bedside, in the cardiac catheterization laboratory, or in the operating room when an emergency arises.

To provide the heart with an opportunity to rest and recover from the distress of cardiogenic shock, the ECMO artificially simulates the heart, pumping blood outside of the patient's body where it will be oxygenated and then returned to the tissues in the body. ECMO does not treat underlying disease, but can temporarily provide vital tissues with enough oxygen.

If needed, additional support can be provided through the implantation of the Impella device, a heart pump designed to provide short-term blood flow support. When implanted, the Impella device bypasses the left ventricle – responsible for pumping oxygenated blood to tissues all over the body – allowing it to rest and recover.

REST AND RECOVER

6TH ANNUAL COMPREHENSIVE CV DISEASE MANAGEMENT: FROM FUNDAMENTALS TO INNOVATION

The 6th Annual Comprehensive CV Disease Management: From Fundamentals to Innovation CME symposium was held virtually on April 8. More than 400 primary care and cardiovascular specialists, practicing cardiologists, allied health professionals, nurses, as well as other health industry professionals registered; 26 topics were presented by Valley's esteemed faculty; and eligible attendees received 5.5 CME credits.

This program provided an in-depth review and analysis of current state-of-the-art practices in cardiovascular medicine, intervention, and surgery. Attendees also learned about more recent advances in treatment and technology, and ways to incorporate these advances into clinical practice.

"The Valley Heart and Vascular Institute's 6th Annual Comprehensive CV Disease Management symposium was a great success," said Course Director, Suneet Mittal, MD, Director of Electrophysiology, The Valley Hospital. "Issues relevant to clinicians, in particular clinical cardiology, new techniques and approaches in interventional cardiology and cardiothoracic surgery, and advances in electrophysiology were discussed to advance current clinical practice."

IN-DEPTH REVIEW — AND — ANALYSIS

In case you missed the live Symposium, please visit ValleyHealth.com/CVSymposium or scan the QR code to watch the recordings.

RECENT PUBLICATIONS

Aufan, M.R., Calhoun, D.A., Dell'Italia, L.J., Denney, T.S., Jr, Gamble, F.N., **Gupta, H.**, Lloyd, S.G., Reighard, S., Sharifov, O.F., & Williams, L.J. (2022). **Diastolic function: Modeling left ventricular untwisting as a damped harmonic oscillator.** *Physiological Measurement*, 43(2), 10.1088/1361-6579/ac4e6e.

Awad, A.K., Dokollari, A., **Jabagi, H.**, Malin, J.H., Ramlawi, B., Ruhparwar, A., Sá, M.P., Sicouri, S., Torregrossa, G., Van den Eynde, J., & Weymann, A. (2022). **Early and late outcomes of surgical aortic valve replacement with sutureless and rapid-deployment valves versus transcatheter aortic valve implantation: Meta-analysis with reconstructed time-to-event data of matched studies.** *Catheterization and Cardiovascular Interventions*. Advance online publication.

Behr, E.R., Bijsterveld, N.R., Boersma, L., Bonnemeier, H., Brouwer, M.A., Brouwer, T.F., de Groot, J.R., Delnoy, P., El-Chami, M.F., Kääb, S., Knops, R.E., Kooiman, K.M., Kuschyk, J., Lambiase, P.D., **Mittal, S.**, Quast, A., Richter, S., Smeding, L., Tijssen, J.,… and on behalf on the PRAETORIAN Investigators. (2022). **Efficacy and safety of appropriate shocks and antitachycardia pacing in transvenous and subcutaneous implantable defibrillators: Analysis of all appropriate therapy in the PRAETORIAN trial.** *Circulation*, 145(5), 321–329.

Biffi, M., Dallaglio, P.D., Hilleren, G., Holbrook, R., Kennergren, C., Korantzopoulos, P., Krahn, A.D., Lande, J.D., Lexcen, D.R., **Mittal, S.**, Poole, J.E., Tarakji, K.G., & Wilkoff, B.L. (2021). **Risk factors for CIED infection after secondary procedures: Insights from the WRAP-IT trial.** *JACC: Clinical Electrophysiology*, 8(1), 101-111.

Chung, C., Dahle, T.G., Kaneko, T., McCabe, J.M., & **Tayal, R.** (2021). **Percutaneous versus surgical transaxillary access for transcatheter aortic valve replacement: A propensity-matched analysis of the US experience.** *EuroIntervention: Journal of EuroPCR in collaboration with the Working Group on Interventional Cardiology of the European Society of Cardiology*, EIJ-D-21-00549.

Crean, A.M., Gharibeh, L., **Grau, J.B.**, Hong, S.J., & Rahmouni, K. (2021). **Surgical techniques for the treatment of anomalous origin of right coronary artery from the left sinus: A comparative review.** *Journal of the American Heart Association*, 10(22), e022377.

Denault, A.Y., **Jabagi, H.**, Mielniczuk, L.M., Nantsios, A., Ruel, M., & Sun, L.Y. (2022). **A standardized definition for right ventricular failure in cardiac surgery patients.** *ESC Heart Failure*. Advanced online publication.

Grau, J.B. (2021). **Patient prosthesis mismatch: Troubles to come for TAVR patients.** *The Annals of Thoracic Surgery*. Advance online publication.

To view additional publications, please visit ValleyHealth.com/CardiologyPublications or scan the QR code.

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