1. HealthGrades has ranked The Valley Hospital in the top 10 percent in the nation for Cardiac Surgery.

2. HealthGrades has ranked The Valley Hospital in the top 5 percent in the nation for overall Cardiac Services.

3. Valley has received 2010 Excellence Awards in Cardiac Surgery, Cardiac Care and Coronary Intervention.

4. Valley has earned Disease-Specific Care Certification – the Gold Seal of Approval – from The Joint Commission for the care of patients with heart failure.

5. Valley’s Intensive Care, Intermediate Care, Coronary Care, and Cardiac Surgery Intensive Care units have twice received the Beacon Award for Critical Care Excellence from the American Association of Critical-Care Nurses.

6. Valley has earned Disease-Specific Care Certification – the Gold Seal of Approval – from The Joint Commission for the care of patients with acute myocardial infarction.

7. Valley has earned a prestigious five-star rating from HealthGrades for the treatment of heart attack and heart failure, overall cardiac services, cardiology services, coronary bypass surgery, valve replacement surgery, and coronary interventional procedures.

8. Valley is a two-time recipient of the prestigious Magnet Award for Nursing Excellence from the American Nurses Credentialing Center.

9. For the eighth consecutive time, Valley received the J.D. Power and Associates Distinguished Hospital Award for Service Excellence.

10. Valley’s Cardiac Surgery program has been consistently recognized with a three-star rating – the highest possible recognition – by The Society for Thoracic Surgeons for quality and clinical excellence.

Learn more about The Valley Hospital at www.valleyhealth.com
Dear Colleague,

The Valley Heart and Vascular Institute is pleased to share with you the fifth edition of our Outcomes Report. The Valley Heart and Vascular Institute is an integrated group of cardiologists, cardiac surgeons, and vascular surgeons focused on providing state-of-the-art care to our patients. In this report we include five consecutive years of cardiac surgery data. In 2010 we expanded our minimally invasive coronary surgery program and our aortic surgery program. Our commitment to excellence has been recognized by The Society of Thoracic Surgeons. We have received the highest rating six consecutive times, positioning us among the top twelve percent of surgical programs in the nation. We are grateful for your support and remain committed to providing you and your patients the best possible outcomes.

Alex Zapolanski, M.D., F.A.C.C., F.A.C.S.
Director of Cardiac Surgery
The Valley Heart and Vascular Institute
Clinical Professor of Surgery
College of Physicians & Surgeons
Columbia University

Our commitment to excellence has been recognized by The Society of Thoracic Surgeons. We have received the Society’s highest rating six consecutive times.
The Society of Thoracic Surgeons (STS) has developed a database that collects surgical demographics and results. It also uses a methodology to adjust for case complexity. These statistical techniques, while not perfect, attempt to compensate for the difficulty of assessing the risk of different groups of patients. We use these national standards to evaluate our results.

Our patients are entered into the STS database, which is provided to Duke University Clinical Research Institute to generate a national comparison report. Based on past surgical experience, patients with a specific pathological process have an expected result from a heart operation. The observed result from any type of surgery can then be compared to the expected result. A ratio is calculated. Anything equal to 1 is satisfactory. A ratio less than 1 exceeds expectations.

\[
\text{Observed mortality} = 1.5 \\
\text{Expected mortality} = 2.0 \\
\text{Observed to Expected (O/E ratio)} = 0.75 \\
or better than expected.
\]

Improvements in surgical techniques and technological advances have contributed to enhanced results even with increased patient complexity. Morbidity and mortality continue to decrease, creating new standards to strive for.

We encourage you to review the material and keep it handy for reference.

Comparative data has been obtained from the 2010 Fall Harvest of The Society of Thoracic Surgeons.
The cardiac surgery program performed 2,557 procedures over a five-year period (January 2006 to December 2010). Decision-making in the management of cardiac disease is in constant evolution. There is still some controversy regarding therapy for subsets of patients where different approaches seem equivalent. Referrals for surgical management are changing due to the effectiveness of medical management and percutaneous interventions. Yet, after several years of reduction in referrals for coronary bypass surgery, the numbers nationwide seem to have stabilized. On the contrary, patients with mitral regurgitation and aortic stenosis that are asymptomatic are being considered for surgical correction prior to ventricular deterioration.

The Valley Heart and Vascular Institute performs a higher percentage of valvular and other complex procedures than The Society of Thoracic Surgeons’ average. We reviewed our results for five years and our overall mortality was 2.1 percent. This includes all elective, urgent, and emergent operations. No patient was excluded. The following pages provide a detailed analysis of the different types of procedures.
For five years, The Valley Heart and Vascular Institute delivered consistently fewer complications and lower mortality than the national average.

MORTALITY RELATED TO AGE

These numbers reflect patients operated on in 2010. The Valley Heart and Vascular Institute treats a large number of patients of advanced age. In 2010, the number of patients over the age of 80 was once again at 23 percent of the total surgical population. As risk increases with age, modern techniques allow us to offer complex procedures to this patient population.
The Valley Heart and Vascular Institute has a dedicated team of board-certified surgeons, nurse practitioners and physician assistants who possess extensive knowledge and the advanced skills necessary to expertly care for the medical and psychosocial needs of our cardiothoracic surgery patients.

This team manages patients before and after surgery. Together, we promote a positive healing environment for patients and their families.

This comprehensive approach blends intellect and compassion, resulting in the highest quality of care and patient satisfaction.

*From left to right:* Alex Zapolanski, M.D., F.A.C.C., F.A.C.S; Mariano Brizzio, M.D.; Juan Grau, M.D., F.A.C.C., F.A.C.S., Jason Sperling, M.D., F.A.C.S.

*From left to right:* Andrea Storper, ANP-BC; Mary C. Collins, ACNP-BC; Linda Romeo, ANP-BC; Elaine Tormey, ACNP-BC; and Kimberly Pryslak, ACNP-BC. Missing from the picture are Carrole Dorcent, ACNP-BC, Dee Dubose, ACNP-BC, Jeanne Howe, FNP-BC, and Denise Goldstein, ACNP-BC.

Intra-operative and post-operative control of blood sugar has been shown to improve results. The Valley Heart and Vascular Institute team strictly adheres to protocols to achieve these results. The chart reflects results for 2010.

**Sternal Wound Infections**

The incidence of deep sternal wound infections has been below the STS national average. Glucose control has contributed to the avoidance of this complication. In addition, the limited number of surgeons involved in patient care contributes to a consistent approach in surgical techniques that reduce risk.
The coronary bypass operation was developed more than 40 years ago. Over the past decade the national mortality has decreased. We believe that evaluating the results of coronary surgery using the single end point of mortality is not sufficient. In addition to achieving a better-than-expected operative mortality, we have focused on a number of other elements to assess the quality of our coronary bypass operations.

The following data reflect:
- utilization of off-pump techniques,
- extensive revascularizations,
- higher utilization of arterial grafts, and
- less blood utilization.

**Off-Pump Surgery Activity**

Since the inception of the OPCAB technique, The Valley Heart and Vascular Institute surgeons have performed more than 4,000 procedures without cardiopulmonary bypass. Our data, as well as data in many publications, reflect the benefit of this technique in selected patients, particularly those at high risk of predicted mortality. Off-pump techniques benefit both men and women and narrow the disparity in mortality after coronary bypass grafting.*

Research performed at The Valley Heart and Vascular Institute shows that off-pump surgery helps reduce mortality due to stroke.**

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It should be noted that in the context of improvements in medical, pharmacological, and percutaneous interventional management of patients with coronary disease, a greater percentage of patients referred to surgery have left main trunk stenosis. We have a higher percentage of patients with left main and triple vessel disease than the national average.
Left Main Mortality

There were 547 operations performed in five years on patients with Left Main Disease. The overall mortality rate for this complex subset of patients was **0.9 percent** (includes urgent and emergent cases). This number is below the mortality rate of the Syntax trial and sets a standard for the management of patients with this type of anatomical lesion. The majority of these patients were operated on **without cardiopulmonary bypass**.

Over the past two years, almost one quarter of patients operated on at The Valley Heart Vascular Institute were over 80 years old. At The Valley Heart Vascular Institute, we feel that age in itself should not be a limiting factor to undergo cardiac surgery. In 2010 mortality for octogenarians was only 2.6 percent.

**Back to the Farm after Cardiac Surgery**

Not even recent coronary artery surgery can keep Russell “Stan” Ferguson from splitting wood for sale at his Warwick, NY, farm. Just two weeks after cardiac surgery at Valley, 83-year-old Stan was back on his land preparing wood and tending to plants in his greenhouse.

“Every day that I wake up and open my eyes is satisfying,” he says.

Stan’s surgeon, Alex Zapolanski, M.D., Director of Cardiac Surgery, used minimally invasive techniques to perform the surgery, sparing Stan from the large chest incision and breast bone separation that would have been necessary for traditional open coronary artery bypass surgery (CABG).

Instead, Dr. Zapolanski bypassed Stan’s blocked coronary arteries through a small incision made in the left side of his chest. Like 90 percent of all patients who undergo CABG at Valley, Stan’s surgery was performed off-pump without the use of a heart-lung machine. In the hands of Valley cardiac surgeons, off-pump CABG lowers a patient’s risk of post-surgical complications.

Selected patients are candidates for multi-vessel coronary bypass through a left mini-thoracotomy. This approach accelerates the patients recuperation compared to classical techniques.
Observed to Expected Mortality Ratio

Isolated CABG refers to patients undergoing coronary bypass without any other procedures. The Valley Heart and Vascular Institute surgeons performed 1,315 isolated CABGs in the past five years with a combined mortality of 0.9 percent (2006 to 2010).

According to the STS, expected mortality for The Valley Heart and Vascular Institute coronary patients in 2010 was 1.8 percent. Adjusted mortality was 0.5 percent. Mortality has been consistently below the STS average.
Re-operative coronary surgery carries a higher mortality than primary procedures. For five consecutive years, mortality at Valley has been zero.

**ARTERIAL GRAFT UTILIZATION**

Arterial grafts improve long-term results by reducing risk of re-operation and reducing risk of cardiac events. The Society of Thoracic Surgeons considers the use of the internal mammary artery (IMA) as a quality indicator in coronary surgery. Surgeons at The Valley Heart and Vascular Institute use both single and bilateral IMAs more frequently than the national average.

When the left anterior descending coronary artery required grafting, the IMA was used in 99 percent of patients.
Our team has extensive experience in complex arterial reconstruction of the coronary tree. In the past 17 years 1,668 patients underwent surgery using bilateral internal mammary arteries.

**Bilateral Internal Mammary Artery Utilization** (% of Patient Population)

<table>
<thead>
<tr>
<th>Year</th>
<th>VHVI</th>
<th>Region/NJ</th>
<th>STS</th>
</tr>
</thead>
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</tr>
<tr>
<td>2010</td>
<td>20</td>
<td>4.5</td>
<td>3.9</td>
</tr>
</tbody>
</table>

**Completeness of Revascularization** (number of grafts per patient)

The Cardiac Surgery team at The Valley Heart and Vascular Institute performs more grafts per patient than other hospitals across the nation. Off-pump techniques do not compromise the extensiveness and complexity of the operation. Complete revascularization improves long-term results.
The Valley Heart and Vascular Institute’s surgical team is continually striving to minimize the use of blood during coronary artery bypass surgery. The following results reflect improvements over the past five years. In 2010, 70 percent of patients had no transfusions at all. We have been carefully assessing patients that received Plavix® prior to cardiac catheterization. The ability to assess the patient’s clotting performance has helped us in continuing to reduce the need for blood and blood products. In addition, the use of off-pump techniques for the majority of patients receiving coronary bypass surgery at The Valley Heart and Vascular Institute reduces hemodilution, as well as blood loss.

“The Valley Heart and Vascular Institute’s surgical team is continually striving to minimize the use of blood during coronary artery bypass surgery.”
The use of off-pump techniques reduces time on the ventilator and in the intensive care unit. Fewer complications result in shorter hospital stays. At The Valley Heart and Vascular Institute patients go home sooner than the STS and LG averages.

**POST-OPERATIVE STAYS AFTER CORONARY BYPASS SURGERY**

Srinivasa Edara, M.D.
*Director, Cardiac Surgery Intensive Care Unit*

Dr. Edara is directly involved in the medical management of all cardiac surgery patients and assists families while their loved one is in the hospital.
Endoscopic vein harvesting has become the standard of care. Patients operated on at The Valley Heart and Vascular Institute benefit routinely from this technique. Endoscopic harvesting improves cosmesis, reduces pain, and has virtually eliminated the risk of infections in the lower extremities.

**Percentage of Veins Harvested Endoscopically**

- **96.1%** VHVI
- **73.6%** LG
- **76.9%** STS

“Endoscopic harvesting improves cosmesis, reduces pain, and has virtually eliminated the risk of infections in the lower extremities.”
Valvular surgery continues to represent a significant percentage of The Valley Heart and Vascular Institute's total volume of surgery. Over the last five years, 1,070 valve procedures were performed at The Valley Heart and Vascular Institute. This represents 42% of our patients.

“*The VHVI is an integrated group of cardiologists, cardiac surgeons, and vascular surgeons focused on providing state-of-the-art care to our patients.*”
As the population continues to age, surgery of the aortic valve has become more prevalent. From January 2006 – December 2010, surgeons at The Valley Heart and Vascular Institute performed aortic valve replacements and repairs in 774 patients. This included patients with isolated aortic valve disease, aortic valve and coronary pathology, multiple valve replacements and aortic valve surgery in association with surgery of the ascending aorta.

### Isolated AVR Mortality

**251 patients 2006 - 2010**

- **0.8% VHVI**

**2006-2010**

- **3.1% LG**
- **3.3% STS**

**2010**

### AVR + CABG Mortality

**271 patients 2006 - 2010**

- **2.2% VHVI**

**2006-2010**

- **1.8% VHVI**

- **3.7% LG**
- **4.4% STS**

**2010**
Our team’s approach to aortic valve surgery helps explain the difference in results. We have shorter periods of cardiac arrest (cross clamp times) and less time on-pump than the STS average. In addition, our use of continuous cardioplegia protects the heart more efficiently.
Since 1993, 972 mitral valves have been repaired at The Valley Heart and Vascular Institute. The great majority of patients with myxomatous and ischemic disease receive a valve repair. Mitral valve repair provides patients with better outcomes in degenerative and ischemic disease. In the period between January 2006 and December 2010, we performed 208 mitral valve repairs in three categories - isolated mitral valves, mitral valve with coronary bypass, and multiple valve procedures.

Mortality at Valley was zero percent for five years.
Surgery of the aortic and mitral valve can be performed through small incisions. Valley surgeons have been performing less invasive valve surgeries since the procedures were developed in the mid-nineties. While not all patients are candidates for minimally invasive techniques, surgeons carefully evaluate patients to determine the best technique for each individual.

To see a film showing a mini mitral repair, visit [www.valleyheartandvascular.com](http://www.valleyheartandvascular.com). Click on Cardiac Surgery, then click Procedures/Techniques, then The Center for Heart Valve Disease.

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**DORA KUEHLKE OF WESTWOOD**

Every new baby in Dora Kuehlke’s family and circle of friends has received a homecoming gift of a lovely hand-knitted sweater or blanket. Over the eight decades that Dora’s flying fingers have created one-of-a-kind woolen keepsakes, not much has kept the 92-year-old Westwood woman from her craft. Even when she had heart surgery last fall, she missed just three weekly knitting circles at her home in Westwood House.

On November 5, 2010, Dora’s cardiac surgeon at The Valley Heart & Vascular Institute replaced her malfunctioning aortic valve with a bioprosthetic valve. After a brief recovery at a rehabilitation hospital – where she scored off the charts during a test of her post-operative cognition levels – she sat down for Thanksgiving dinner at her grandson’s home.

Repairing the hearts of “super seniors” over age 85 and occasionally over 90, like Dora, happens often at the Valley Heart & Vascular Institute. In fact, 23 percent of the institute’s patients who underwent cardiac surgery in 2010 were over age 80.

“My doctors told me I was as healthy as a 70-year-old,” laughs Dora. “They said my age was no reason to worry about the surgery.”

Now that she has a new aortic valve, Dora is no longer tired or breathless. She recently renewed her driver’s license, and after a stormy winter, is ready to drive again. The knitting needles? Well, they are unstoppable.
Over the past few years, our program has been growing significantly due to comprehensive management encompassing both surgical and non-surgical treatment of thoracic aortic pathology. The main goal of this program is to prevent two deadly adverse events: rupture and dissection. This can only be accomplished by a combination of careful risk stratification, disease-specific counseling for patients and doctors, surveillance, and pre-emptive intervention. Since the International Registry for Type A Aortic Dissection (IRAD) has reported that dissection occurs at sizes less than 5.5 cm in 60 percent of the cases, and sizes less than 5 cm in 40 percent of cases, clearly the antiquated risk profiling based on a size threshold of 5.5 cm for ascending aneurysms is seriously flawed. We use a more sophisticated risk stratification system, including the concept of relative aortic size to identify those patients that might benefit from pre-emptive surgery before they have a catastrophic aortic event.

Our operative techniques represent the most up-to-date strategies available today: valve-sparing (David) procedures, aortic valve repair, hybrid open and endograft (stent) procedures, as well as classical operations, with aggressive utilization of neuro-protective maneuvers. Our surgical results continue to be superior to those of both the nation and the region.

The vast majority of patients will not meet criteria for pre-emptive surgery, and are enrolled into a sophisticated prospective database. With the help of our expert radiologists, we have created a novel surveillance system that is able to glean much more information from ECG-gated CT Angiograms than simply maximum diameter alone. The program's goal is to become the gatekeeper for this serious disease entity in our extended community.

In the years 2006 to 2010, we performed 175 procedures with a mortality rate of 3.4 percent (including emergencies). In elective aortic surgery, the mortality rate was only 1.3 percent.
A history of heart disease never stopped Keith Madrid, 43, from living a full life as a pastry chef, catering whiz, and regular exerciser. Each night, he and his life partner, Craig, relaxed with their mini dachshunds, Skylar and Lylah.

But by fall 2010, a leaky aortic valve, enlarged heart, and a large aneurysm in Keith’s aortic arch were threatening his life. Fortunately, surgeons at The Valley’s Heart and Vascular Institute were able to replace Keith’s aortic valve, ascending aorta, and aortic arch.

“I consider myself very lucky that these problems were caught in time and that my life was saved at Valley by an incredible group of talented people,” says Keith.

Within four months, he was back at the gym exercising. Skylar and Lylah no longer have to wait to lounge on his recovering chest.

“My surgical scar is my badge of honor,” notes Keith. “I’ve never felt better.”

AORTIC DISSECTION

Dissection of the aorta is one of the most catastrophic cardiovascular events. When aortic dissection involves the ascending aorta and emergency surgery is required, rapid and accurate diagnosis is imperative as delay leads to poor outcomes.

Emergency Department physicians at Valley have a high level of accuracy at recognizing this entity. The presence of Computer Tomography equipment in the Emergency Department accelerates the diagnosis and improves surgical results.

The surgeons at The Valley Heart and Vascular Institute have performed 30 emergency ascending aortic dissections over the past five years, with a mortality rate of 6.6 percent. These results compare favorably to the International Registry of Aortic Dissections (IRAD) mortality rate.

Aortic flap showing a dissection.
As a 31-year veteran of Wall Street, Lou Riccardi was used to working in a stressful environment as he shepherded his clients’ money into investments. But by June 2010, the economic downturn of the past two years had taken its toll on his health, as he fielded 30 to 40 calls every day from worried investors.

A history of heart disease had damaged two of his four heart valves until they were leaking blood back into his heart instead of channeling it out to the body. The malfunctioning valves made the chambers of his heart stretch wider to work, leading to atrial fibrillation, a dangerous arrhythmia that caused his heart to quiver instead of beat. Fatigue, breathlessness, and fluid retention caused by his failing heart kept him from walking even 100 yards without resting.

“Everything had come to a head for me,” recalls Lou, 54. “I knew I had to move quickly to do the research and find doctors I could trust.”

At The Valley Heart and Vascular Institute he did. “There was confidence in my doctors’ eyes that they could restore my life,” recalls Lou.

During complex open-heart surgery, Lou’s cardiac surgeon repaired his mitral and tricuspid valves. Using a technique called the Cox-Maze III, he created a maze pattern of precise surgical incisions in Lou’s atria, the heart’s upper chambers, to treat the atrial fibrillation. The Maze procedure helps synchronize the heart’s electrical impulses, thus resulting in normal heart beats.

Today, as he nears the one-year anniversary of his surgery on July 13, Lou reflects back and sums up his experiences succinctly: “I was surrounded by the best.”

Atrial Fibrillation (AFib) is a prevalent condition in the U.S. that increases with aging. AFib is associated with shorter life spans, a lifelong increased risk of adverse cardiac events including stroke and an overall significantly decreased quality of life. Depending on individual risk, Coumadin® may be indicated for stroke prevention, albeit with a 1 percent annual risk of a clinically significant bleeding event.

Treatment of AFib ranges from catheter ablation in the Electrophysiology Lab, to open heart procedures that can treat the most difficult patient subsets. Surgeons at Valley Hospital are proficient in performing extensive bi-atrial Maze surgery (Cox-Maze III), as well as less invasive iterations of the procedure. We have access to the most up-to-date technologies for destroying or trapping AFib signals, including radiofrequency, cryothermy, and high-intensity focused ultrasound.

Over the next year, we hope to offer patients the opportunity to enroll in a prospective database specifically geared toward patients who have advanced forms of AFib and are usually not offered an intervention. By objectively tracking our outcomes utilizing implantable loop recorders (ILRs), we will find the patient subsets that will benefit from aggressive treatment of their condition.

Coumadin® reduces but does not eliminate stroke risk in AFib. Importantly, almost every patient undergoing heart surgery at Valley (and every patient undergoing an AFib procedure) has a structure called the left atrial appendage excluded from the heart. 80-90 percent of clot formations occur in the left atrial appendage. Therefore, we believe that patients are better protected when that appendage is eliminated.
The Valley Biological Tissue Bank
At Valley, we have generated a bank of peripheral mononuclear cells, serum, plasma, and urine from patients with various cardiovascular diseases undergoing open cardiothoracic surgery. The development of a tissue bank is important as it allows for longitudinal studies of samples collected from patients at various stages of a given disease process. This permits the study of molecular changes during the progression of disease. Currently more than 700 tissue specimens are stored at The Valley Heart and Vascular Institute and are being used for intramural research and as collaborative efforts with other institutions.

The Valley Valve and Aortic Diseases Center
The creation of this Center provides patients with access to the interdisciplinary (cardiologists, cardiac surgeons, geneticists, etc.) care necessary for the management of their valve and/or aortic wall disease, all in one place. This interdisciplinary patient-specific management provides customized care for each individual. We collect blood, tissue, and clinical data translating the laboratory work into clinical practice and applying new technologies to the treatment of valvular and aortic wall diseases.

Degenerative Aortic Valve Disease Program
Our research has characterized a novel biomarker profile for patients at early and late stages of aortic valve degeneration (aortic valve sclerosis). The use of this new profile in the clinical setting will allow us to stage patients at different points of aortic valve degeneration. This, in time, will permit the development of new therapeutic strategies for the treatment of this condition.

Figure 1: Different stages of degeneration from a normal aortic valve to a sclerotic to a heavily calcified aortic valve.
**Bicuspid Aortic Valve Program**

Bicuspid Aortic Valve (BAV) is a congenital cardiac abnormality predisposing to aortic stenosis that affects 2 percent of the world’s population. We and other investigators have learned that calcium deposition in BAV patients occurs in an accelerated manner when compared with normal valves. Current research efforts are ongoing to better understand this process and to prolong durability of these valves in this population of patients.

**Diseases of the Aortic Wall, Aortic Aneurysms, and Aortic Dissections**

Currently patients with aortic aneurisms are followed periodically and intervention is determined by the size of the aorta. We are conducting studies analyzing the modulation and differentiation of smooth muscle cell phenotypes in thoracic aortic aneurysms from bicuspid and trileaflet aortic valve patients. This will have significant implications in the treatment of these patients. Our goal is to help prevent aortic rupture and/or dissections in this subset of patients, as well as to develop new screening programs for patients affected by aortic pathologies.

**Gene Expression Profile and Protein Profile of Mitral Valve Prolapse**

Mitral valve prolapse (MVP) is the most common cardiac valvular abnormality in industrialized countries and the leading cause of mitral valve surgery for isolated mitral regurgitation (MR) affecting 2 to 8 percent of the world population.

Our work is focused on unveiling the different pathways involved in the continuous elongation of the prolapse leaflet, with the goal of helping identify patients with MVP who are at risk for mitral regurgitation.

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**Who is eligible to participate in these programs?**

Subjects with or without current cardiovascular disease who wish to volunteer for these programs are welcome. Patients may be recruited from inpatient and outpatient services and/or physicians’ offices affiliated with Valley Health System.

**How to participate?**

Call 201-447-8453 and one of our research nurse coordinators will answer all the questions you may have regarding the ongoing cardiovascular research programs at The Valley Heart and Vascular Institute.

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"The innovative approach of our program is to combine multiple fields of knowledge from clinical data, imaging studies, and surgical research to the basic science laboratory, and to translate basic scientific insights into new tools for clinicians to be used in patients.”
The rare situation in which the heart’s pumping ability has become so acutely compromised that it cannot sustain normal body functions is called cardiogenic shock. This can occur as a consequence of heart attack, valvular failure, viral infection, and rarely, after open heart surgery.

Valley Hospital is well-equipped to handle such a dire situation. When medicines or other support strategies fail, we have a range of ventricular assist devices (VADs) that can take over some or all of the pumping capacity of the heart. One device, called Impella, is placed percutaneously through the groin using fluoroscopic and TEE guidance. This device is only 5 mm in diameter yet can generate 2.5 liters/minute of blood flow (approximately 50 percent of the normal cardiac output). Impella is also used pre-emptively in the cath lab for high-risk stenting procedures.

We also have used Abiomed Ventricles, capable of supporting either or both the right and left ventricle, with full flow capabilities, in excess of 5 liters/minute. Such mechanical support has been used to allow the patient’s own heart muscle to recover, or as a bridge to heart transplantation when necessary.

Heart failure is one of the most prevalent conditions in clinical medicine. Five million people in the U.S. have heart failure, and it is estimated that 68 percent of these patients suffer from coronary disease. Yet, only 11 percent of all patients with ischemic cardiomyopathy undergo cardiac catheterization. In turn, only a fraction of heart failure patients can be treated with the many tools available today. Two thirds of patients with heart failure due to ischemic cardiomyopathy have recoverable myocardium and could be helped by surgery or percutaneous intervention.

At Valley, MRI technology with special software – MARISA™ – allows us to identify patients that could benefit from available therapies.
Valley’s Congestive Heart Failure Program is a multidisciplinary program that incorporates the expertise of physicians, surgeons, nurse practitioners, nurses, pharmacists, dietitians, cardiac rehabilitation professionals, case management specialists, respiratory therapists, and home care staff. The program offers patient education and professional consultation.

The Heart Failure Program has been integrated with the hospital’s cardiac surgery, interventional cardiology, electrophysiology, diagnostic imaging, and home care services to ensure heart failure patients access to existing evidence-based evaluations and treatments.

Technologies and procedures offered through Valley’s Heart Failure Program include:

- cardiac MRI with MARISA™ capability,
- ultrafiltration,
- defibrillators and resynchronization,
- ventricular remodeling surgery, and
- left ventricular assist devices.

We have also developed strategies to improve surgical outcomes in patients with severely diminished left ventricular function (low-ejection fraction patients). The philosophy is based on minimizing or eliminating the duration of downtime of the heart muscle during heart surgery.

“Five million people in the U.S. have heart failure, and it is estimated that 68 percent of these patients suffer from coronary disease.”
Heart Failure Program Highlights

Heart failure is one of the most prevalent conditions in clinical medicine. Valley’s Congestive Heart Failure Program is a multidisciplinary program that offers patient education and professional consultation to help patients achieve positive outcomes.

- **The Heart Failure Program** was recognized by The Joint Commission and granted Heart Failure Disease Specific Care Certification. This designation recognizes programs that provide safe, high-quality care, treatment, and services to patients while continuously identifying opportunities to improve.

- **Valley Home Care’s Telemanagement Program**, which is an educational affiliate of the Heart Failure Program, reduced readmission rates for heart failure by 30 percent for those patients in the program.

- **Valley** is participating in a cardiac clinical trial called TEAM – Heart Failure – Treating to Euvolemia by Clinical Assessment and Measured Blood Volume in Heart Failure. This multicenter trial’s primary objective is to determine if utilization of direct blood volume measurements in addition to existing standards of care will increase re-hospitalization-free survival in patients discharged from the hospital after treatment for acute decompensated heart failure. Secondary objectives are to define a decrease in mortality, the frequency of re-hospitalizations, an increase in exercise capacity, and quality of life.

- **Valley’s Heart Failure Program** received a 5-star rating from HealthGrades for 180-day heart failure mortality. This is HealthGrades’ highest level of recognition and Valley achieved better-than-expected results for Valley’s heart failure population.

- **John E. Strobeck, M.D., Ph.D., Director of the Heart Failure Program**, presented a paper at the Heart Failure Society of America meeting in San Diego, CA, in September 2010 describing the results of a correlation study of the biomarker B-natriuretic peptide with direct blood volume measurements in The Valley Hospital’s heart failure population.

All four of Valley’s Critical Care Units have received the Beacon Award for critical care excellence.
One in three women die of heart disease but women are twice as likely to die after a heart attack than their male counterparts, and have poorer outcomes than men with all standard therapies. The Center for Women's Heart Health was established at The Valley Hospital to address the need to educate women of these facts. Partnering with local groups and corporations, free lectures are offered throughout Valley’s service area to educate women and to promote the work of the Center. Free cardiovascular screenings are offered including medical history and a focused physical exam, identifying individual risk factors. Providing this vital service, free of charge, affords all women access.

Since its inception, the Center has screened 2,000 women and educated more than 5,000.

The Center was recognized in 2010 by the Preventive Cardiovascular Nurses Association (an international organization that promotes the prevention of heart disease) winning second place for their abstract and poster presentation at their annual conference. The abstract was published in *The Journal of Cardiovascular Nursing*.

The New Jersey Hospital Association awarded the Center for Women’s Heart Health the NJBIZ Healthcare Heroes Award for Community Outreach for 2011. The award recognizes unique and effective methods of reaching out to better serve the healthcare needs of the community.

With the success of the Center for Women’s Heart Health, a project was established to develop The Men’s Heart Center.

For more information, please call 201-447-8125.

*From left:* Staff from the Center for Women’s Heart Health include Donna Hodgens, Advance Practice Nurse; Denise Goldstein, Advance Practice Nurse; Pat Delaney, Director, Cardiac Outreach; Mary Collins, Cardiac Surgery APN Supervisor; Leanne Scaglione, Advance Practice Nurse; and Andrea Storper, Advance Practice Nurse.
A wide variety of interventional treatment options are available from Valley’s comprehensive interventional cardiology program. Interventional procedures are those in which catheters or other devices are inserted through blood vessels to diagnose and treat disease. Using a wide range of the most sophisticated technology available, from imaging equipment to implantable devices such as drug eluting stents, patients who come to Valley are offered state-of-the-art cardiac care in our high-risk Catheterization Laboratory. Among the many treatment options available are interventions for coronary artery disease, congenital abnormalities, heart failure, valvular heart disease, and carotid and peripheral disease.

For a referral to a Valley Hospital Interventional Cardiologist, call 201-447-8456 or visit www.valleyheartandvascular.com.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cardiac Catheterization</th>
<th>Percutaneous Coronary Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2,779</td>
<td>1,096</td>
</tr>
<tr>
<td>2008</td>
<td>2,941</td>
<td>1,217</td>
</tr>
<tr>
<td>2009</td>
<td>2,886</td>
<td>1,142</td>
</tr>
<tr>
<td>2010</td>
<td>2,535</td>
<td>909</td>
</tr>
</tbody>
</table>
The Valley Hospital reports data quarterly to the National Cardiovascular Data Registry’s CathPCI Registry,™ published by the American College of Cardiology Foundation. The data in this brochure is from the Institutional Outcomes Report, 2010 Q3, published on February 1, 2011. It contains data from the rolling four quarters, ending September 30, 2010. 1,205 hospitals submitted data during this period of time that successfully passed assessment and completeness checks.

The same calculation is made for interventional cardiology procedures that are made for surgical outcomes. Based upon past interventional cardiology experience, patients with a specific pathological process have an expected result from angioplasty. The observed result from any type of procedure can then be compared to the expected result. An observed/expected ratio (O/E ratio) is calculated. Anything equal to 1 is satisfactory. A ratio less than 1 exceeds expectations. At The Valley Heart and Vascular Institute, the O/E ratio for PCI is 0.88.

Patients who undergo percutaneous coronary intervention at Valley have a lower complication rate and a lower risk-adjusted mortality than hospitals reporting in the most recently published data available from the Cath PCI registry.™

### Percutaneous Coronary Intervention Outcomes

<table>
<thead>
<tr>
<th>Any Adverse Event</th>
<th>4.4%</th>
<th>7.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite: Death, emergency CABG, stroke or repeat target revascularization</td>
<td>1.5%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Post-procedure MI</td>
<td>0.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Post-procedure MI for patients without CABG during admission</td>
<td>0.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Cardiogenic Shock</td>
<td>0.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>CVA/Stroke</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Bleeding event w/in 72 hours of the procedure</td>
<td>0.4%</td>
<td>1.9%</td>
</tr>
<tr>
<td>PCI in-hospital risk adjusted mortality (STEMI patients excluded)</td>
<td>0.57%</td>
<td>0.64%</td>
</tr>
</tbody>
</table>

Additionally, 92.5 percent of all patients discharged after PCI are referred for cardiac rehab, as opposed to 58.5 percent nationally.

For referral to a Valley Heart and Vascular Institute Interventional Cardiologist, call The Valley Heart and Vascular Institute referral line at 201-447-8456.
### Treatment for Patients with Acute Myocardial Infarctions

Patients with acute myocardial infarctions managed with PCI at Valley have a lower complication rate compared with the registry aggregate:

<table>
<thead>
<tr>
<th>Event</th>
<th>Valley (O)</th>
<th>Registry (E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any adverse event</td>
<td>10.9%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Cardiogenic shock</td>
<td>4.0%</td>
<td></td>
</tr>
<tr>
<td>Cardiac tamponade</td>
<td>0.20%</td>
<td></td>
</tr>
<tr>
<td>Hemorrhagic stroke</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>PCI in-hospital risk adjusted mortality (patients with STEMI)</td>
<td>3.57%</td>
<td>5.22%</td>
</tr>
</tbody>
</table>

The O/E ratio for patients treated at Valley for an ST elevation myocardial infarction is 0.66.
Electrophysiology is a subspecialty of cardiology, which examines the conduction system and electrical stability of the heart by recording and stimulating from within the cardiac chambers. It is the fastest growing area in cardiology. Abnormal rhythms, formerly only treated by medications, can now be treated by sophisticated and highly specialized treatments, such as implantable devices and catheter ablation. With the most sophisticated technology available in the field, Valley Hospital electrophysiologists take great pride in offering a full-range of the most effective treatments for a broad range of heart rhythm abnormalities.

For referral to a Valley Hospital electrophysiologist, call The Valley Heart and Vascular Institute at 201-447-8456, or visit www.valleyheartandvascular.com.

In patients who are appropriate candidates, cardiologists at The Valley Heart and Vascular Institute are now performing catheterization procedures through the radial artery. The radial artery is close to the surface of the skin, making the initial puncture easier, and making it easier to achieve hemostasis at the end of the procedure.

Complications are less common with this transradial approach. Additionally, patients no longer need to lie flat and still for four hours post procedure. Use of the radial artery also eliminates the sometimes painful manual compression of the femoral artery to curb bleeding.

Prior to the start of a procedure, the cardiologist needs to determine if there is a protected blood supply to the hand. At Valley, candidates for a transradial approach will undergo an Allen test to assess that both radial and ulnar arteries are functioning normally. This test is very simple, and can be done at the bedside. If both are not normal, then femoral approach is preferred.

While the complication rate with the radial approach is extremely low, there is always some risk. You should discuss these risks with your physician.
Atrial fibrillation is a very fast, uncontrolled heart rhythm caused when the upper chambers of the heart - the atria - send rapidly firing electrical impulses that cause them to quiver instead of beat. It affects an estimated 2 million Americans and is responsible for as many as 70,000 strokes each year, according to the American Heart Association. Patients with atrial fibrillation treated at The Valley Hospital can be assured of access to the latest and most effective treatments and the widest range of treatment options.

Valley was the first hospital in New Jersey to offer catheter ablation for atrial fibrillation. When medications are not effective, or are not an option, catheter ablation, a non-surgical procedure, is considered the next best option prior to resorting to surgery for atrial fibrillation. While catheter ablation has been successfully applied to nearly all types of arrhythmias with great success, ablation for atrial fibrillation has proven to be a more complex endeavor and is only available at select hospitals.

The mechanism behind atrial fibrillation is more complex than that of other arrhythmias, and it tends to involve multiple regions of the heart. The procedure involves inserting a specially designed catheter through a vein in the leg up to the heart. The catheter is then positioned at the site in the heart responsible for the abnormal rhythm. The tip of the catheter then delivers high frequency - or radiofrequency - energy to the site, destroying the abnormal electrical impulses, leading to the reduction or elimination of the atrial fibrillation. The procedure is done under anesthesia, and usually requires an overnight hospital stay. The complex nature of the procedure precludes many other hospitals from offering catheter ablation for atrial fibrillation.

Atrial fibrillation ablation is performed frequently and very successfully by the team at Valley, performing 150 cases annually with an 80 percent complete success rate and a 95 percent overall success rate, with a major complication rate of only 0.7 percent.

“At The Valley Hospital, we have by far the most experience in performing catheter ablation for atrial fibrillation” says Jonathan S. Steinberg, M.D., The Valley Hospital’s Director of Electrophysiology.
Valley was first in the state to use magnet-guided technology to enhance the precision and safety of procedures to treat certain heart rhythm problems, or cardiac arrhythmias. Cardiac arrhythmias are any disturbance in the regular rhythm of the heartbeat. The acquisition of the new technology, called Stereotaxis Niobe, continues a tradition of innovation at Valley in the treatment of cardiac arrhythmias. Valley was the first hospital in New Jersey to offer catheter ablation — a non-surgical approach — and a minimally invasive surgical procedure for the treatment of atrial fibrillation, the most common form of cardiac arrhythmia.

In addition to the benefits associated with more precise catheter placement, the Stereotaxis catheter's innovative gentle-touch design makes it possible to navigate and touch hearts and blood vessels in a softer, more accurate way than ever before.

The magnetic navigation system is an innovation in cardiovascular care. The computer navigation combined with the gentler catheter makes the catheter placement safer and more precise, allowing access to remote areas of the heart that were difficult, if not impossible, to access before. The potential benefits to patients include shorter procedures, faster recovery time, less exposure to X-ray radiation, less risk of serious complications from damaging blood vessels or heart tissue, and less likelihood of referral to more invasive open-heart procedures.

“At Valley, we are committed to providing the most advanced tools to allow doctors to find and treat problems quickly, using the least invasive methods. Every day, new technologies are paving the way for better outcomes and improved quality of life for patients with cardiovascular problems,” said Jonathan S. Steinberg, M.D., Director of Electrophysiology at Valley, who uses the Stereotaxis system.
Clinical Trials

At The Valley Hospital we have a variety of ongoing clinical trials. Some of the trials currently taking place include studies to evaluate new drug-coated cardiac stents, new medications, new methods in cardiac surgery, combinations of medications, heart valves, a registry to monitor patients, and studies to evaluate the quality of life of patients who receive pacemakers.

For more information visit www.valleyheartandvascular.com.

LEAD EXTRACTION

When electronic leads from pacemakers or ICDs are not working properly because of malfunction, breakage, scar tissue around the lead, or infection at the lead site, they need to be removed and replaced. Removal can be challenging when using common methods, such as traction or surgery. The Valley Hospital’s Department of Electrophysiology has extensive experience using laser lead extraction for the safe removal of chronic pacemaker and defibrillator leads.

The Valley Hospital’s Department of Electrophysiology was a pioneer in using laser lead extraction for safe removal of chronic leads, and our physician staff, who perform these procedures at Valley and St. Luke’s Roosevelt Hospital Center, has more experience than any other hospital in the New York area. Laser lead extraction has been proven successful in 98 percent of cases, with a major complication rate of only 2 percent.
THE VALLEY HEART AND VASCULAR INSTITUTE MEDICAL STAFF

Cardiac Surgery
Mariano E. Brizzio, M.D.
Juan B. Grau, M.D.
Jason S. Sperling, M.D.
Alex Zapolanski, M.D.
Bruce P. Mindich M.D.,
Em eritus Medical Staff

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Srinivasa Edara, M.D.

Interventional Cardiology
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Navin Budhwani, M.D.
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Roger Coletti, M.D.
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Janet Strain, M.D.
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Soomyung Lee, M.D.
Anatoly Volkov, M.D.
Kyaw Nyunt, M.D.

A special thank you to Dorothy Capone, Linda Pulver and Joann Scirocco for their help in compiling the data.
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Director, Cardiac Surgery

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Internship: Union Memorial Hospital
Residency: Cleveland Clinic Foundation, Cleveland, OH
Fellowship: Toronto General Hospital, University of Toronto; Clinical Associate Cleveland Clinic Foundation

Alex Zapolanski, M.D., F.A.C.C., F.A.C.S., is a Clinical Professor of Surgery at Columbia University’s College of Physicians & Surgeons. Throughout most of his 30-year career, he has been conducting clinically oriented research. He has focused primarily in perfecting minimally invasive techniques in valvular surgery, coronary surgery (off-pump techniques), and atrial fibrillation surgery.

Dr. Zapolanski performs the full spectrum of cardiac procedures with special interest in extensive revascularization techniques with arterial conduits, minimally invasive valve surgery, aortic surgery, and surgical management of atrial fibrillation.

Dr. Zapolanski lectures internationally and has performed heart surgery in China, Russia, Indonesia, Cuba, and Argentina.

Jason S. Sperling, M.D., F.A.C.S.
Subspecialty Director, Thoracic Aortic Surgery and Surgical Atrial Fibrillation Program

Board Certification: American Board of Surgery/American Board of Thoracic Surgery
Education: University of Maryland Hospital, Baltimore, MD
Residency: University of Virginia Medical Center, Charlottesville, VA
Fellowship: University of Virginia Medical Center, Charlottesville, VA

Jason S. Sperling, M.D., F.A.C.S., is board certified in both general and cardiothoracic surgery. He has an academic appointment as Assistant Clinical Professor of Surgery at Columbia University-Presbyterian Hospital. His cardiac surgery training was completed at the University of Virginia, and cutting edge research in cardiac surgery was done at Harvard University’s Children’s Hospital in Boston. He has co-authored numerous research papers in well-known peer-reviewed scientific journals.

Proficient in all aspects of adult cardiac surgery, Dr. Sperling has particular interest in aortic surgery (open and endovascular), minimally invasive cardiac surgery, off-pump coronary surgery, aortic and mitral valve repair, Cox-Maze III surgery to cure all forms of atrial fibrillation, and surgery for heart failure. He has pioneered a novel technique of minimally invasive cardiac surgery and is the principal investigator of a clinical trial utilizing this method at Valley Hospital.

Mariano E. Brizzio, M.D.
Certified in cardiovascular surgery by the Colegio Argentino de Cirujanos Cardiovasculares
Education: University of Buenos Aires School of Medicine
Residency: Instituto Sacre Coeur Fellowship: Cleveland Clinic

Mariano E. Brizzio, M.D., is a Clinical Instructor in Surgery at Columbia University’s College of Physicians & Surgeons. He is skilled in all types of cardiothoracic surgery, with special interests in minimally invasive approaches, valve surgery, atrial fibrillation, blood preservation techniques, and heart failure.

Throughout his career, Dr. Brizzio has participated in clinical research in the developing of an artificial heart, minimally invasive cardiothoracic surgery, lung transplantation, reoperative cardiac surgery, and blood preservation. His work has been published in well-known peer-reviewed scientific journals and presented at annual meetings of the American College of Cardiology, American Association of Thoracic Surgery, and The Society of Thoracic Surgeons. He is a member of the American College of Cardiology and The Society of Thoracic Surgeons.

Dr. Brizzio speaks English, Spanish, and Italian.
Juan B. Grau, M.D., F.A.C.S., F.A.C.C.

Board Certification: American Board of Surgery/American Board of Thoracic Surgery
Education: Alcala de Henares University, School of Medicine, Madrid, Spain
Residency: NYU Medical Center, Department of Surgery, NY
Fellowship: NYU Medical Center, NY

Juan Grau, MD, FACS, FACC is an Assistant Professor of Clinical Surgery at Columbia University College of Physicians and Surgeons and Attending Cardiac Surgeon at The Valley Hospital. He is also an Adjunct Assistant Professor of Surgery at the University of Pennsylvania School of Medicine.

Over the past six years, Dr. Grau has researched the causes of the progression of valvular heart disease, particularly mitral valve prolapse and aortic valve stenosis. He is also involved in the field of aortic aneurysms, studying the different genomic and proteomic presentations of patients with ascending aortic aneurysms in the setting of bicuspid and normal aortic valves.

His research has been supported by major scientific organizations, including the National Institutes of Health (National Heart, Lung, and Blood Institute), the nation’s largest funder of biomedical research. His research also includes looking for biomarkers of aortic valve stenosis, an abnormal narrowing of the aortic valve, caused by degenerative calcification. Dr. Grau's research has been published in numerous medical journals and books. He is a reviewer for several cardiology and cardiac surgery journals and basic science research publications and has been invited to lecture at multiple national and international forums.

Dr. Grau’s clinical interests involve complex aortic reconstructions, endovascular therapies, robotic valvular surgery, and all other forms of minimally-invasive aortic and mitral valve procedures. Hybrid coronary revascularization using robotics and off-pump multiple bypass grafting using minimally-invasive platforms are also part of his expertise.

Srinivasa Edara, M.D., F.C.C.P.
Director, Cardiac Surgery ICU
Critical Care Medicine;
Internal Medicine

Board Certification: Subspecialty Board of Critical Care/American Board of Internal Medicine/American Board of Sleep Medicine
Education: Guntur Medical College, India

Residency: Interfaith Medical Center-Brooklyn, NY
Fellowship: Mount Sinai Medical Center, NY;
St. Luke’s-Roosevelt Hospital Center, NY

Srinivasa Edara, M.D., F.C.C.P., is a member of the American College of Chest Physicians, Society of Critical Care Medicine, and American Society of Sleep Medicine. He is experienced in the management of medical problems and complications in cardiac surgery patients. He is published in well-known scientific journals.

His areas of interest include post-operative atrial fibrillation, perioperative glucose control, and minimizing perioperative blood products utilization.

Julia Nidetz Karcher
Assistant Vice-President
Heart and Vascular Institute

Julia Karcher provides administrative leadership for the entire Valley Heart and Vascular Institute, including the Cardiac Surgery program and all inpatient and outpatient cardiovascular services including cardiac critical care. Julia also is responsible for cardiac clinical research and the eight interventional labs performing cardiac intervention, electrophysiology, peripheral vascular and neurovascular procedures. Julia is the Co-Chairperson of the Heart and Vascular Institute Executive Committee.

She is a past recipient of Mount Sinai Hospital’s Presidential Service Award for her service to patients and physicians, which she received during her seven-year tenure there in patient care services management. Julia has a B.A. from Barnard College of Columbia University, and an M.B.A. from The Stern School of Business, New York University. She is also a member of the American College of Health Care Executives, and a winner of the YWCA TWIN Award.
Spontaneous rupture of a non-aneurismatic ascending thoracic aorta
Brizio, M.E., M.D.; Zapolanski, A., M.D.; Kesselbrenner, M., M.D.
*Journal of Cardia Surg* 2009 April 24 (2):221-14

Unexpected Durability of a Bjork-Shiley first generation Aortic Valve after 40 years of Implantation.
Brizio, M.E., M.D.; Zapolanski, A., M.D.; Pantazopoulos, J., M.D.; Mentakis, M., M.D.
*Journal of Heart Valve Dis.* 2009

Stroke Related Mortality in Coronary Surgery is reduced by Off Pump Approach.
Brizio, M.E., M.D.; Zapolanski, A., M.D.; Shaw, R.E.; M.D.; Sperling J.S.; M.D.; Mindich, B.P.; M.D.
*Ann Thoracic Surg.* 2010; January

Topical Mitogen Activated Protein Kinases Inhibition Reduces Intimal Hyperplasia in Arteralized Vein Grafts.
Gulkarov I.; Bohnk K.; Cinnante K.M.; Pirelli L.; Yu P.J.; Grau J.B.; Pintucci G.;
Galloway A.C.; Mignatti P.
*Journal of Surgical Research.* 2009

Correlation Between Osteopontin Levels and Aortic Valve Calcification: Potential Insights Into The Pathogenesis of Aortic Calcification.
Yu P.; Skolnick A.; Ferrari G.; Haretis K.;
Mignatti P.; Pintucci G.; Rosenzweig B.;
Diaz-Cartelle J.; Kronszen I.; Perk G.; Pass H.I.;
Galloway A.; Grossi E.A.; Grau J.B.

State-of-Art Review Insights Into the Use of Biomarkers in Calcific Aortic Valve Disease.
Beckmann E.; Grau J.B.; Poggio P.; Ferrari G.

Validation of Plasma Biomarkers in Degenerative Calcific Aortic Stenosis.
Ferrari G.; Beckmann E.; Sainger R.; Keller G.;
Yu P.; Monti M.; Galloway A.C.; Grau J.B.

Osteopontin (OPN) controls endothelial cell activation and in vitro angiogenesis of excised tissue from patients with Calcific Aortic Stenosis and controls.
Poggio P.; Grau J.B.; Sainger R.; Field B.;
Seefried W.F.; Rizzolio F.; Ferrari G.
*Journal of Cellular Physiology,* in print

Dephosphorylation of circulating human Osteopontin correlates with severe valvular calcification in patients with Calcific Aortic Valve Degeneration.
Grau J.B.; Sainger R.; Poggio P.; Seefried W.F.;
Field B.; Koka E.; Ferrari G.
*International Journal of Cardiology,* in revision.

### ABSTRACTS PRESENTED IN MAJOR CARDIOTHORACIC SURGERY MEETINGS (2009-2011)

**Is stroke-related death higher after the use of cardiopulmonary bypass in coronary surgery?**

**Unconventional grafting sequence in Off Pump Coronary By-pass Surgery.**

**Posterior Pericardiotomy Decreases the Incidence and Duration of Atrial Fibrillation After Coronary Artery Bypass Grafting.**

**Implementing a Cardiovascular Prevention Program in Women with a Dollar and a Dream Preventive Cardiac Nursing.**
Chicago, April 2010.

**Validation of Plasma Biomarkers in Degenerative Calcific Aortic Stenosis.**

**Differential Expression of Osteopontin mRNA Splice Variants in Aortic Valve Leaflets of Patients with Calcific Aortic Valve Disease Compared to Healthy Subjects.**
World Congress of Cardiology, June 2010, Beijing, China.

**Tricuspid Valve Disease. Minimally Invasive Valve Surgery postgraduate course.**
International Society of Minimally Invasive Cardiac Surgery, June 16th, 2010, Berlin, Germany.

**Analysis of Post-Translational Modification of Circulating Human Osteopontin in Patients with Calcific Aortic Valve Degeneration.**
The Eastern Cardiothoracic Surgery Society, 48th Meeting, October 6-10, 2010, Orlando, FL

**Differential Expression of Osteopontin mRNA Splice Variants in Aortic Valve Leaflets of Patients with Calcific Aortic Valve Disease Compared to Healthy Subjects.**
The Eastern Cardiothoracic Surgery Society, 48th Meeting, October 6-10, 2010, Orlando, FL

**Comparison of Gene Expression Profiles between Normal and Prolapsed P2 Segments of Myxomatous Mitral Valves Leaflets.**

**Comparison of Gene Expression Profiles between Normal and Prolapsed P2 Segments of Myxomatous Mitral Valve Leaflets.**
*American Heart Association,* Best of Sessions 2010, November 13-17, 2010, Chicago, IL

**Gene Expression Profiles in Normal and Prolapsed P2 Segments of Myxomatous Mitral Valve Leaflets.**
Extracellular Matrix and Cardiovascular Remodeling (B2) Keystone Symposia, Granlibakken Resort, January 23-28, 2011, Tahoe City, CA


**Comparison of Transesophageal Echocardiographic Analysis and Osteopontin Levels for the Identification of Asymptomatic Aortic Valve Sclerosis Patients during Calcific Aortic Valve Degeneration.**

**Should Very Elderly Patients Be Offered The Same Surgical Options As Their Younger Counterparts? A Comparison of Outcomes among Patients Below and Over 80 Years of Age Undergoing AVR With or Without CABG.**

**Low responsiveness to clopidogrel therapy as a possible predictor for early failure of Coronary Percutaneous intervention requiring surgical revascularization.**
Brizio M.E.; Shaw R.E.; Sperling J.S.; Grau J.B.; Zapolanski A.
To be presented June 2011 ISMICS
We have received the highest rating six consecutive times positioning us among the top twelve percent of surgical programs in the nation. We are grateful for your support and remain committed to providing you and your patients the best possible outcomes.

Cover Photos from left to right: Large aneurysm ascending aorta arch; constructed off-pump anastomosis; and mitral valve replacement with preservation of the subvalvular apparatus.