THE VALLEY HEART AND VASCULAR INSTITUTE
2018 Report
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This report on the state of The Valley Heart and Vascular Institute provides patients, healthcare professionals and the communities we serve with an up-to-date understanding of our latest initiatives, capabilities and achievements.

The 2018 edition is special. Not only is it our 11th consecutive report, but it marks Valley’s 30th year of providing cardiovascular care, an anniversary we have commemorated with the theme “Heart Care at Valley: The Future is Here. Celebrating 30 Years of Healing Hearts.”

Over this period, the Institute has distinguished itself and grown exponentially, driven by tremendous advancement in the knowledge, technologies, therapies, techniques and skills we employ.

Our personalized team approach continues to advance, enabling us to deliver exceptional cardiovascular care close to home, right here in Bergen County. In research, clinical trials, diagnosis, treatment, recovery and follow up, we are meeting and exceeding patient expectations while setting standards for excellence and treatment innovation that rival the best cardiovascular departments anywhere.

That success, of course, is due in large measure to the excellent group of cardiovascular surgeons, interventionalists, imaging specialists, electrophysiologists, anesthesiologists, nurses, therapists, advanced practice providers and support staff that we have assembled. It is also a result of applying that medical expertise in a coordinated way, always placing patients and their families at the center of care. Here at Valley, every patient sees more than one doctor and benefits from the focus of an entire team of cardiac professionals.

Our partnership with the Cleveland Clinic, which started in 2015, is both inspiring and deeply gratifying. When a reliable authority like U.S. News & World Report ranks it as the nation’s No. 1 heart care program for 24 consecutive years, it is pretty clear that Valley, as an affiliate, is in exceptionally good company.

We hope you find this report informative. Should you like to know even more, please feel free to contact us.

Finally, on behalf of the Institute, our team members and the advancement of cardiovascular medicine, we would like to thank each and every Valley patient for giving us amazing, ongoing opportunities to serve and to learn. We couldn’t do it without you.

Sincerely,

Alex Zapolanski, M.D., FACS, FACC
John A. Goncalves, Jr., M.D., FACS, FACC

From left:

Alex Zapolanski, M.D., FACS, FACC
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Significantly, the annual cardiology report for this year, 2018, coincides with another important milestone for Valley—30 Years of Healing Hearts. For three decades now, we have been learning, innovating and performing an ever-expanding array of heart and vascular treatments that have saved and enhanced many lives.

Today, that commitment continues, reflected by a diverse team of leading-edge surgeons, specialists and cardiologists dedicated to comprehensive patient care, groundbreaking clinical trials and an impressive array of treatment options for virtually every type of cardiac and vascular diagnosis.

Assisting us in continually raising the bar of excellence is our close, ongoing affiliation with the Cleveland Clinic, ranked as the No. 1 heart hospital in the country. It’s worth noting that Valley is the only health system in New Jersey and the wider New York metro area to be affiliated with the Cleveland Clinic. This relationship benefits both the Valley Heart and Vascular Institute and our patients as it serves as a source for research, referrals, consultations, collaboration, best practices and innovation.

A hallmark of our program is the extensive range of cardiovascular services offered. We maintain robust programs in cardiac surgery, cardiac catheterization and intervention, electrophysiology, thoracic aortic aneurysm treatments, cardiovascular imaging, cardiac screening, cardio-oncology and structural heart procedures.

We are at the forefront of advances in transcatheter aortic valve replacement (TAVR). Additionally, our ongoing research and clinical trials ensure patient access to the latest and most promising treatments such as the WATCHMAN™ device and MitraClip® therapy.

Local and regional cardiac patients can come here with the greatest confidence that their wellness and experience is our top priority. From diagnosis and treatment to recovery and follow up, we are attentive to the needs of each and every patient and their family members, keeping them informed and involved throughout the entire process. Our cardiothoracic surgery program, for example, provides extensive follow-up not just to patients, but also to their potentially at-risk family members.

When all is said and done, everything we do at Valley comes down to one thing: commitment to the community. It has been that way since we launched our cardiac surgery program 30 years ago, and will remain our legacy continuing for the years to come.

Sincerely,

Gerald Sotsky, M.D., FACC
Through state-of-the-art services, the expertise of top-ranked cardiovascular physicians and an unwavering commitment to excellent care, the Valley Heart and Vascular Institute has become an established leader—locally and regionally—in cardiac surgery.
Valley’s Cardiac Surgery Program brings together highly skilled cardiac surgeons, a dedicated support staff, innovative technology, robust clinical trials and a working affiliation with the prestigious Cleveland Clinic to offer patients excellent, comprehensive care. It’s a team approach to the treatment of heart and vascular disease, where surgeons, imaging specialists, nurse practitioners and other specialists collaborate extensively to optimize each patient’s experience and outcome. As a result, successful treatments with low morbidity and mortality rates, even in the most complicated cases, are consistently being realized.

ASSESSING RISKS AND OUTCOMES

The Valley Heart and Vascular Institute compares its data with national standards set by The Society of Thoracic Surgeons (STS), based on its database of patient demographics and surgical results. Valley’s patient data is entered into the STS database, which generates a national comparison report. This helps Valley’s cardiac surgeons accurately assess the risks and expected outcomes of surgical procedures for different groups of patients.

For the 12th consecutive year, Valley’s Cardiac Surgery team has delivered lower mortality and fewer complications than the STS average. It is important to note that the risk-adjusted mortality is remarkably lower.
THE CENTER FOR CORONARY SURGERY

In 2017, the coronary bypass operation celebrated half a century since its inception. The original operation, performed with veins extracted from the lower extremities, improved with the introduction of the left internal thoracic artery to bypass the anterior descending artery.

Surgeons in the United States and worldwide were reluctant to use the right internal thoracic artery due to its technical difficulties and lack of apparent benefits in early results. There have been multiple studies proving the benefits of a second arterial graft. The Valley team has published its own results with bilateral thoracic arteries in a 17-year follow-up demonstrating long-term benefits\(^1\).

In addition, we have been using the radial artery from the forearm. In our experience, adding a third arterial graft has demonstrated further improvement in long-term results.\(^2\) We are using more arterial grafts than most surgical teams in the nation, as shown in the following tables.

The decision as to which arterial conduit is allocated to a specific artery in the heart requires careful attention, and is based on our extensive experience. Our team has been using double or triple arterial grafts for decades.

Our surgical team also has extensive experience in conducting the coronary bypass operation without stopping the heart. While not very popular in the United States, this technique, in excellent hands, has beneficial effects, including reducing neurological and renal complications and blood requirements.

OFF-PUMP SURGERY ACTIVITY

Research conducted at The Valley Hospital has demonstrated that off-pump coronary artery bypass (OPCAB) surgery, also known as beating heart surgery, helps reduce mortality due to stroke compared to traditional bypass surgery.\(^3\) To date, Valley’s Cardiac Surgery team has performed more than 4,100 of these minimally invasive procedures, regularly performing more each year than the STS (Society of Thoracic Surgeons) or LG (Like Group) hospitals.

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The number of procedures performed in patients with left main disease continues to climb, with a total of 990 procedures performed in 12 years. The overall mortality rate (including urgent and emergency cases) for this complex subset of patients was 0.8 percent. A significant number of patients are operated on without cardiopulmonary bypass.

RESULTS AND QUALITY MEASURES

Valley has performed 2,521 isolated coronary artery bypass graft (CABG) procedures over the last 12 years, with a combined mortality of 0.8 percent (2006 to 2017). Isolated CABG refers to patients undergoing coronary bypass without any other procedures.

- The "observed-to-expected mortality" ratio is a risk-adjusted measure that compares patients’ actual mortality rates to their expected rate of mortality. A lower rate is better, and a number below 1 indicates that expectations have been exceeded.

4 The "observed-to-expected mortality" ratio is a risk-adjusted measure that compares patients’ actual mortality rates to their expected rate of mortality. A lower rate is better, and a number below 1 indicates that expectations have been exceeded.
Internal thoracic artery (ITA) grafts are a marker of quality in bypass surgery, known for producing superior long-term results. At Valley, both single and bilateral ITAs are utilized more than the national average, and single ITA utilization in patients is at 100 percent for the seventh straight year.

In 2017, the surgical team’s expanded use of radial artery grafts during bypass surgery continued. As research conducted at Valley has shown, long-term results improve with the addition of a third arterial graft.\(^5\)

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Endoscopic vein harvesting (EVH) is an effective technique for obtaining grafts to be used in coronary bypass surgery. Valley’s EVH rate for 2017, including the percentage of radial arteries harvested endoscopically, exceeded regional and national rates.

Following evidence-based protocols, the Valley team limits, whenever possible, the use of blood transfusions before, during and after cardiac surgery. Off-pump techniques that reduce hemodilution and blood loss support this approach. In 2017, 80 percent of patients who underwent bypass surgery did not require a transfusion. When patients did require transfusions, they received fewer blood products than the national average.
POST-OPERATIVE STAYS AFTER CORONARY BYPASS SURGERY

Coronary bypass patients at Valley are discharged sooner than patients at STS and regional institutions. Off-pump techniques enable Valley surgeons to reduce the amount of time patients spend on a ventilator and in intensive care.

<table>
<thead>
<tr>
<th>POST-OPERATIVE RESULTS</th>
<th>TVH</th>
<th>LG</th>
<th>STS</th>
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<tr>
<td>Total Time on a Ventilator (Mean Hours Per Patient)</td>
<td>9.9</td>
<td>17.2</td>
<td>17</td>
</tr>
<tr>
<td>ICU Stay (Mean Hours Per Patient)</td>
<td>37</td>
<td>75</td>
<td>69</td>
</tr>
<tr>
<td>Post-Operative Length of Stay (Mean in Days)</td>
<td>6.2</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Risk-Adjusted Post-Operative Stays of Less Than 6 Days (% of Patients)</td>
<td>55%</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>Risk-Adjusted Post-Operative Stays of More than 14 Days (% of Patients)</td>
<td>2.9%</td>
<td>4.9%</td>
<td>5.1%</td>
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AORTIC VALVE SURGERY

Recognized for excellence in aortic valve replacement surgery, Valley’s Cardiac Surgery program has performed 2,273 aortic valve replacements and repairs over the past 12 years. This includes patients with isolated aortic valve disease, aortic valves + CABG, and patients with multiple valve pathology. The data below demonstrates Valley’s success in achieving low mortality rates and shorter lengths of stay. In 2017 Valley’s mortality rate for isolated aortic valve replacement was 2.8% percent, as reported by STS.

Over the last 12 years, 2,273 valve procedures were performed at Valley. These include minimally invasive procedures for valve disease. Some of the volume of aortic valves traditionally replaced by conventional surgery has been supplanted by valve replacement using a transcatheter approach (156 procedures in 2017).

AORTIC VALVE PLUS CABG

| 0% TVH | STS: 3.7% |

PERIOPERATIVE MORTALITY RISK ADJUSTED

| TVH: 50% | STS: 63.4% |

PERCENTAGE OF PATIENTS WHO RECEIVED BLOOD TRANSFUSIONS

| TVH: 44.5 | STS: 52.0 |

TOTAL ICU TIME (MEDIAN HOURS)

<table>
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<tr>
<th>ISOLATED AORTIC VALVE SURGERY</th>
<th>TVH</th>
<th>LG</th>
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<tr>
<td>Percentage of Patients Who Had Previous CABG</td>
<td>19.4</td>
<td>10.9</td>
</tr>
<tr>
<td>Percentage of Patients Who Received Blood Transfusions</td>
<td>25.0</td>
<td>41.2</td>
</tr>
<tr>
<td>Total ICU Time (Mean Hours)</td>
<td>43.5</td>
<td>63.9</td>
</tr>
<tr>
<td>Post Procedure Length of Stay (Days)</td>
<td>7.2</td>
<td>8.2</td>
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MITRAL VALVE SURGERY

In 2017 Valley performed 40 mitral valve operations, which include mitral valve repairs/replacements and combined mitral valve procedures (aortic valves, coronary bypass, and aortic surgery).

The Valley Hospital heart surgery team has a special interest in mitral valve repair. Over the past 12 years, we have performed 327 mitral valve repairs, 234 of which were in patients with degenerative disease. We were able to repair 75 percent of these valves with a mortality of 0.8 percent.

In the group of patients with ischemic mitral regurgitation our mortality was 3.3 percent. This group of patients is at higher risk due to associated coronary disease and frequently compromised left ventricular function.

For all mitral valve procedures, the MORTALITY RATES ARE LOWER than the national and regional averages.
Valley’s Aortic Aneurysm Program provides comprehensive care for patients with aortic pathology. From 2007-2017, Valley’s surgical team performed 421 operations for thoracic aortic disease. This includes 276 elective procedures with an operative mortality of 3.26 percent, well below national benchmarks.

In 2017, procedures performed emergently for acute aortic dissection numbered 55 with an operative mortality of 9 percent. Again, these outcomes compare favorably to those of leading U.S. healthcare institutions, where the operative mortality from acute Type A dissection is reported as high as 30 percent.

Our multidisciplinary aortic team includes a dedicated coordinator, cardiac surgeons, cardiologists and echo cardiographers, radiologists, and a geneticist. We are also very proud to add a dedicated Cardiac Imager to our team. The addition of Himanshu Gupta, M.D., as Director of the newly established Advanced Cardiovascular Imaging Program, has enhanced the capabilities of the thoracic aortic aneurysm team. Working closely with Dr. Gupta and his staff, the team now has access to improved data and measurements that are more exacting and contextual than ever before.

“Valley really is unique for its comprehensive holistic patient-and family-centered approach.” — Mary Collins, Director, Cardiac Surgery and Cardiac Specialty Programs.

JOE’S STORY
After having unsettling chest pressure, doctors discovered Joe had an undetected heart defect that resulted in a life-threatening aneurysm. For years, doctors monitored his heart. But with time, Joe needed to have open-heart surgery. Today, he has an even greater appreciation for life.

Scan this code with your smartphone to view Joe’s story, or visit mystory.valleyhealth.com/Joe.*

*For detailed instructions to access a QR code, see(738,787),(862,868) the inside back cover.
The main objective of Valley's Thoracic Aortic Aneurysm Surveillance Program is to reduce the risk of aortic rupture, dissection, and other life-threatening sequelae of thoracic aortic aneurysm. To accomplish this, the multidisciplinary team of healthcare experts, spearheaded by our coordinator, works closely with patients through education, monitoring, individualized care strategies and state-of-the-art research.

Monitoring — recording and evaluating changes in the size and growth rate of aneurysms — is critical in determining and facilitating effective treatment plans that are timely, customized to the individual, and safe.

Included in the surveillance program’s well-coordinated regimen are in-person meetings with each patient for consultation. Additionally, in collaboration with Valley’s Cardiac Research Department, the program offers enrolled patients access to clinical trials and the most current information about their aneurysm conditions.

“The surveillance program at Valley really is unique for its comprehensive holistic patient- and family-centered approach,” offered Mary Collins, M.S.N., R.N., APN-BC, Director, Cardiac Surgery and Cardiac Specialty Programs. “Here at Valley, it’s much more involved than what many hospitals provide.”

“As with everything at Valley, when we see something that can be improved, we act,” shared John Goncalves, M.D., Director of Cardiac Surgery and Surgical Director of Valley’s Transcatheter Valve Program. “We monitor patients through a combination of face-to-face and telemedicine visits, based on their individual needs.”

Valley’s affiliation with the Cleveland Clinic is another key resource for monitoring and treating thoracic aortic aneurysms and dissections. A case in point: Members of the team, upon encountering significant potential complications in treating a 97-year old aneurysm patient, shared scans and other pertinent information on this patient’s condition with their Cleveland Clinic colleagues. The added collaborative insight and guidance Valley received back, in what was essentially an expert second opinion, ensured that the very best and safest treatment strategy was adopted.

**Thoracic Aortic Aneurysm Support Group**

Part of Valley’s treatment and healing process is to provide a supportive environment for thoracic aortic aneurysm patients, where they can share stories, concerns and advice with fellow patients and loved ones.

**Thoracic Aortic Aneurysm Surveillance Team, left to right**: Mary Collins, M.S.N., R.N., APN-BC; John Goncalves, M.D.; Leanne Scaglione, M.S.N., R.N., NP-BC; and Mariano Brizzio, M.D.
Structural heart disease is the result of a myriad of conditions, congenital and non-congenital, that lead to the inefficient functioning of the heart.

At Valley, the No. 1 mission of our Structural Heart Disease Program is to deliver patient-focused care that is compassionate, minimally invasive, evidence based and tailored to particular needs and ongoing medical issues.
Regardless of the problem, structural heart abnormalities can lead to disruptions in the pumping of blood. Disruptions can be caused by valvular conditions such as aortic stenosis, aortic regurgitation, mitral stenosis, mitral regurgitation, leakages around valves that have been surgically replaced, abnormal enlargement of the heart muscle impairing blood flow called hypertrophic obstructive cardiomyopathy, holes within the heart chambers called septal defects and abnormal accumulation of blood around the heart.

Any one of these problems can bring on symptoms such as shortness of breath, fatigue, loss of balance, discomfort in the chest, lightheadedness, lower extremity swelling and an abnormal heartbeat.

Not so long ago, the only way to address and repair these types of heart defects was through open-heart cardiac surgery. Over the last few years, however, enormous technological advancements have been made. Today, the specialists at Valley offer a wide range of innovative procedures that use minimally invasive, percutaneous catheter techniques.

Among the Best

The expertise, knowledge and reputation of Valley’s Structural Heart Disease Program continues to grow due to ongoing, onsite clinical trials and research.

The range of catheter-based structural procedures offered at Valley is extensive. Treatments include everything from minimally invasive valve replacements and repairs, to percutaneous closure of an atrial septal defect, a patent foramen ovale, or a combined paravalvular leak and ventricular septal defect.

A Compassionate Multidisciplinary Approach

At some facilities, a patient will see a single doctor. That’s never the case at Valley, where a patient will see multiple cardiologists and specialists at the same time whose goal is to provide a thorough, comprehensive diagnosis and treatment plan.

Using a heart team approach, which is now recognized and embraced by the American College of Cardiology and the European Society of Cardiology, each patient’s care is managed through a compassionate, customized, multidisciplinary relationship. In every case, the primary focus is on the patient and the patient’s family.

For Sean Wilson, M.D., Director, Structural Heart Disease Program and Cardiac Catheterization Laboratory, it means placing the patient and family members at the center of care. From referral to discharge, the entire team is there to answer questions and devise a strategy that leads to outstanding patient outcomes and satisfaction. “The goal,” says Dr. Wilson “is to empower our patients through education and our accessibility so they are comfortable with every step of the process from the initial consultation to follow-up care following the procedure. We realize that it’s tough being a patient and we avoid treating patients like they’re just a number.”
Today there are much less invasive catheter-based options that substantially lower risks and provide a complete and rapid recovery.

Valley’s state-of-the-art catheterization laboratory features advanced imaging technology and excellent procedure capabilities.

The field of high-tech, minimally invasive structural heart treatments is growing exponentially with a middle ground hybrid combining surgical and less-invasive therapeutic solutions rapidly developing.

In particular, the options for aortic valve and mitral valve repair, both structural and functional, continue to expand and deliver an exceptionally high percentage of positive outcomes.

As additional innovative and beneficial treatments are introduced, Valley’s structural heart team stands at the forefront, ready to apply the best solutions to serving patients and saving lives.

Valley’s experienced TAVR team includes John Goncalves, M.D., Director of Cardiac Surgery and Surgical Director of Valley’s Transcatheter Valve Program; Sean Wilson, M.D., Director, Structural Heart Disease Program and Cardiac Catheterization Laboratory, and structural heart specialist Thomas Cocke, M.D.

TAVR is a catheter-based procedure for treating severe aortic valve stenosis through the replacement of a patient’s compromised aortic valve. This procedure is an important part of Valley’s Structural Heart Program.

At Valley, individuals being evaluated for TAVR (currently approved for use in intermediate and high-risk patients) are seen by a multidisciplinary team of valve specialists.

While traditional open-heart surgery requires general anesthesia and opening up the chest plate, the TAVR procedure is usually performed percutaneously through the femoral artery with moderate sedation. This results in a faster recovery. By eliminating the administration of general anesthesia, patients have a shorter ICU and hospital stay. Additionally, they are often able to ambulate just a few hours after the procedure to minimize deconditioning and are discharged within two to three days.

According to Dr. Goncalves, “The number of TAVR treatments we perform at Valley keeps growing. In the last 2 years, TAVR procedure volume has gone up 300 percent. For high-risk and intermediate-risk patients, excellent outcomes are consistently realized. And now we’re especially excited to be participating in the MedSTAR Valve Trial. This is a new TAVR trial, recently authorized by the FDA, targeting low-risk patients.”

Valley was the first institution in New Jersey to use the recently approved Medtronic CoreValve™ Evolut™ PRO, a next-generation heart valve that improves sealing and reduces leaking. What makes the Evolut PRO an exceptional improvement is its self-expanding frame and outer wrap that increases surface area contact and allows the valve to achieve a better seal.
Atrial fibrillation is a growing, complex issue for aging populations that is associated with increased morbidity and mortality. For patients with atrial fibrillation who cannot take anticoagulants long term, the Watchman™ device represents a solution that is an effective alternative. The Watchman device excludes the left atrial appendage from the systemic circulation. Studies have shown that the Watchman device demonstrated comparable stroke risk reduction, and statistically superior reductions in hemorrhagic stroke, disabling stroke and cardiovascular death compared to warfarin over long-term follow-up. A team consisting of a structural interventional cardiologist and an electrophysiologist implants the device using a minimally invasive procedure under transesophageal echocardiography and fluoroscopic x-ray guidance. Recovery is rapid, and patients are usually discharged the next day.

MITRACLIP®

The MitraClip Program continues to flourish and deliver excellent patient outcomes. As the first medical facility in the area (including Bergen, Passaic and Rockland counties) to successfully use the MitraClip, Valley’s Structural Heart team is now well known for its expertise in implanting this device. For patients who experience symptomatic degenerative and functional mitral valve regurgitation, who are considered high risk for surgery, the MitraClip represents a minimally invasive treatment alternative. This catheter-based procedure is performed through the femoral vein. Having now been used in more than 25,000 patients, MitraClip has proven to be overwhelmingly effective in addressing leaky mitral valve issues. The results for most patients are an immediate improvement in breathing and energy levels and, over the long term, a dramatic reduction in heart failure hospitalizations. Following the procedure, patients can usually return home in just one or two days.

VALLEY WAS THE FIRST MEDICAL FACILITY in the area (including Bergen, Passaic and Rockland counties) to successfully use the MitraClip, and the Structural Heart team is now well known for its expertise in implanting this device.

WATCHMAN™ DEVICE

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PERCUTANEOUS BALLOON AORTIC AND MITRAL VALVULOPLASTY

Aortic and mitral balloon valvuloplasty is a procedure performed in the cardiac catheterization laboratory to restore normal blood flow and reduce pressure in the hearts and lungs of patients with aortic and mitral valve stenosis. Left untreated, the condition is life threatening. During this percutaneous procedure, the mitral or aortic valve opening is widened by inflating and deflating a balloon. Most patients are able to return home the following day.

ALCOHOL SEPTAL ABLATION

This minimally invasive procedure involves injecting pure alcohol into target septal branches of the left anterior descending artery to reduce abnormal thickening of the heart muscle. Such thickening is often due to a genetic condition known as hypertrophic cardiomyopathy, the symptoms of which are difficulty breathing, fainting, fatigue and arrhythmias that hinder normal functioning. Patients who are considered high risk for myectomy are likely candidates for this procedure. Valley is fortunate to have interventional cardiologists on its team with the skill and experience necessary to carry out this complex procedure.

THE STRUCUTRUAL HEART TEAM

The Structural Heart team builds an interactive working relationship with each patient to coordinate and manage care. The team includes cardiac surgeons, electrophysiologists, interventional cardiologists and other specialists based upon the patient's need and the procedure that is being performed.

We build an interactive working relationship with each patient to coordinate and manage care.
Valley’s electrophysiology services are provided by the region’s leading team of doctors specialized in treating arrhythmia and other heart rhythm abnormalities. Led by Director of Electrophysiology Suneet Mittal, M.D., FACC, FHRS, the team employs innovative new strategies as well as the latest proven therapies to provide state-of-the-art care to their patients. It’s all part of a comprehensive commitment toward collaboration and taking an integrated approach to evaluating and treating electrophysiology-related conditions.
An important quality that makes the electrophysiology team at Valley highly effective is a commitment to ongoing learning. By participating in groundbreaking, industry-leading research, communicating/collaborating with international leaders in the field, and adopting promising new approaches to pacing, Valley is able to offer state-of-the-art technology and sophisticated, highly successful patient treatments.

**KEY PROCEDURES**

Valley’s electrophysiology team utilizes a full suite of technologies for the treatment and management of heart rhythm disorders, including:
- Catheter Ablation
- Cryo-Ablation
- Radio Frequency Ablation
- Hybrid Ablation
- Robotic Magnetic Navigation
- LARIAT Procedure
- WATCHMAN Procedure
- Pacemaker Implantation
  - Leadless
  - His Bundle
- Defibrillators
  - Subcutaneous
- Cardiac Resynchronization Therapy Devices
- Remote Monitoring

**INTERSOCIETAL ACCREDITATION COMMISSION**

Since its inception more than 25 years ago, the Intersocietal Accreditation Commission (IAC) has been recognized as a leading accrediting body for developing healthcare best practice standards and establishing reliable metrics for evaluating the quality of care delivered. The objective, first and foremost, is to improve healthcare quality.

Valley’s cardiac electrophysiology lab has been granted IAC accreditation in electrophysiology testing, catheter ablation and device implantation. Valley is one of only nine facilities nationwide (and the only one in New Jersey) to receive this recognition, indicating a consistent commitment to providing quality care and improving performance.

Valley is one of only nine facilities nationwide (and the only one in New Jersey) to receive this recognition.

**ARLENE’S STORY**

A fiber artist diagnosed with AFib, Arlene had lost her energy and creativity until the team at Valley helped her get them back.

Scan this code with your smartphone to view Arlene’s story. or visit mystory.valleyhealth.com/Arlene.*

*For detailed instructions to access a QR code, see the inside back cover.

**CONNECTING WITH NEW PATIENTS ONLINE**

Valley now offers patients in New York and New Jersey, who have been diagnosed with AFib, online consultations with one of our electrophysiologists using real-time audio/video technology via smartphone, tablet or computer.

This is an opportunity (for new patients only) to speak directly with a Valley AFib specialist. The service offers those who are concerned they have symptoms of AFib, who have been recently diagnosed with it, or who would like a second opinion, convenient, affordable access to our electrophysiology experts.
Atrial fibrillation (AFib) is an irregular heartbeat associated with a high incidence of stroke and heart failure, due to the formation of blood clots. It’s estimated that there are currently more than 2.7 million people living with this condition in the U.S. alone. And that number is expected to double by 2050.

Compelling new data from the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery, suggests that a comprehensive, collaborative, integrated team approach to treating AFib is the most effective way of reducing those numbers. This data serves as the basis for Valley’s new AFib management guidelines.

“This data actually aligns very well with what we are already doing here at Valley,” offers Dr. Mittal, who also serves as Medical Director of The Snyder Center for Comprehensive Atrial Fibrillation, as Director of Cardiac Research, and as Associate Chair of Cardiovascular Services for Valley Medical Group. “Instead of relying solely on ablation techniques, our approach is multidisciplinary and team-oriented. We work closely with patients to address many considerations, including the appropriate use of anticoagulation medication and health issues such as stress, hypertension, sleep apnea and obesity,” he adds.

Valley’s Snyder Center for Comprehensive Atrial Fibrillation provides patients with individualized care from a multifaceted and supportive team of electrophysiologists and specialists in imaging, cardiology, pulmonology, hypertension, nutrition, diabetes, sleep medicine, weight loss and stress management. Navigators and coordinators are also on hand to guide patients through the entire diagnosis, treatment, monitoring and follow up process. “The aim,” says Dr. Mittal, “is to focus on early diagnosis, stroke prevention and improving a patient’s quality of life.”

As the Snyder’s Center’s full name indicates, this is an environment that examines and treats atrial fibrillation comprehensively, which means it goes far beyond medical procedures to identify root causes and promote long-term, post-operative, life-affirming strategies.

**SERVICES PROVIDED**
- Electrophysiology
- Weight-Loss Management
- Sleep Medicine
- Nutrition
- Stress Reduction
- Physical Fitness
- Diagnostic Imaging
- Behavioral Cardiology
- Care Coordination for all Services

To view our Snyder Center video, scan this code with your smartphone.*

*For detailed instructions to access a QR code, see the inside back cover.
HIS BUNDLE PACING

His bundle pacing (HBP) addresses one of the major issues with traditional right ventricular pacing, where there is an elevated risk of heart failure occurring from the heart chambers pumping out of sync. Valley is one of the first hospitals in the area to offer HBP as a viable, leading-edge, alternative pacing treatment. Through trials and extensive experience, our specialists have developed an improved approach that calls for placing the right-ventricular lead directly on the His bundle. This has yielded positive results in terms of optimizing timing and providing a more natural heartbeat.

Our advanced experience with the technique has led Valley to establish a national training center that prepares other doctors to successfully use His bundle pacing. The training provided here has shown that electrophysiologists with no prior HBP exposure can learn the technique with relative ease and achieve a high rate of implant success.

As Valley electrophysiologist, Advay Bhatt, M.D. indicated in a recently published manuscript, there are also complicating factors and a high rate of rising thresholds and lead intervention with the technique that can cause serious limitations. For instance, the success rate for HBP is significantly diminished when bundle branch block (BBB) and complete heart block are present. The pattern of atrioventricular block in combination with BBB further affects outcomes. These and other issues all have important implications for HBP patient selection.

MICRA™ TRANSCATHETER PACING SYSTEM

As one of a handful of clinical trial sites that first demonstrated the safety and efficacy of this groundbreaking technology, The Valley Hospital can now offer the very first FDA-approved leadless pacemaker to any patient in need of treatment. The Micra is essentially the smallest pacemaker in the world, just one-tenth the size of a traditional pacemaker. The incredibly small size of the leadless device allows Valley doctors to easily implant it into the right ventricle of the heart using a minimally invasive catheter delivery system. Since being approved by the FDA in 2016, the Micra has outperformed traditional pacing in terms of reducing patient complications and recovery time. Additionally, there are indications that it may be ideal for patients who would benefit from single-chamber pacing.
At Valley, interventional cardiologists utilize leading-edge technologies to offer patients a wide range of catheter-based, minimally invasive procedures for treating coronary artery disease.
Valley’s Interventional Catheterization Laboratory, which is equipped with state-of-the art imaging and treatment capabilities, provides the ideal setting for patients at all risk levels to receive optimized, comprehensive care.

Treating conditions by using catheters inserted through blood vessels can open chronic total occlusions, terminate heart attacks and allow the taking of accurate pressure measurements.

Diagnosing coronary artery blockages involves the use of ultrasound and optical coherence technology along with the injection of dyes that enhance the visualization of blood flow and possible obstructions. For blockages that are repairable through an intervention, a stent—a small wire-mesh tube—is typically deployed. Placing a stent opens the artery and allows normal, unrestrained blood flow to resume.

The interventional, wire-based diagnostic and treatment procedure options offered by Valley include intravascular ultrasound, fractional flow reserve, optical coherence technology and directional coronary atherectomy.

At the core of Valley’s approach is a team of cardiology specialists making evaluations, sharing ideas, consulting colleagues through the Cleveland Clinic affiliation and reaching consensus on the best treatment plan for each patient going forward.

A key part of this collaborative process is listening to and addressing the concerns of patients and family members.

John Lee, M.D.
INNOVATIVE CARDIAC CATHETERIZATION APPROACHES

RADIAL ARTERY ACCESS
Using a radial artery in the wrist (instead of the femoral artery in the groin) for catheter insertion is increasingly becoming the method of choice for interventional cardiology procedures performed at The Valley Hospital. There are excellent reasons for this development. Compared to the femoral artery, the radial approach lowers the risk of bleeding, increases patient comfort and shortens recovery times. The chart below shows how the use of this approach has been increasing over time.

SAME-DAY PCI
Percutaneous coronary intervention (PCI) is a minimally invasive procedure designed to overcome artery obstructions, increase blood flow and relieve the symptoms of heart disease. Developments that have increased patient comfort such as continued device miniaturization and a growing preference for radial artery catheter insertion have made it possible for some patients to be released on the day of the PCI procedure. Eligibility, however, is based on the patient passing Valley’s stringent screening criteria. After a successful low-risk intervention and subsequent same-day discharge, follow-up calls are made to the at-home patient to monitor and ensure a full recovery.

HIGH-RISK INTERVENTION
Increasingly effective and miniaturized cardiac support devices called Impellas are placed using minimally invasive or percutaneous approaches to allow high-risk patients with acute multi-vessel and left main disease to undergo percutaneous coronary interventions.

CHRONIC TOTAL OCCLUSION INTERVENTION
A chronic total occlusion is the complete blockage of a coronary artery. With newer interventional technologies and techniques, these procedures are increasingly being undertaken to restore blood supply to sections of the heart muscle.

EKOSONIC ENDOVASCULAR SYSTEM
Patients presenting with large clots in their pulmonary arteries may have hearts that are under strain. When this occurs, an ultrasonic wave system called EKOS is increasingly used to dissolve these blood clots. The combination of ultrasonic waves emitted through this sophisticated catheter and the delivery of a clot-dissolving medication called tPA helps lead to faster normalization of the heart’s function and size. In this way, blocked arteries in the lungs are cleared safely, improving a patient’s outcome and well-being.
PRIORITIZING PATIENT SAFETY

Patient safety is a cornerstone of treatment at The Valley Hospital catheterization laboratory. Leading best practice safety protocols are followed before, during and after every procedure. To avoid mistakes and unnecessary risks, communication among members of the patient’s medical team is imperative. That’s why Valley’s interventional cardiology team members engage in ongoing discussions about safety that pertain to the unique conditions of each and every patient. At times, these discussions expand to include consultations with knowledgeable cardiology safety experts at the Cleveland Clinic, the esteemed, nationally recognized healthcare institution of which Valley is proud to be a cardiac affiliate.

The Valley team double checks everything by holding pre-procedure huddles. The purpose of these meetings is to review everything beforehand, to make sure that there’s agreement regarding the patient’s condition, expectations and the procedure that will be performed.

IMPELLA LEFT-VENTRICULAR ASSIST DEVICE

With the Impella® left-ventricular assist device, the world’s smallest heart pump, Valley’s interventional cardiologists can perform minimally invasive procedures on patients with increasingly complex multi-vessel and left main disease.

The physician members of the Interventional and Vascular Heart Work Group, left to right): Dennis Reison, M.D.; Thomas Cocke, M.D., Sean Wilson, M.D.; Navin Budhwani, M.D.; Robert Saporito, Jr., M.D.; Atish Mathur, M.D.; and Francis Y. Kim, M.D.

SHOCK TEAM

Established in 2017, Valley’s team for the treatment of cardiogenic shock continues to fine tune its protocols and rapid response capabilities. In addition to interventional cardiologists, the team is composed of clinical cardiologists, intensivists, advanced practice providers, imaging specialists and other healthcare providers. Many cardiovascular conditions can lead to cardiogenic shock, including heart attacks, valvular conditions and infections. Whatever the underlying causes, the heart is strained to the point of being unable to sufficiently pump the quantity of blood needed by the body. Consequently, the patient goes into shock as other vital internal systems and organs start to fail. The goal of Valley’s shock team is to stabilize the distressed patient’s vitals and provide treatment that restores perfusion as soon as possible. Through a multidisciplinary approach, the shock team seeks to devise long-term strategies to improve blood flow and address any underlying issues and complications that may require surgery or other treatments.

When needed, the team will implant a medical support device such as the Impella® or an ECMO to help the patient’s recovery.
In 2018, the Valley Heart & Vascular Institute established a new, comprehensive Advanced Cardiovascular Imaging Program led by Cardiologist and Cardiovascular Imaging Specialist Himanshu Gupta, M.D., FACC. Through Dr. Gupta’s leadership as Director of the new program, the institute is unifying existing capabilities while acquiring new equipment, technologies and protocols that place Valley at the leading edge of heart and vascular imaging.
At Valley, Dr. Gupta and his team look to provide high-quality, integrated care to patients and families that utilize the latest advances in cardiovascular imaging, clinical translational research and education in coordination with Valley’s Diagnostic Imaging Department.

“When it comes to imaging,” says Dr. Gupta, “we’re shifting away from being strictly modality-oriented. It’s a bit more of a holistic and team strategy, if you will, where we recognize the interconnectedness of the many different cardiac services and specialties Valley offers and work together to create individualized patient treatment plans that may cross from one area into another. We believe patients benefit substantially from this approach.”

Under Dr. Gupta’s direction, state-of-the-art imaging is closely aligned with preventive cardiology, structural heart disease, cardiothoracic surgery and electrophysiology.

Notes John Goncalves, M.D., Director of Cardiac Surgery and Surgical Director of Valley’s Transcatheter Valve Program, “For myself and I’m sure for the other doctors here, it’s incredibly helpful to have great imaging as part of the diagnostic process. That saying, ‘a picture is worth a thousand words’, in cardiovascular medicine, it’s so true.”

“Imaging, as a visual representation, provides dimension, context and quite literally a more complete picture of what’s actually going on inside the patient. The images that Dr. Gupta acquires and the precise data and measurements provide important information that helps reduce stress and risk. It provides the foundation of what our entire team of cardiology health professionals needs to devise the best solutions for our patients,” Dr. Goncalves adds.

In his role as Director, Dr. Gupta supervises a growing team of board-certified cardiologists, radiologists and skilled, licensed and certified technologists. Cardiovascular imaging services that are offered include: Cardiovascular MRI, Cardiovascular Computed Tomography (CT), SPECT and Positron Emission Tomography (PET/CT), and Echocardiography.

CARDIOVASCULAR IMAGING SERVICE

ECHOCARDIOGRAPHY

Echocardiograms are a mainstay tool in diagnosing heart problems. Through the employment of ultrasonic waves and a Doppler technique, a transthoracic echocardiogram allows doctors and technicians to visually monitor heart chamber and blood movement for indications of heart disease or other serious conditions. In selected individuals, contrast echocardiography is frequently employed for accurate quantification of wall motion and left ventricular function. Valley also offers myocardial strain imaging which is extremely useful to detect subclinical changes in left ventricular function. It is routinely used in patients undergoing chemotherapy for serial monitoring of heart function. A Trans-Esophageal Echocardiogram (TEE) takes a detailed picture of the heart and major blood vessels to detect heart valve disease, heart tumors and blood clots inside the heart. It also helps in the detection of aneurysms. 3D echo is performed in select cases for quantification of valvular disease and heart structure and function. Recently, Valley’s Echocardiography Lab was reaccredited by the Intersocietal Accreditation Commission (IAC). According to IAC, being reaccredited is an indicator of consistent quality care in echocardiography and a dedication to continuous improvement.
CARDIOVASCULAR IMAGING SERVICE
CARDIOVASCULAR COMPUTED TOMOGRAPHY (CT)

Using advanced computerized tomography (CT) scanners, detailed noninvasive images of the coronary arteries are obtained. These images provide accurate information regarding the extent of coronary artery disease. Valley will be among the first organization in the region to implement a cutting edge program for fractional flow reserve quantification using images obtained from coronary CT. This provides important physiologic information of the clinical significance of coronary stenosis identified on coronary CT. For primary prevention, a coronary calcium score for screening coronary artery disease is routinely performed in select individuals. Additionally, an integrated program for aorta assessment is in place that uses CT for planning procedures such as percutaneous aortic valve replacement. In certain individuals with renal insufficiency, spectral CT with reduced contrast dye is performed for thoracic aorta imaging.

CARDIOVASCULAR IMAGING SERVICE
CARDIOVASCULAR MRI

This is a premier program at Valley that only a few centers in the region currently offer. Using magnetic resonance imaging (MRI), Dr. Gupta and his team provide comprehensive and precise information of the structure and function of heart. Cardiac MRI provides an accurate diagnosis ensuring the best treatment approach to a number of heart conditions. This technology allows surgeons, interventionists and other team members to determine if the patient has had a previous heart attack, the degree of damage and the exact size and location of scar tissue. Inflammation of the heart, accurate quantification of valve leakage, noninvasive characterization of cardiac masses and pericardial disease is also performed using cardiac MRI. Recently, Valley has implemented a cutting edge, non-contrast evaluation of the thoracic aorta using MRI for serial monitoring of aortic aneurysms. Non-contrast 3D images of the aorta are created using techniques to minimize respiratory and pulsatile artifacts. Additionally, as a benefit for our cardiovascular patients, Valley offers MRI services to select patients with cardiac implantable electronic devices such as pacemakers, and defibrillators.

Representative example of the cardiac MRI of the left ventricle in a patient with subacute myocardial infarction.

CARDIOVASCULAR IMAGING SERVICE
SPECT AND POSITRON EMISSION TOMOGRAPHY (PET/CT)

Nuclear imaging of the heart to evaluate chest pain and coronary artery disease is routinely performed using advanced SPECT cameras. Amyloidosis of the heart which results from abnormal protein deposition is now being increasingly recognized as an important cause for heart failure. In suspected cases, 99Tc-PYP nuclear (SPECT) imaging and MRI of the heart provides important diagnostic information. Myocardial PET/CT imaging for evaluating myocardial viability and fibrosis is also offered.
As the new program continues to develop, the opportunities for growth, improvement and collaboration are extraordinary. Valley's affiliation with the Cleveland Clinic's Sydell and Arnold Miller Family Heart and Vascular Institute enables the Advanced Cardiovascular Imaging Program to work in partnership with the nation's No. 1. ranked heart care facility. In this capacity, academic, clinical and research knowledge as well as expertise and best practices are shared.

Recently, Valley and Cleveland Clinic collaborated to enhance the continuous quality improvement program in Valley's echocardiography lab, resulting in a write up in Cleveland Clinic’s *Consult QD — Heart & Vascular: Bringing Consistency and Reproducibility to the Echo Lab.*

Cleveland singled out Valley cardiologists Michael Anshelevich, M.D., and Howard Goldschmidt, M.D., Co-Directors of The Valley Hospital Echo Lab, as the driving forces behind the quality improvements accomplished. Commenting in the article, Richard Grimm, M.D., Director of Echocardiography Laboratories, Cleveland Clinic, noted, “Valley Hospital has truly embraced and leveraged its affiliation with our Heart & Vascular Institute and has consequently seen positive outcomes in both image acquisition and physician reporting, resulting in improved patient care.”

Valley has seen positive outcomes in both image acquisition and physician reporting, resulting in improved patient care.

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**DR. GUPTA CO-AUTHORS AMERICAN HEART ASSOCIATION STUDY**

The Journal of American Heart Association recently published the results of a study conducted by Dr. Gupta and several colleagues, titled “Novel Noninvasive Assessment of Pulmonary Arterial Stiffness Using Velocity Transfer Function.” It showed that VTF could serve as a surrogate for PA impedance with the potential to assess PA stiffness and elevation in pulmonary vascular resistance (PVR) noninvasively and reliably using cardiac magnetic resonance imaging. This may therefore allow early noninvasive detection of pulmonary hypertension.

**COLLABORATION WITH CLEVELAND CLINIC**

Image courtesy of Cleveland Clinic’s *Consult QD*

Representative example of volume-rendered reconstruction of coronary arteries and cardiovascular structures obtained from cardiac CT.
Through a range of innovative, minimally invasive techniques, the Valley vascular surgery team has become a local and regional leader in diagnosing and treating many different types of serious vascular pathologies. These conditions, which include aortic aneurysms and cerebrovascular disease, can lead to death or stroke if left untreated.
As an alternative to open abdominal surgery, complex abdominal aortic aneurysms can be sealed off with the implantation of fenestrated aortic aneurysm stent grafts. Customized for each patient, these grafts reduce recovery times and the risk of complications to provide an excellent, leading-edge solution that makes even the most complex aneurysms highly treatable.

Valley adheres to strict intervention inclusion criteria when qualifying patients for vascular surgery treatments and participates in Leapfrog initiatives designed to ensure the quality and safety of the services provided. Additionally, Valley adheres to protocols provided by the American Heart Association and consistently achieves results that exceed the organization’s recommended guidelines.

In treating cerebrovascular disease and other vascular conditions, the results Valley has realized are exceptional and on par with the quality work performed by the Cleveland Clinic, which is widely regarded as the best heart institution in the country.

### Key Procedures
- Fenestrated aortic aneurysm stent grafts for patients with complex abdominal aortic aneurysms
- Angioplasty and stenting for patients with peripheral artery disease
- Minimally invasive procedures for patients with varicose veins
- Minimally invasive procedures for patients with Deep Venous Thrombosis

### Recognized for Vascular Surgery Excellence

In 2017, for the second consecutive year, Valley was recognized by Healthgrades as one of America’s 50 Best Hospitals for Vascular Surgery. This designation places Valley among Healthgrades top 10 percent in the nation for vascular surgery. Valley has also received Healthgrades Vascular Surgery Excellence Award for two years in a row.

### The Endovascular Surgery Program

- **In 2017**, **800** patients treated with minimally invasive vascular procedures
- **0.9%** perioperative strokes among patients undergoing carotid artery surgery in 2016
The Valley Hospital’s Cardiac Screening Program goes beyond a traditional assessment to provide an in-depth profile of an individual’s heart health and personal risks for cardiovascular disease.

Beyond a physical exam—which includes evaluations for risk factors such as heart murmurs, valve issues, and ankle brachial index—the nurse practitioner-led program explores gender-specific risk indicators that include preeclampsia, gestational diabetes and polycystic ovarian syndrome. Non-traditional risk factors are also considered such as sleep apnea, stress and rheumatoid arthritis.

Recognizing that heart disease and cancer share several modifiable risk factors, the free Cardiac Screening incorporates select age-appropriate cancer screenings into the assessments.

Participants also receive biometric screenings for body-mass index and waist circumference. Biometric screenings as well as lab work analysis are used to arrive at an ASCVD risk score that determines a patient’s 10-year and lifetime risk of developing heart disease. Based on the results of the screening, patients may be referred to cardiac specialists and other specialty programs at The Valley Hospital. All patients receive heart healthy lifestyle information about optimal nutrition and exercise.

Community outreach is a vital part of our Cardiac Screening Program, and Valley continues to raise cardiovascular disease awareness through educational programs for women’s clubs, the YW/YMCA, Rotary groups, school teachers, our Thrive! community and other audiences.

In 2018, the program was expanded to include a new offsite screening initiative. Aimed at casting a wider net for individuals at risk for cardiovascular disease, this effort offers free heart risk assessments conducted by board-certified nurse practitioners. The assessments are performed at conveniently located places of employment and other community venues such as Valley’s new Center for Health and Wellness in Mahwah.

More than 4,000 women also receive Heart Care for Women’s quarterly Heart Talk newsletter, which provides heart-healthy tips, news, and the latest events and programs aimed at educating and empowering women to improve their cardiovascular health.

The Cardiac Screening Program is based at the Michael R. Luckow Heart Center, located at 1200 E. Ridgewood Ave. in Ridgewood.

Valley’s cardiac nurse practitioners educated 1,341 individuals last year through community lectures and other educational programs.

773 individuals underwent Cardiac Screening assessments in 2017

DEBRA JOHNSON
HEART HEALTH SUPPORT GROUP

Open to anyone with cardiac disease, this support group provides education and emotional support from peers and professionals in a variety of fields including cardiology, exercise physiology, and nutrition. The group meets monthly (every third Thursday) at The Valley Hospital.

For more information, call 201-447-8587.
As greater numbers of these patients survive and live longer, disease and death rates for this population are increasingly associated with cancer therapeutics-related cardiac dysfunction. That’s why cardio-oncology is a rapidly growing area of medicine at many hospitals, including Valley.

Working in coordination with the staff at Valley-Mount Sinai Comprehensive Cancer Care, Valley’s cardio-oncology team is dedicated to applying integrated, specialized care that protects a patient’s heart before, during and after cancer treatment. Like other areas of cardiology at Valley, cardio-oncology is founded on an unwavering commitment to care that is comprehensive and compassionate.

All care is provided collaboratively by a multidisciplinary cardio-oncology team of cardiologists, oncologists, surgeons, radiation oncologists, pathologists and radiologists. As each case is considered thoroughly and collectively, preventive strategies and customized treatment plans take form and become optimized, benefiting from cross-specialty insights and open communications. It’s all done with one purpose: devising the best way to protect a patient’s heart function.

Once a baseline is established that defines a cancer patient’s risk of cardiotoxicity, the Valley team provides monitoring during and after chemotherapy or other treatments that is designed to pick up any indications of cardiovascular disease.

Valley proactively reviews and tests promising new cardio-oncology procedures and technologies. And Valley is quick to adopt those that prove they can bring added benefit to our patients.

Valley’s focus on how cancer intersects with cardiovascular disease has raised new awareness on how both of these health problems share common risk factors such as smoking, stress, inactivity and obesity. That, in turn, has expanded our treatment strategies beyond medications and medical procedures to include the active promotion and support of healthy long-term wellness/lifestyle choices. The objective, overall, is to increase the effectiveness of treatments, reduce side effects and improve patient quality of life.

With the potential toxicity of cancer treatments such as chemotherapy, radiation and certain medications, there’s no denying that efforts to combat cancer can pose substantial risks to the heart health of oncology patients.

LONG-TERM SUPPORT

At Valley, cardio-oncology patients are regularly monitored for any signs of cardiovascular disease. Support programs are also offered that encourage patients to boost their own health and well-being by making smart, active choices regarding exercise, diet, weight loss, stress reduction and the elimination of bad habits such as smoking.
A dedication to research and clinical trials enables Valley to provide breakthrough treatments that advance patient care.

Clinical trials and research are managed at Valley’s Okonite Research Center located at the Bolger Medical Arts Building in Paramus. Established in 2015, this is a state-of-the-art environment with all of the resources needed to test and evaluate innovative, potentially promising approaches to diagnosing and treating cardiac diseases and conditions.

Key areas within the clinical trials and research department include Research Administration and Sponsored Programs, the Clinical Trials and Research Program, the Translational Research Program and the Human Subjects Protection Program. For consistency and evaluation purposes, the programs follow approximately 50 IRB (Institutional Review Board) protocols in electrophysiology, heart failure, acute coronary syndrome, prevention trials and open heart surgery. All of the work is carefully monitored by a top-notch research staff of clinical trial nurses, research coordinators, a regulatory document specialist and a data entry clerk. The staff interfaces with Principal and Sub-Investigators on a daily basis, executing the protocols and enrolling patients into novel, leading-edge clinical trials.
NOTABLE RESEARCH AND CLINICAL TRIALS

IN 2017, MORE THAN 200 PATIENTS TOOK PART IN OVER 50 CARDIOVASCULAR CLINICAL TRIALS AT THE VALLEY HOSPITAL. IN ADDITION, MORE THAN 500 PATIENTS PARTICIPATED IN CARDIAC REGISTRIES.

• MICRA transcatheter pacing study to evaluate the use of the world’s smallest leadless pacemaker

• aMAZE study evaluating the LARIAT System in patients with persistent and long standing persistent atrial fibrillation; aims to determine if the combination of pulmonary vein isolation (PVI) and closure of the left atrial appendage with LARIAT treats AFib more effectively than PVI alone

• CIRT study evaluating the use of low-dose methotrexate in the prevention of cardiovascular events among patients with stable coronary artery disease

• WRAP-IT study investigating a treatment to the risk of postoperative infection in patients undergoing device implantation

• PARAGON study evaluating the safety and efficacy of sacubitril, compared to valsartan in congestive heart failure patients

• CHAMP observational registry of treatment patterns in heart failure patients with reduced ejection fraction

• ICON interview registry to develop a new tool for assessing heart failure symptoms and how they impact a subject’s quality of life

• National Institute of Health R01 research project collecting tissue and blood at Valley’s biorepository to be used in the study of non-syndromic mitral valve prolapse

• sRAGE study to evaluate whether aortic aneurysms can be detected via blood levels

• AMBULATE trial to evaluate the safety and efficacy of a venous vascular closure system versus manual compression for the management of the femoral vein puncture sites after catheter-based interventions. This technology may be able to increase patient comfort while eliminating the need for manual compression, a Foley catheter, protamine and extended bed rest

• Low-Risk TAVR study to determine if replacing the aortic valve via a minimally invasive transcatheter delivery system is as safe as or safer than open heart surgery for low-risk patients with aortic stenosis.

• ENVELOPE study to determine the effectiveness of using an antibacterial envelope; testing to see if the use of the envelope reduces or eliminates needing to use oral antibiotics and an antibacterial wash.

For more information about clinical trials and research at Valley, please call 201-447-8453.
PUBLICATIONS


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VALLEY-CLEVELAND CONTINUING EDUCATION COLLABORATIONS

As part of Valley’s affiliation and partnership with the Cleveland Clinic, Valley’s cardiovascular physicians work collaboratively with their Cleveland Clinic colleagues to participate in continuing education efforts, and to facilitate ongoing exchange of best practices and research.

This includes co-hosting symposiums such as the recent “Comprehensive CV Disease Management: From Fundamentals to Innovation 2018” and “Managing Complex Challenges in Heart Failure: Integrating Advances in Therapies from Multiple Disciplines”. These two jointly planned and produced conference events in 2018 were well attended and highly successful in terms of the presentations that were made, the professional discussions that evolved and the knowledge that was exchanged. Attending physicians receive continuing education credits made possible through The Cleveland Clinic Foundation Center for Continuing Education in association with the Accreditation Council for Continuing Medical Education.
### MEDICAL STAFF

#### CARDIAC INTENSIVE CARE
- Srinivasa Edara, M.D.
- Ravindra B. Kodali, M.D.
- Raghad H. Said, M.D.

#### CARDIAC SURGERY
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- John A. Goncalves Jr., M.D.
- Bruce P. Mindich, M.D.*
- Alex Zapolanski, M.D.

#### CARDIOLOGY
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- Arvind K. Agarwal, M.D.
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- Robert Baklajian, M.D.
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- Michael E. Kasper, M.D.
- Francis Y. Kim, M.D.
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- Joel S. Landzberg, M.D.

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- Dan L. Musat, M.D.
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- Thomas P. Cocke, M.D.
- Joel Jacowitz, M.D.
- Edward Julie, M.D.
- Francis Y. Kim, M.D.
- John H. Lee, M.D.
- William K. Lee, M.D.
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- Atish Mathur, M.D.
- Apurva A. Motivala, M.D.
- Dennis S. Reison, M.D.
- Robert A. Saporito, M.D.
- Bruce A. Skolnick, M.D.
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- Sean R. Wilson, M.D.

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- Thomas P. Cocke, M.D.
- Atish Mathur, M.D.
- Sean R. Wilson, M.D.

#### VASCULAR SURGERY
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- Joshua W. Bernheim, M.D.
- Daniel J. Char, M.D.
- Kumar R. Patel, M.D.
- Mitul S. Patel, M.D.

*Cardiac Surgeon, Emeritus*
The Valley Hospital has received the 2018 Get With The Guidelines®–Resuscitation Gold Quality Achievement Award for implementing specific quality improvement measures outlined by the American Heart Association for the treatment of patients who suffer in-hospital cardiac arrests.

Valley has been recognized by Healthgrades as one of America’s 50 Best Hospitals for Vascular Surgery. This designation places Valley among top 10 percent in the nation for vascular surgery. Valley has also received the Vascular Surgery Excellence Award for two years in a row.

Valley’s Cardiac Electrophysiology Lab has been granted accreditation by the Intersocietal Accreditation Commission (IAC) in Cardiac Electrophysiology in the areas of electrophysiology testing and catheter ablation and device implantation. Valley is one of only nine facilities nationwide—and the only one in New Jersey—to receive this recognition. Valley’s Echocardiography Lab has also been granted a three-year term of accreditation by the (IAC) in Echocardiography in the areas of Adult Transthoracic and Adult Stress.

Healthgrades has awarded Valley Five-Star Designations for the Treatment of Heart Failure and Pacemaker Procedures.

Valley has achieved Magnet designation—the highest national honor for professional nursing practice—from the American Nurses Credentialing Center. Valley has held Magnet designation since 2003, and earned it for a fourth consecutive time in 2018.

For the 13th time, The Valley Hospital has been awarded an A grade in the Hospital Safety Score, released by the Leapfrog Group.

For the fourth consecutive year, The Valley Hospital has earned the Women’s Choice Award as one of America’s Best Hospitals for Heart Care. Valley qualified for this evidence-based designation by being ranked in the top 9 percent of nearly 4,800 U.S. hospitals.

Valley has received the 2018 Get With The Guidelines® Resuscitation Gold Quality Achievement Award for implementing specific quality improvement measures outlined by the American Heart Association for the treatment of patients who suffer in-hospital cardiac arrests.

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