

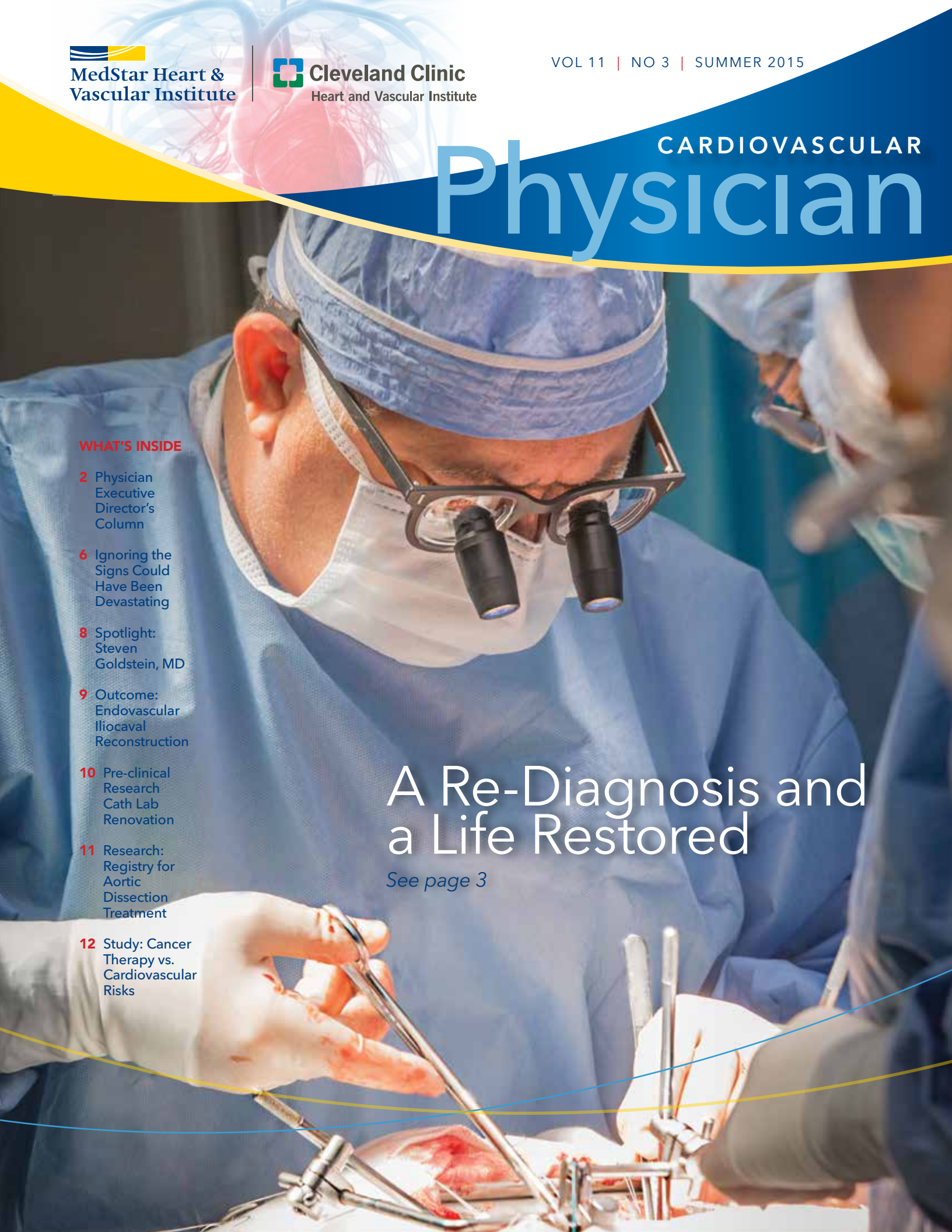
# CARDIOVASCULAR Physician

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## A Re-Diagnosis and a Life Restored

*See page 3*



# Practiced Hands and Gut Feelings

After decades in practice, there is one thing I would never dispute: In medicine, all the high-tech capabilities in the world can't replace an experienced physician's instincts. We all know how often "going with our gut" is an important element in disease diagnosis and treatment. But "gut feelings" are best when informed by expertise and skill.

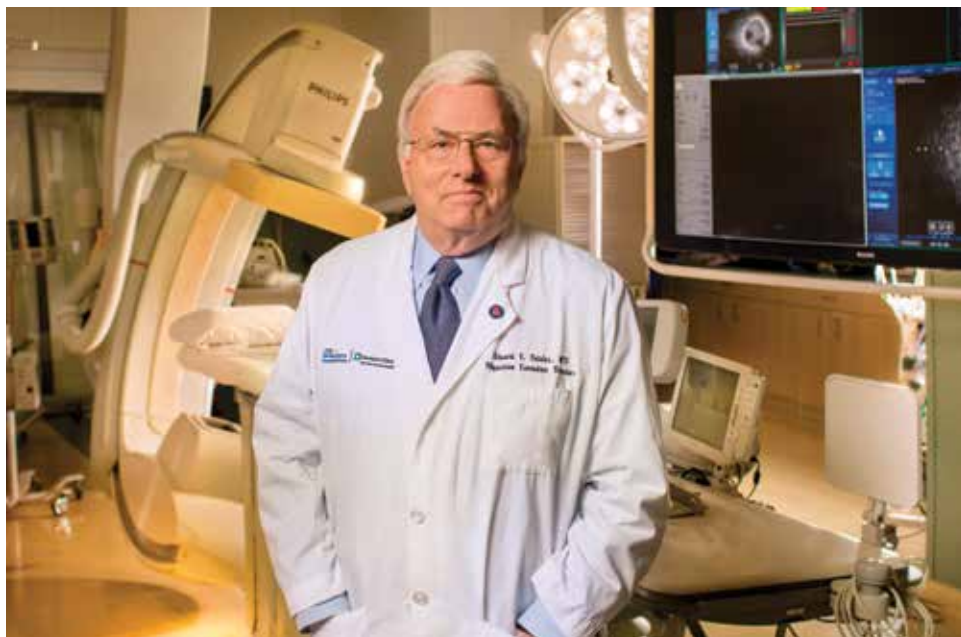
Two members of our own MedStar Health family were recently the beneficiaries of our 55 years of experience in cutting-edge cardiovascular services—and of the instinctual feelings of practiced hands. Their stories demonstrate the true value of a center of excellence; one complex case, one less complicated, but both life threatening if misdiagnosed and mistreated.

Richard Kief, senior vice president and Chief Philanthropy Officer of the MedStar Washington Hospital Center Foundation, was meeting with me in my office one day a few months ago. This was nothing out of the ordinary, but when he casually mentioned some pain he was having after riding his bike, my ears perked up, as any cardiologist's would.

Like a lot of men, Richard made light of the symptoms, but I didn't like the way it "smelled." A cardiac cath revealed serious blockages—and he had bypass surgery. Back to work and feeling fine, Richard shares his story beginning on page 6.

For Steven Jones, husband of Dr. Sandra Swain, medical director of Washington Cancer Institute at MedStar Washington Hospital Center, death seemed imminent. Initially treated in a non-MedStar hospital, he was critically ill with no clear diagnosis. When Dr. Swain called a colleague at MedStar Heart & Vascular, she said she was frightened and convinced her husband was going to die. Because of our 24-hour transport system, he was quickly transferred to us, where studies revealed a ruptured mitral valve chordae, and prompt surgical repair was performed by a MHVI expert with dramatic results. (See page 3.)

Both men could have died needlessly but for the combination of clinical expertise, technological advancements, effective treatment protocols based on



vast experience, and the gut instinct of physicians who have seen it all.

We are grateful that our expertise benefitted two of our own, Richard Kief and Steven Jones. But their stories aren't unique. Hundreds of patients throughout the region receive the benefit of this kind of expertise.

Geographic location, or circumstances, shouldn't determine quality of care. We have the resources to improve outcomes. That's why building a distributive care delivery network of cardiovascular services is so important.

A network of linked services means that patients receive a consistent level of care no matter where or how they enter the system, from within the MedStar network or from elsewhere in the region. It also helps to guarantee that patients will be cared for in the most appropriate setting.

We rely on a coordinated and highly refined system of transport to support this network and to ensure that patients who need emergency treatment reach us in time. Every day on land and in the air, MedSTAR Transport ICUs make a critical difference for patients. It is an important element in our success.

Interweaving resources into a coherent continuum of care benefits patients and the community who reap the rewards of improved, cost efficient service delivery, and gain the inestimable value of lives saved.



# A Re-Diagnosis and a Life Restored

*An inaccurate diagnosis at another hospital almost cost Steven Jones his life. Fortunately, his wife, medical director of Washington Cancer Institute at MedStar Washington Hospital Center, knew who to call. Within 12 hours, Jones was transferred, re-diagnosed, stabilized and had undergone surgery to repair his mitral valve. Both Jones and his wife, Sandra Swain, MD, FACP, credit the quick, round-the-clock expertise of Medical and Coronary ICUs and MedStar Heart & Vascular Institute (MHVI) team with his complete recovery.*

Story continues on pages 4 and 5.



# In the early hours of Wednesday morning,

Feb. 25, Jones, 61, retired Treasury Department law enforcement executive, was using strong chemicals to clean up after a kitchen remodeling. His heart suddenly started pounding. "I went upstairs and took some aspirin," he recalls. "I work out three times a week, have no health issues and—in typical fashion—was in complete denial anything could be wrong." He went to bed not terribly concerned, but woke his wife to tell her what had happened. Soon he had difficulty breathing, and she said, "I can hear your lungs gurgling. We're going to the hospital."

They arrived at a nearby hospital around 3 a.m. and told the staff he'd probably inhaled some noxious fumes. Jones was given a nebulizer and an EKG. His condition deteriorated rapidly. He lost consciousness and was placed on a ventilator. Increasingly worried, Dr. Swain called colleagues at the Hospital Center for advice and soon started working with Andrew Shorr, MD, medical director, Medical Intensive Care Unit, on a transfer that occurred Thursday afternoon.

Dr. Shorr and Chris Woods, MD, were working when Jones arrived. "He was in shock," says Dr. Woods. "His diagnosis was chemical inhalation, but that diagnosis didn't fit his symptoms." Dr. Shorr agrees, "His physiology was inconsistent with the diagnosis, so we backed up and started over."

About 6 p.m., critical care fellow Adnan Hussain, MD, who was also monitoring Jones, says, "His oxygen levels and blood pressure were really low, even though he was on several medications." By careful auscultation, Drs. Hussain and Woods heard a heart murmur. Dr. Hussain contacted on-call cardiology fellow Wunan Zhou, MD, who confirmed the murmur, and did a bedside trans-thoracic echocardiogram. She identified a valve problem, but wanted a more definitive test.

Dr. Zhou contacted on-call echocardiologist Rachel Marcus, MD, who did a transesophageal echocardiogram (TEE) at 10 p.m., which showed clearly severe, acute mitral valve regurgitation. She says, "It was consistent with the chest X-ray findings showing focal/unilateral pulmonary edema likely related to the mitral regurgitation jet."

Jones would need surgery fast. Cardiac surgeon Ammar Bafi, MD, an expert in mitral valve repair, scheduled emergency surgery for 6:30 a.m., but Jones was in cardiogenic shock—his blood pressure was critically low and he couldn't breathe on his own. He needed an intra-aortic balloon pump to stabilize his circulation to withstand the surgery. Interventional cardiologist Robert Lager, MD, came in at 2 a.m. to insert the pump. He says, "It's not at all unusual to come to do a procedure when I'm on call. What is unusual about this case is that the chemical inhalation diagnosis was an utter red herring, and the real cause was discovered by the CCU team here, leading to the subsequent emergent procedures."

Dr. Bafi says, "Mitral valve repair is something I have a lot of experience in. The beauty of repair is that patients keep their own valve. We removed the part of the valve with the broken mitral cords, and reconstructed it using his own tissues. The only foreign material is a ring to narrow the opening so the valve leaflets close perfectly. Jones probably progressed from minimal leaking of the valve to rupturing four cords with sudden torrential mitral regurgitation. I've encountered this situation before, but it's quite rare.

"Jones was very lucky," he continues. "Because we're an advanced cardiac and vascular center, we can mobilize quickly, 24 hours a day. Jones could not have survived another 24 hours. And finally, he's fortunate we were able to repair, rather than replace, his valve."

## 18 Hours: From Potentially Fatal, Inaccurate Diagnose to Full Recovery



**Thursday, 12 p.m.**

Dr. Shorr helps arrange transport to MWHC.



**Thursday, 4 p.m.**

Jones is admitted to the MICU at MWHC. Drs. Shorr and Woods begin questioning diagnosis of chemical inhalation.



**Thursday, 6 p.m.**

Drs. Hussain and Woods hear heart murmur.



**Thursday, 8 p.m.**

Dr. Zhou confirms heart murmur and does a bedside TTE. Suspects valve problem.





Four weeks post-surgery, Steven Jones and his wife, Sandra Swain, MD

Dr. Swain has a newfound understanding of the hospital where she works. "I have great insights as a patient's family member," she says. "The Heart & Vascular Institute is a fabulous place from A to Z, with a highly coordinated team of very professional, extremely engaged passionate people. From the MedSTAR Transport team to the highly trained nursing staff, I was just amazed. But it was a very lonely night for me, extremely lonely. I was told the mortality rate was 20 percent from this surgery, and I thought I would lose him. But Dr. Bafi gave me confidence, and I knew from everyone else that the whole surgical team was exceptional."

Dr. Bafi gave Dr. Swain the good news after the three-hour surgery. She recalls, "He said, 'Yes, we were able to repair the valve, and his heart was so happy with the repair, he flew right off the table!'"

Jones doesn't remember many of the people who helped save his life, only those after he woke up. "Every one of them showed their compassion and care," he says. "I am forever grateful that Dr. Bafi was able to repair my valve. I'm able to return to my normal life without a litany of medicine or restricted diet. I was on the edge of death and without batting an eye they figured it out, fixed it, and within days, I was up walking around."



**Thursday, 10 p.m.**  
Dr. Marcus does TEE and confirms severe mitral valve regurgitation.



**Friday, 2 a.m.**  
Dr. Lager inserts balloon pump to stabilize Jones.



**Friday, 6:30 a.m.**  
Dr. Bafi repairs mitral valve.

THE QUICK, ROUND-  
THE-CLOCK EXPERTISE  
OF MEDSTAR HEART &  
VASCULAR SPECIALISTS  
TOOK JONES FROM  
AN INACCURATE,  
POTENTIALLY FATAL,  
DIAGNOSIS TO FULL  
RECOVERY IN FEWER  
THAN 18 HOURS.

# Ignoring the Signs Could Have Been Devastating



(L to R) Augusto Pichard, MD, Paul Corso, MD, and Stuart Seides, MD diagnosed and surgically treated severe blockages in Kief's left main and right coronary arteries and left circumflex artery.

The symptoms, at first, were subtle and easy to dismiss. Burning and chest discomfort—likely acid reflux. A nagging ache in the left shoulder—probably due to past rotator cuff surgery. And for Richard Kief, senior vice president and Chief Philanthropy Officer of MedStar Washington Hospital Center, the symptoms only occurred when he rode his bike. As soon as the 63-year-old stopped exercising, the symptoms disappeared.

As time passed, Kief, an avid cyclist who routinely logged 25 to 40 miles several times a week, noticed the symptoms lingered longer and sometimes occurred at bedtime. He also found it increasingly difficult to ride through the pain.

Finally, during a ride with former teammates last October, Kief realized he could barely keep up the pace for 10 miles. "The burning, the shoulder pain, it was just too much," he recalls. "One of my teammates told me I should really get this checked out."

A hospital meeting a few days later involving Stuart F. Seides, MD, FACC, gave Kief the opportunity to share his symptoms with the physician executive director of MedStar Heart & Vascular Institute (MHVI). Dr. Seides recommended blood work and a stress test, both of which were inconclusive, but not enough to deter the experienced cardiologist from further investigation.

"I continued to be troubled by the character and nature of his symptoms even though we didn't have clear guidance as to what was going on," Dr. Seides recalls. "So we proceeded with a cardiac CT that showed extensive coronary artery disease."

Armed with this knowledge, interventional cardiologist Augusto Pichard, MD, performed a cardiac catheterization. "I woke up in the cath lab and Dr. Pichard told me, 'Richard, we're finished. We found the problem, we're admitting you tonight and you're having surgery tomorrow,'" Kief recalls. "I was surprised," he continues, "but I knew I was in good hands."

Specialists at MHVI have high-level skill in both percutaneous coronary intervention and coronary artery bypass grafting so the specific mode of revascularization is customized based on individual patient circumstances. Mr. Kief's anatomy strongly favored a surgical approach.

Early the next morning, Paul Corso, MD, chairman of Cardiac Surgery, performed a triple bypass, creating new pathways around the severe blockages in Kief's left main and right coronary arteries, as well as the left circumflex artery.

Kief's overall fitness supported a quick recovery and after four days in the hospital, he returned home. He began taking slow, short walks until he started cardiac rehabilitation, a customized program that gradually increases exercise and teaches patients to monitor their heart rate and recognize cardiac symptoms.

"People need to be attentive to all symptoms and seek advice when needed," stresses Dr. Corso. "For most men, especially those who are active and athletic, if they feel a little something, they think it can't be anything serious. But in heart disease, little symptoms can be very important. Richard is a very lucky man."

Kief agrees. "I am so fortunate this was caught in time," he says. "It was fortuitous that I had that conversation with Dr. Seides when I did and that I was in the right place at the right time. We have the best of the best at MHVI, and I can now speak first hand to that."



## CARDIAC REHABILITATION IMPROVES OUTCOMES

Cardiac rehabilitation is a medically supervised program that helps improve the health and well-being of people with heart problems. Typically, the program includes 36 sessions and is beneficial for people of all ages in terms of improving health and preventing future heart problems.

“The American Heart Association/American College of Cardiology guidelines recommend participation in a comprehensive outpatient cardiac rehabilitation as a Class I recommendation for all patients who have an acute coronary syndrome or who have undergone coronary artery bypass grafting,” says Ana Barac, MD, PhD, FACC, medical director of the cardiac rehabilitation program at MedStar Washington Hospital Center.

“There is plenty of evidence this leads to better outcomes and decreases the chances of subsequent myocardial infarction or death for patients who have had revascularization procedures, including both stents and cardiac bypass,” says Dr. Barac.

The program, located at Trinity Washington University less than a mile from the Hospital Center, offers patients an individualized program that oversees exercise and cardiovascular endurance, all while under the trained eye of an exercise physiologist, physical therapist and physician. Heart rate and blood pressure are monitored during each session, offering patients added assurance should they experience any concerning symptoms.

In addition to physical exercise on a treadmill, stationary bike or rowing machine, cardiac rehabilitation also includes an educational component with nutrition counseling and patient education on how to monitor heart rate, symptoms and pain.

Cardiac rehab also partners with a patient’s cardiologist, alerting them to any potential issues. For patients with high blood pressure, printed reports that show dynamic blood pressure with increased workload can be faxed to a patient’s cardiologist, often a helpful tool for physicians in tailoring therapies.

## MEDSTAR WASHINGTON HOSPITAL CENTER CARDIAC REHABILITATION

125 Michigan Avenue, NE  
Trinity University Gymnasium  
Washington, D.C. 20017  
202-877-WELL (9355)

### Schedule

Four classes of 12 patients on  
Mondays, Tuesdays and Thursdays,  
7:30 to 11:30 a.m.  
Physician referral required

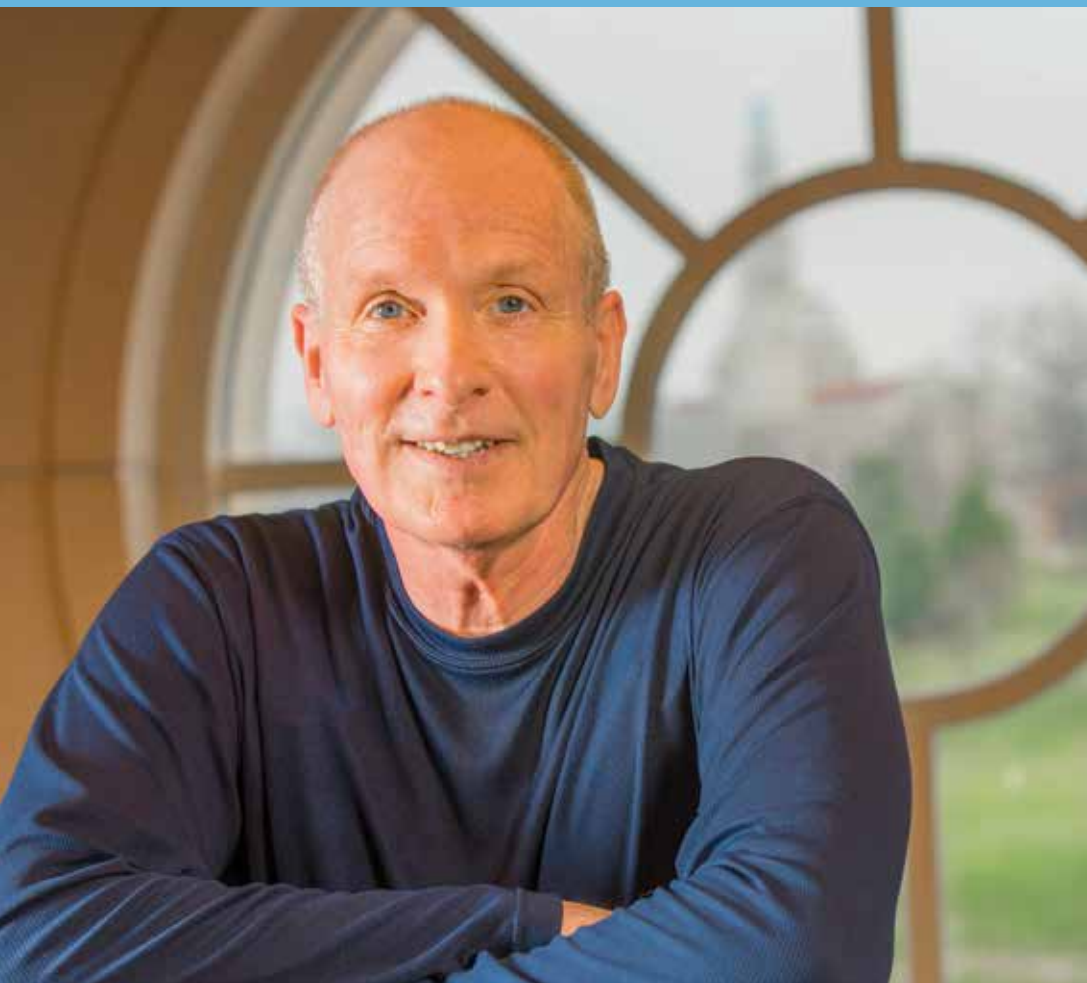
### Diagnoses covered

- Medicare Guidelines
- Stable angina
  - Myocardial infarction
  - PCI
  - Coronary artery bypass graft
  - Valve repair or replacement
  - Heart transplant
  - Heart failure EF  $\leq$  35%

Private insurance may also provide coverage for:

- Peripheral vascular disease
- Congenital cardiac conditions
- Cardiomyopathy
- Heart failure EF > 35%

*More than two million Americans each year are eligible, but on average only 10 to 30 percent receive cardiac rehabilitation.*



Richard Kief during cardiac rehab



# Fascination with Heart Echo Leads to a Four-Decade Career

For nearly four decades, Steven Goldstein, MD, MedStar Heart & Vascular Institute's director of Non-invasive Laboratory, has been a fixture in the field of echocardiography. A longtime member of the American Society for Echocardiography (ASE), Dr. Goldstein has organized and spoken at dozens of conferences, co-edited a textbook and served on numerous committees.

So when ASE announced that Dr. Goldstein would receive its Physician Lifetime Achievement Award for 2015, only one person seemed surprised—Dr. Goldstein himself.

"I couldn't believe it," he says. "I'm honored, of course, but I can think of several other people who, in my mind, are far more deserving." But to fellow professionals like Neil Weissman, MD, president of ASE and head of MedStar Health Research Institute, the choice is no mystery.

"Steve is one of those quiet people who enjoys teaching, answering questions and sharing information," says Dr. Weissman. "Multiply that over a whole career, and you have someone who has had a positive influence on literally thousands of cardiovascular physicians, both in the U.S. and internationally."

A native of Louisville, Ky., Dr. Goldstein's passion for echocardiography was sparked when he took a break prior to his fellowship at Georgetown University in 1975 to spend a year at St George's Hospital in London. There, he worked with cardiology pioneer Dr. Aubrey Leatham and ultrasound physicist Graham Leech.

"I became totally fascinated with heart echo under their mentorship," Dr. Goldstein recalls. "The technology was in its infancy, of course, but its potential as a non-invasive means to study and diagnose heart conditions was clear."

Returning to the U.S. to complete his fellowship, Dr. Goldstein accepted an offer from Washington Hospital Center, which was in the process of expanding its cardiology department.

"Dr. Leatham had advised me to go where there are good heart surgeons, so I came here," he says. "It was a marvelous decision." Dr. Goldstein considers himself blessed to have developed the Hospital Center's heart echo capabilities in step with advances in technology.

"There's been remarkable progress over the years," he says. "Once we could detect only fluid in the heart, we now have tools like transesophageal echo and 3D echo, which can help support and guide procedures in the OR and cath lab."

Having turned 71 in May, Dr. Goldstein shows no sign of slowing down. In addition to his work at the Hospital Center, he maintains an active speaking schedule and is revising an edition of his ASE textbook that will be more than three times the length of its original version.

"I hope to work until I'm 75, or as long as I feel I can contribute," he says. "To me, all the fun and interesting things that turn up in the heart come through an echo lab. And there's no place I'd rather be."

*"Steve Goldstein is someone who has had a positive influence on literally thousands of cardiovascular physicians, both in the U.S. and internationally."*

—Neil Weissman, MD



*New Procedure is Effective Treatment in Vena Caval Stenosis and Occlusions*

# Endovascular Iliocaval Reconstruction Heals Debilitating Wounds

For years, the 38-year-old patient suffered with heavy, swollen lower extremities resulting in chronic venous ulcers lasting several months. The debilitating wounds required compression wraps, dressing changes and antibiotics when needed. After seeing several physicians, many of whom believed cellulitis was the cause, the patient was referred to MedStar podiatric surgeon John Steinberg, DPM. Though the wounds healed faster under Dr. Steinberg's care, the cause of the ulcers remained uncertain. Dr. Steinberg enlisted the help of MedStar Heart & Vascular Institute (MHVI) vascular surgeon Steven Abramowitz, MD, RPVI. Dr. Steinberg relayed the patient's history, which included a serious accident more than a decade earlier.

"When I learned this patient had a history of trauma, my first thought was he may have had an occluded inferior vena cava (IVC) filter. IVC filters are often placed after trauma for pulmonary embolism prevention and can be missed or lost in follow-up care," says Dr. Abramowitz.

Dr. Abramowitz was correct. The patient had been in an accident in 2003 resulting in a broken pelvis, collapsed lung and internal bleeding. He had been treated with a non-retrievable prophylactic IVC filter. A CT scan revealed an occluded filter, located in the inferior vena cava just below the patient's kidneys. The device was completely embedded in the wall of the patient's vessel. Removal would risk of hemorrhage or vessel rupture.

Dr. Abramowitz explained to the patient about endovascular iliocaval reconstruction, an effective treatment in vena caval stenosis and occlusion.

The two-stage procedure began with thrombolytic therapy to soften the thrombus, administered via two puncture sites in the popliteal vein, located behind the knee. Six hours later, Dr. Abramowitz used these access sites and wires, threaded beyond the occlusion, to start reconstruction. He deployed a balloon to disrupt the metal of the old filter. He then placed a large inferior vena cava stent with extensions into each iliac vein (referred to as a double-barrel reconstruction) and deployed additional stents to reconstruct the vessels down to the femoral veins. In total, he placed five overlapping stents.

Dr. Abramowitz says improvements in blood flow are almost immediate. "If a patient makes it over the initial hurdle, long-term results are good," he explains.

Though it took several months for his ulcers to heal, the patient reports he has had no recurrence of venous ulcers. He also notes significant reduction in the swelling of his lower legs, and no longer needs pain medication.

Currently, Dr. Abramowitz is the only physician at MHVI performing endovascular iliocaval reconstruction. "It is a new procedure and requires good patient indication," he says. This patient was so young, he will likely see a very long benefit.



**Steven Abramowitz, MD,** is currently the only physician at MHVI performing endovascular iliocaval reconstruction.

# New Fluoroscopy Unit Gives Boost to Pre-Clinical Research Cath Lab



David Hellinga, MSc, manager of pre-clinical projects

A new fluoroscopy unit in the Pre-Clinical Research Cath Lab at MedStar Washington Hospital Center is providing investigators higher quality images in less time for evaluating and assessing outcomes.

"We can produce a much higher quality of work," says David Hellinga, MSc, manager of pre-clinical projects.

The Philips Medical Allura Xper FD10 fluoroscopy unit replaces an older system that produced markedly lower quality images. The lab, located in the George Hyman Research Building, has been operational for more than 25 years and has a long history of successes, including testing the first drug-eluting stent that came to market, notes Ron Waksman, MD, director, Cardiovascular Research and Advanced Education, MedStar Heart & Vascular Institute.

"We now produce better imaging and can better assess outcomes," says Dr. Waksman. "There is also less radiation, which allows us to conduct safer procedures."

The Pre-Clinical Research Cath Lab supports research in the area of interventional devices as well as cardiac surgery and drug therapy. The lab collaborates with other investigators that want to test new devices and/or drugs in pre-clinical models.

Recent areas of study include:

- biodegradable/bioabsorbable stents
- drug-coated balloons
- next generation drug-eluting stents
- neoatherosclerosis studies
- thrombogenicity studies
- novel molecular studies
- chronic total occlusion studies
- various training programs
- R&D device development programs

The lab supports investigators by:

- assisting companies in the development of a protocol
- preparing all necessary regulatory documents
- developing study-specific forms to document study-relevant data
- procuring necessary supplies to perform study protocol steps
- performing study intervention and final endpoint follow-ups
- assisting companies in publicizing their results

The majority of the work completed in the lab is for sponsor/client initiated studies, but internal research is conducted as well. Industry sponsors include the U.S. Food and Drug Administration, Abbott Vascular, Terumo®, Boston Scientific, Medtronic, Johnson & Johnson, and other start-up companies.

In July, Michael Lipinski, MD, PhD, joined the lab as co-medical director and scientific lead. He recently completed his fellowship in interventional cardiology at the Hospital Center and maintains an interest in the immune response of atherosclerosis and acute myocardial infarction.

According to Dr. Lipinski, the lab renovations will not alter the research conducted, but provide higher resolution. "The images are incredibly crisp and bright," he says, noting that the unit compares equally with the hospital's patient cath lab.

"We are very proud of this renovation and our contributions," adds Dr. Waksman. "We have seen many devices that have made it and many that haven't. Not everything is successful but we actively try everything possible to bring new technologies to patients."



# Registry to Clarify Optimal Type B Aortic Dissection Treatment

The perfect storm of high prevalence, large volume and advanced technology make MedStar Heart & Vascular Institute (MHVI) an ideal setting to help define the optimal treatment for aortic dissection.

As a tertiary referral hub, MHVI at MedStar Washington Hospital Center treats between six to eight patients with aortic dissection every month. While ascending dissection (Type A) requires lifesaving surgical intervention, treatment for descending aortic dissection (Type B) is less clear.

Medical management has long been the treatment choice unless there is leaking or rupture. But endovascular procedures now are more frequently used. Still, questions remain: Who is at greater risk for future rupture? Which patients would benefit from the endovascular repair of the aortic tear—and when?

To help clarify the issue, cardiac surgeon Christian Shults, MD, and vascular surgeon Tareq M. Massimi, MD, RPVI, are collecting extensive data to develop a registry of patients from across the MedStar Health network—information about treatment, outcomes and follow-up care that may help inform future clinical trials.

“We see more aortic dissection cases than any other hospital in the region,” says Dr. Shults. “And area physicians are referring an increasing number of complex cases to us. In many instances, open surgical intervention is clearly the right choice. But in less complicated cases, we have to weigh the risks and benefits of endovascular surgery with drug management. We want to know when and how to intervene before a catastrophic event occurs.”

“Nationwide there is a paradigm shift in treatment toward endovascular repair for patients with Type B dissection,” Dr. Massimi says.

No matter the treatment option, all of these patients are followed very closely, and that care provides a great opportunity to collect data and compare results.

The registry will begin retrospectively with patients treated from January 2014 and move forward. “We think the information will help us develop a new treatment algorithm for these patients, and help to reduce mortality and morbidity,” Dr. Massimi adds.



Tareq M. Massimi, MD, RPVI, (left) and Christian Shults, MD, are developing a registry of patients with Type B dissections to help determine whether drug management or surgery is the best treatment option.

*Pilot Study Seeks Right Balance between Survival, Safety*

# Cancer Therapy Benefits Versus Cardiovascular Risks

In a clinical trial spanning two hospitals and two specialties, MedStar Health physicians are studying how to maximize the use of highly successful targeted therapies for HER2-positive breast cancer, while minimizing adverse effects on the heart. If successful, the investigator-initiated study could open the door to the life-prolonging cancer regimen for a subset of patients who are currently denied access to its benefits.

That's because the powerful class of cancer deterrents has an unintended, and unfortunate, consequence: 10 to 20 percent of those treated with the monoclonal antibody trastuzumab (Herceptin®) develop cardiovascular dysfunction. However, specialists have no way of knowing who might be affected.

As a result, trastuzumab, pertuzumab (Perjeta®) and other newer, related therapies are contraindicated for patients presenting with even mildly decreased left ventricular ejection fraction (LVEF). Furthermore, if the LVEF of a patient on the therapy dips by 10 percent from his or her baseline, or drops at any time below 50 percent, treatment must be stopped.

The dilemma lies in the lack of effective alternatives.

"Until the late 1990s, patients with HER2 positive breast cancer, who comprise up to 20 percent of all cases, faced an aggressive form of disease and a poor outcome," says Sandra M. Swain, MD, FACP, medical director of Washington Cancer Institute at

MedStar Washington Hospital Center and principal investigator for the study. "In trastuzumab, for the first time, we had a targeted treatment that worked wonders against most advanced and local disease. Yet its use was restricted because of its potential to harm the heart."

However, retrospective data and one small prospective study in patients with trastuzumab-induced cardiotoxicity have recently revealed that the damage is mostly short-lived and reversible. Those findings led Dr. Swain and her co-principal investigator Ana Barac, MD, PhD, FACC—director of the MedStar Heart & Vascular Institute's Cardio-Oncology program—to wonder if intensive monitoring and care could maintain heart function well enough for patients with borderline cardiovascular disease to complete a full course of HER2-targeted therapy.

So in 2013, Drs. Swain, Barac and MedStar oncologist Filipa Lynce, MD—who wrote the protocol and received a grant from the American Society of Clinical Oncology for its implementation—launched SAFE-HEaRt to find out.

In this investigator-initiated study, the team recruits breast cancer patients with HER2-positive disease and mildly decreased heart function as determined by an LVEF between 40 and 49 percent—a cohort normally contraindicated for HER2-targeted therapy. Patients who are already receiving HER2 therapy when their ejection fraction drops below the 50 percent threshold are also eligible.



Filipa Lynce, MD, Ana Barac, MD, PhD, FACC, and Sandra Swain, MD, FACP are studying how to maximize the use of highly successful targeted therapies for HER2-positive breast cancer, while minimizing adverse effects on the heart.



## CLINICAL TRIAL PARTICIPANTS NEEDED

All candidates are further evaluated through a stress test, echocardiogram and other diagnostics to rule out those with ischemia, valve problems, active heart failure and other cardiovascular conditions.

Trial participants follow a regimen of trastuzumab, pertuzumab and/or ado-trastuzumab emtansine (Kadcyla®)—alone or in combination, as dictated by stage of disease—along with standard cardiovascular monitoring and therapies, based upon extrapolation from heart failure trials. Approximately six weeks after starting cancer therapy, patients undergo another echocardiogram to check for changes in heart function, and are re-tested every three months thereafter. A final echocardiogram is administered six months after cancer therapy is completed. Throughout the study, all echocardiographic images are reviewed by the MedStar Health Research Institute's Cardiovascular Core lab.

"What sets SAFE-HEaRt apart is the involvement of cardiology from the very beginning," says Dr. Barac, who notes the trial is the only one of its kind in the nation. "Patients are followed throughout the study by both cardiologists and oncologists. As a result, study coordination requires a huge amount of effort from multiple, extremely dedicated individuals."

SAFE-HEaRt's primary goal is to maintain or even improve each participant's LVEF concurrent with HER2 therapy to assure the safest and most optimal outcomes from both standpoints. In the process, however, the research team will also describe correlations between specific imaging and biomarkers and cardiac events that may help identify patients at higher risk for HER2 therapy-induced damage in the future.

"Other studies continue to show that the monoclonal antibodies trastuzumab and pertuzumab produce a huge survival benefit for breast cancer patients with HER2-positive disease in either the advanced or adjuvant setting," says Dr. Swain. Indeed, the latest report, appearing in the February 19 issue of *The New England Journal of Medicine* and authored by Dr. Swain, found a median survival increase of 16 months for advanced disease.

"We hypothesize that these therapies are safe for patients with borderline or slightly diminished heart function when under a cardiologist's care," she concludes. "If we're right, we can rewrite the treatment guidelines for HER2-positive breast cancer, and prolong even more lives."

*The SAFE-HEaRt team is seeking patients > 18 years old, male or female, with HER2-positive breast cancer and mildly reduced LVEF. All patients will undergo additional cardiac testing before final selection. Those meeting requirements will be eligible to receive their planned HER2-targeted treatment, along with cardiac monitoring to safeguard their current and future health.*

*For more information, please contact Ronla Prince, MPA, manager, Oncology Research, at 202-877-8839 or [mhri.oncology@medstar.net](mailto:mhri.oncology@medstar.net).*



## New Medical Staff



**Margaret Bell Fischer, MD,** cardiac electrophysiologist, has joined the staff at MedStar Heart & Vascular Institute, providing services at the Fairfax,

Va., location. Dr. Fischer previously served as a hospitalist at Wellspan Gettysburg Hospital, and spent 17 years with Arrhythmia Associates, LLP, in Fairfax.

Dr. Fischer graduated from the Medical College of Ohio and completed a combined internship and residency in internal medicine and pediatrics at St. Louis University/ Cardinal Glennon Children's Hospital. She also completed a fellowship in pediatric cardiology at Baylor College of Medicine and Texas Heart Institute.

In addition, Dr. Fischer completed a fellowship in cardiac pacing and electrophysiology at the Cleveland Clinic, and was a visiting fellow in pediatric electrophysiology at

Rainbow Babies & Children's Hospital in Cleveland. She also served as a visiting fellow in adult congenital heart disease at the Royal Brompton Hospital in London. She is widely published and has served as an investigator on multiple research studies.

Her clinical interests include:

- Cardiac arrhythmia
- Congenital heart defects
- Adults with congenital heart disease



**Michael Angelo Gaglia, Jr., MD, MSc,** interventional cardiologist, has joined the MedStar Heart & Vascular Institute's (MHVI)

medical staff, providing clinical care at MedStar Southern Maryland Hospital, and conducting interventional cardiovascular research with the

MedStar Cardiovascular Research Network. Dr. Gaglia comes to MHVI from the Keck School of Medicine at the University of Southern California, where he was an assistant professor of clinical medicine in the division of cardiovascular medicine.

Dr. Gaglia received a master's degree in clinical research and his medical degree from the University of Pittsburgh School of Medicine. He completed his internship and residency in internal medicine and pediatrics at the University of

Michigan, and fellowships in cardiology and interventional cardiology at MedStar Washington Hospital Center MedStar Georgetown University Hospital.

His clinical and research interests include:

- Radial access and intervention
- Coronary artery disease
- Peripheral vascular disease
- Critical limb ischemia
- Antiplatelet therapy
- Cardiovascular disparities



**Mohammad Kabbany, MD,** joins the MedStar Washington Hospital Center staff as a cardiovascular hospitalist.

Dr. Kabbany received his residency training in internal medicine at the MedStar

Washington Hospital Center-MedStar Georgetown University program, and graduated from the Aleppo University Faculty of Medicine in Syria with honors.

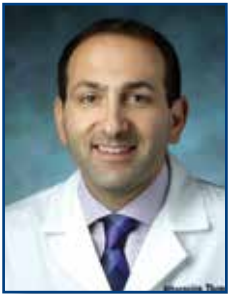
Dr. Kabbany also completed additional training in clinical research at the National Institutes of Health, and elective studies in cardiology at the Cleveland Clinic and Emory University Hospital, and a post-doctoral fellowship at the Emory

Clinical Cardiovascular Research Institute.

Dr. Kabbany's areas of interest include:

- Heart failure management
- Preventive medicine
- Pulmonary hypertension





**Athanasios Thomaides, MD,** has joined the MedStar Heart & Vascular Institute's Section of Cardiac Electrophysiology

as an attending cardiac electrophysiologist following completion of his fellowship in cardiac electrophysiology at the MedStar Georgetown University

Hospital-MedStar Washington Hospital Center program.

Dr. Thomaides received his bachelor's degree in mathematics from the University of California, Los Angeles, and his medical degree from the University of Texas Medical School at San Antonio. He completed an internal medicine residency at the Indiana University School of Medicine and a general cardiology fellowship at Temple University Hospital. He is board certified in internal medicine, cardiovascular disease and adult echocardiography.

He is also board eligible in clinical cardiac electrophysiology. He will be based at MedStar Southern Maryland Hospital Center.

Dr. Thomaides' clinical interests include:

- State-of-the-art therapies for atrial fibrillation and ventricular tachycardia
- Implantable cardiac defibrillators and pacemakers
- Extra- and intra-cardiac echocardiography



**Charlotte H. Yeomans, MD,** is now serving as a cardiovascular hospitalist for the MedStar Heart & Vascular Institute (MHVI) at MedStar Washington

Hospital Center. Dr. Yeomans comes to MHVI from St. James Healthcare in Butte, Montana, where she worked as a hospitalist and served as the medical director of the intensive care unit for the last four years.

She previously served as an intensivist in the adult medical and cardiothoracic ICUs at Sacred Heart Medical Center in Spokane, Washington, working closely with the Inland Northwest Thoracic Organ Transplant Program. While at Sacred Heart, Dr. Yeomans was awarded an Outstanding Faculty Teaching Award for her service as a teaching attending in the ICUs.

Dr. Yeomans received her medical degree from the University of Washington, School of Medicine, where she also completed her residency in internal medicine, as

well as additional multidisciplinary critical care training, focusing on cardiovascular and heart failure critical care.

Dr. Yeomans' clinical and research interests include:

- Cardiovascular critical care (advanced heart failure patients; patients with VADs)
- Severe sepsis and septic shock in the advanced heart failure population
- Quality and hospitalist-systems improvement
- Resident education

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*Cardiovascular Physician* is a publication of MedStar Heart & Vascular Institute. It is a forum to share clinical, research and teaching information in cardiology, cardiac surgery and vascular care.

Please submit editorial comments to Norma Babington, at [norma.babington@medstar.net](mailto:norma.babington@medstar.net), or 202-877-0201.

Visit our website, at [medstarheartinstitute.org](http://medstarheartinstitute.org).

*U.S. News & World Report* lists MedStar Washington Hospital Center as the only hospital with a nationally ranked Cardiology & Heart Surgery program in the Washington, D.C., region.

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The Cosmos Club, Washington, D.C.

Baltimore Hilton Hotel, Baltimore, Md.  
Course Directors—Paul J. Corso Jr., MD  
and Lars G. Svensson, MD, PhD

**CONTEMPORARY MANAGEMENT OF  
VASCULAR DISEASE**  
**Friday, October 30**  
Provided by the Cleveland Clinic Heart  
and Vascular Institute and MedStar Heart &  
Vascular Institute

**2015 UPDATE ON THE TREATMENT  
OF CARDIOVASCULAR DISEASE**  
**Saturday, November 21**  
Provided by the MedStar Heart & Vascular  
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Gaylord National Harbor, Oxon Hill, Md.  
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Frederick Beavers, MD

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