OUR PATIENTS ARE THE REASON WE ARE HERE.
At UVA Heart and Vascular Center, we have assembled an exceptional team of experts with long experience treating the full range of heart and vascular disease. We devote the majority of this report to describing the cutting-edge treatments we offer for life-threatening conditions like coronary artery disease, valvular heart disease, heart rhythm disorders and aortic aneurysms.

However, this report is ultimately not about technology. It is about people — our patients and their families. Although we specialize in diverse fields, we are united in the belief that the most effective care — care that produces the best possible outcomes — depends on our efforts to build strong relationships with our patients.

We do this by paying close attention to what our patients tell us about their health. This takes a combination of hard and soft skills. We must listen carefully, but we must also know what to listen for.

We place a premium on communicating clearly, on making sure patients have the information they need, provided in a manner they can understand, so that they can make decisions about their care that make sense to them.

We make sure we treat patients and their families with respect and compassion during what can be a difficult and frightening time in their lives.
Our team works together to ensure that every patient receives the full benefit of our high caliber care.

In the patient stories featured in this report, the successes we’ve achieved reflect the mutual regard of patients and our healthcare team.

The ability to fulfill our commitments to patients and to deliver the highest standards of care also rests on the relationships among the hundreds of medical professionals who compose UVA Heart and Vascular Center. Our team works together to ensure that every patient receives the full benefit of our high caliber care.

Our ability to harness the full power of relationships sets UVA Heart and Vascular Center apart.

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Based in Charlottesville, Virginia, but serving the region, UVA Health System embodies the leadership and inventiveness personified by Thomas Jefferson, who in 1825 established the nation’s 10th medical school, which has since grown into a nationally renowned medical center. UVA Health System encompasses three inpatient facilities — a 600-bed acute care hospital, a transitional care hospital and a children’s hospital — as well as a National Cancer Institute-designated cancer center, and the nationally recognized UVA Heart and Vascular Center. It also includes the UVA School of Medicine, the UVA School of Nursing, the Claude Moore Health Sciences Library and UVA Physicians Group.

Each year, UVA Health System cares for patients through 61,000 emergency department visits, 28,000 inpatient admissions, over 900,000 outpatient clinic visits and 28,000 surgical procedures.

Patients choose UVA Health System because of the expertise of its providers. To cite just a few of the accolades received, U.S. News & World Report includes three adult and four children’s specialties in its Best Hospitals guides and the 2015–2016 Best Doctors in America® List by Best Doctors, Inc. selected 205 UVA Health System physicians as among the best in their respective fields. The quality of our nursing care was honored when the American Nurses Credentialing Center granted the UVA Medical Center Magnet® recognition for meeting criteria in several areas including quality patient care, excellence in nursing practice and innovative nursing practices.
Our goal is to provide greater access to care for patients across the Commonwealth with complex and difficult-to-treat conditions.

205 physicians selected by Best Doctors, Inc. for the 2015–2016 Best Doctors in America® List

Our expertise has made us a sought-after partner for health systems throughout the Commonwealth. In addition to our regional primary care and dialysis networks, we have partnerships with such providers as Bon Secours Health System, Novant Health and Children’s Hospital of Pittsburgh. Our overall goal is to share our expertise and reinforce our partners’ capacity to deliver more sophisticated care locally while providing greater access at UVA Medical Center for patients with complex and difficult-to-treat conditions.

Underlying everything we do is our emphasis on safety. In 2014, UVA Medical Center launched the Be Safe initiative, which applies lean organizational principles to incrementally improve the safety of patients and employees. Our goal is to be the nation’s safest place to receive care and to work.

Follow our progress on our quality and safety measures and performance at uvahealth.com/about/quality-safety.
Patients with severe heart or vascular disease or who require a second cardiac operation choose UVA because of our experience treating the most complicated and delicate cases.

Our patients choose UVA Heart and Vascular Center for one simple reason: they want the best possible care. Those with routine conditions come here because we can offer them comprehensive care, including minimally invasive approaches not usually available elsewhere. Patients with severe heart or vascular disease or who require a second cardiac operation choose UVA because of our experience treating the most complicated and delicate cases.

Our outcomes confirm their decision. In 2013 and 2014, UVA received the Society of Thoracic Surgeons’ three-star rating for isolated coronary artery bypass surgery and aortic valve replacement surgery. We were also one of just 78 U.S. hospitals to receive the ACTION Registry — Get With the Guidelines Gold Performance Achievement Award for consistently meeting performance standards in treating patients with a severe form of heart attack (STEMI).

In addition, we were designated a Center of Excellence by both the Hypertrophic Cardiomyopathy Association, which is dedicated to improved treatments for this potentially life-threatening inherited condition, and the Extracorporeal Life Support Organization, which focuses on life-support systems for people with failing organs.

Our ability to achieve these accolades reflects the expertise of our team members, who are recognized as national leaders in transcatheter, minimally invasive reoperative and complex surgeries. Not only are our award-winning physicians frequently asked to make...
presentations at professional meetings, but they are also called upon by their colleagues to teach them the latest techniques and procedures.

Our success also reflects the volume of procedures we perform. For instance, UVA Heart and Vascular Center is the top heart transplantation program in Virginia, having performed over 472 transplants in patients ranging in age from six days to 73 years old. Our June 2015 one-year survival rate for transplants was 100 percent. In the past three years, we have performed over 800 surgeries to correct heart defects in children, 352 mitral valve surgeries and 566 complex aortic procedures.

Because of this deep and varied experience, we are often chosen to participate or lead clinical trials. We were one of 10 sites nationwide designated by the National Institutes of Health as a core clinical center for cardiothoracic clinical trials, and our physicians are currently leading two major industry-sponsored multicenter trials, one for a new, minimally invasive treatment for aortic aneurysm and the other for an improved valve for aortic valve replacement.
One result of our participation in clinical trials and our own research programs is that patients at UVA Heart and Vascular Center have access to therapies that are not available elsewhere. We had the first surgeon in the nation to perform MitraClip® repair (2010) and a hybrid, minimally invasive, and catheter-based procedure for atrial fibrillation (2008). We were also first in Virginia to offer transcatheter aortic valve replacement (2009). In addition, we are one of a handful of medical centers in Virginia offering three minimally invasive options for preventing strokes in patients with atrial fibrillation. By offering an exceptionally broad range of options, we can choose the option that best suits an individual patient.

Another important reason for our exceptional outcomes is the additional resources we devote to the care of our cardiac patients. Heart rhythm disorders, aortic disease, congenital heart defects and cardiomyopathies are often inherited. Patients with these conditions can turn to our Cardiovascular Genetics Clinic for testing and counseling. In the case of a positive result, we provide the same services for family members. This is the only clinic of its kind in Virginia.

We also offer a series of follow-up programs that improve the health of our patients after we treat them. For instance, our Heart Health at Home program, for patients with heart failure, has reduced readmissions to approximately half the national average.

In 2015, UVA was listed among the 7 percent of hospitals nationally that achieved an overall three-star rating — the highest possible — from The Society of Thoracic Surgeons for isolated aortic valve replacement surgery.*

*Based on data comparisons from January 2015 through December 2015.
Teamwork is the foundation of everything we do at UVA Heart and Vascular Center. For every patient, we assemble an interdisciplinary team of specialists, which includes radiologists and anesthesiologists with special expertise treating cardiovascular illness, as well as nurse experts, clinicians and specialists from other fields. This ensures that we include the perspectives of all the relevant specialties and healthcare disciplines as we develop the most appropriate treatment plan for each patient.

These teams are crucial to our efforts to improve outcomes. We are constantly examining our results and scrutinizing our procedures to minimize risks and enhance patient safety. For instance, our heart rhythm team is pioneering a new approach to ablation that reduces or eliminates radiation exposure for patients. Our goal is to constantly advance the care we offer our patients.

1st in the U.S.

We were the first in the nation to perform a hybrid, minimally invasive, and catheter-based procedure for atrial fibrillation, and had the first surgeon in the U.S. to perform a MitraClip repair.
TREATMENT FOR THE FULL RANGE OF CARDIOVASCULAR DISORDERS
GENERAL CARDIOLOGY

The exceptional knowledge and experience of our general cardiology team benefits all patients — those with mild or more easily managed cardiac conditions as well as those with complex or unusual diseases that require sophisticated care and management. This expertise enables us to develop a plan of care that is individualized for each patient, helping to minimize the progression of their disease and maximize their quality of life.

At the same time, we recognize that our expertise alone may not be all that is needed, that caring for our patients often requires the expertise of other cardiac and noncardiac specialists, whether that be a cardiac surgeon for a patient with valve disease or an endocrinologist for a patient with diabetes. We collaborate closely with our colleagues to ensure that we treat the whole patient in a coordinated and integrated manner that promotes their long-term health.

Among the patients we see frequently are those with difficult-to-control lipids, who have high levels of LDL cholesterol and/or triglycerides. Here, as in all areas of general cardiology, the relationships we form with patients provide a foundation for treatment. Our focus is not on the numbers, but on the significance of the numbers in light of each patient’s unique medical history.

For patients who cannot take statins, who have limited tolerance for statins at certain doses or who have inherited conditions or problems with cholesterol metabolism, we now prescribe a new class of drug, PCSK9 inhibitors, that has been shown to dramatically reduce LDL cholesterol.

We provide the same kind of individualized care for patients with difficult-to-control hypertension. In addition to working with patients to develop a heart-healthy lifestyle, we use a variety of tests, including renin and aldosterone typing, to determine if there is an underlying condition causing their hypertension. We also enroll patients in studies exploring new methods for hypertension management.

The deep experience of our general cardiologists is particularly important for patients who have had difficulty securing a working diagnosis or have an uncommon disease that requires careful management. Because we focus on complex conditions, we frequently see diseases that most cardiologists rarely encounter. Patients also come to us for cardiac rehabilitation after heart attacks, bypass surgery and treatment for peripheral vascular disease.

Perhaps the most meaningful indication of our expertise is that physicians and clinicians in other medical and surgical subspecialties consult with us on the care of their patients. They often call on us to recommend and evaluate cardiac testing for these patients, for instance before an operation. Here again, we focus on the individual. Referring providers know we will order just the appropriate tests for their patients, enabling them to undergo surgery as quickly as possible.
On the Road Again
A lifelong athlete, John Reynolds took up his first endurance sport, cycling, four years ago. Over time, he began having severe chest pain during and, even more puzzlingly, after some of his rides. “I told myself this just isn’t normal,” he says.

After receiving a number of diagnoses that didn’t ring true, he saw Robert Battle, MD, a UVA cardiologist who works extensively with athletes as well as adults with congenital heart disease. Reynolds fits both categories: as it turned out, he had hypertrophic cardiomyopathy, an abnormal thickening of the heart muscle.

While most physicians advise these patients to avoid any activity that can raise their heart rate, Battle worked out a simple management strategy that enables Reynolds to ride six hours a week.

“I would go so far as saying that my appointments with Dr. Battle were probably the best medical experiences I’ve ever had,” Reynolds says. “He’s not looking for a quick fix, but really listens to his patients.”
CORONARY ARTERY DISEASE

All patients who come to UVA Heart and Vascular Center with coronary artery disease receive the full attention of an interdisciplinary team of specialists and clinicians, who determine the optimum approach to open clogged arteries. We draw on one of the most advanced radiology departments in the country to help us reach each diagnosis, relying on cardiac PET scans, if necessary, as well as the more common MRIs.

Regardless of their treatment plan, our patients are in the hands of specialists who have routinely taken on the most difficult cases. The American College of Cardiology (ACC) collects cardiac procedural outcomes from more than 1,200 medical centers in the United States. The patients we treat with interventions such as stents are much sicker than the national average, yet our outcomes exceed national benchmarks.

UVA Heart and Vascular Center interventional cardiologists, who perform catheter-based procedures including stenting, are known for applying advanced techniques to conditions that other medical centers often cannot address. We have a high rate of success with such difficult conditions as chronic total coronary artery occlusion, a long-term, total blockage that is difficult to open with conventional techniques, as well as left main coronary disease, which is often the cause of angina and at most places requires urgent surgery. UVA specialists also treat bifurcation coronary disease and severely calcified coronary arteries.

The choice at UVA is not simply between open heart surgery and a stent. In some instances, we recommend a hybrid treatment that uses surgery to restore blood flow to some vessels and stent for others.

Our ability to deliver this sophisticated level of care reflects UVA’s decades of experience in the field, the high volume of complex cases (including reoperations) we handle annually, and our commitment to mastering — and in some cases pioneering — the latest techniques. For instance, UVA Heart and Vascular Center is an early adopter of robotically assisted angioplasty, which enables us to position stents with a high degree of accuracy, while minimizing radiation exposure.

It is precisely because of this expertise that our center is actively recruited to take part in clinical trials. We currently have a dozen clinical trials underway for new drugs, new surgical procedures, new stent designs, and new strategies of care.

The ability to apply a broad range of expertise and tools is the reason that patients who have been turned down for surgery or stenting at other institutions come to UVA. We are always happy to evaluate them to see if we have something to offer. In many cases we do.

We currently have a dozen clinical trials underway for new drugs, new surgical procedures, new stent designs, and new strategies of care.
Turning His Life Around

Jim Rohan had a problem. His weight was steadily approaching the 300-pound mark. One reason was that he no longer had the energy to exercise. “I just thought I was getting older,” he says. Fortunately, his family practitioner in Lewisburg, West Virginia, thought differently. Tests at UVA revealed he had a chronic total blockage of a coronary artery.

Chronic blockages are particularly difficult to treat, requiring advanced techniques not available at many hospitals. Michael Ragosta, MD, director of the UVA Cardiac Catheterization Laboratory, asked Rohan to consider a nonsurgical approach, using a stent that is placed inside the blockage to open it. UVA is one of the few places in the country that offers this catheter-based technique to patients with chronic blockages.

Rohan opted for it — and turned around his life. He played golf the day after he was discharged and lost 100 pounds in the next six months. To celebrate his 61st birthday, he ran 6.2 miles. “It was my gift to myself,” he says.

“I had a long discussion with my doctor about the surgical options available to me and the risks of each. He was so knowledgeable. That really was the deciding factor for me. I just felt so confident in his ability.”

—Jim Rohan, Patient
HEART VALVE DISEASE

Over the last five years, therapies for heart valve disease have been introduced at an unprecedented pace. There are now more options for more conditions than ever before, and they are constantly being improved. UVA Heart and Vascular Center has placed itself at the forefront of innovation in heart valve disease, performing 450 open and minimally invasive valve surgeries each year, with superior results. We have expertise in a variety of options for each valve, allowing us to optimize our plan for each patient.

Take the mitral valve, for instance. In addition to MitraClip® transcatheter mitral valve repair, we offer minimally invasive as well as open procedures for mitral valve repair and replacement. We routinely perform mitral valve operations on patients who have previously undergone heart surgery, procedures that few medical centers perform because of their difficulty. In addition, we provide access to cutting-edge mitral valve technology. We are among the handful of medical centers evaluating technologies for transcatheter mitral valve replacement. We are also leading a clinical trial that may improve outcomes with the Mitroflow® valve, a conventional surgical valve. In 2015, there were no in-hospital deaths among our patients who underwent an isolated open or minimally invasive mitral valve operation.

We offer a similar range of options — with similar excellent results — for the other three valves.

Zero mortality

UVA achieved zero mortality in 2015 for isolated aortic valve replacement procedure, according to STS Cardiac Surgery Report.
We are participating — as one of only three centers nationwide — in percutaneous tricuspid valve repair trial (TRIALIGN). As a result, we are one of the only centers in the world that offer a nonsurgical, catheter-based treatment for all four heart valves.

UVA Heart and Vascular Center is committed to expanding treatment options for our patients. We have begun the adoption of robotic valve surgery, a minimally invasive approach that requires smaller incisions and results in fewer complications, less pain and faster recovery times.

In addition, we are committed to making existing procedures even safer. For example, while the risk of stroke following aortic valve replacement is already quite low, we strive to make that risk even lower. As of June 2016, we are the only center in Virginia enrolling patients in clinical trials of a carotid or aortic protection filter, which catches stroke-causing plaque before it reaches the brain.

Our Advanced Cardiac Valve Center is singled out for participation in clinical trials like these because of our excellent outcomes. Our risk-adjusted operative mortality is well below the average of hospitals tracked by The Society of Thoracic Surgeons, even though many of our patients are severely ill.

These outcomes are, in turn, a testament to the expertise of our surgeons and cardiologists, who are frequently asked to help train other programs to introduce innovations like the MitraClip or transcatheter aortic valve replacement. Our results also reflect the talents of our interdisciplinary team of specialists — including everyone from anesthesiologists and nephrologists to oncologists and pulmonologists — who have long worked together and who consult on each case.
A Path to Healing

The new primary care doctor that Eric Koontz saw for a particularly persistent cold assumed he knew about his heart murmur — but it was a surprise for Koontz.

Following up with a local cardiologist in Lynchburg, Virginia, Koontz learned he had a prolapse in his mitral valve that caused a bit of leakage. “He told me that there was a good chance I could go my whole life without doing anything about it,” Koontz says.

It was not to be. His valve deteriorated rapidly, and eight months later, Koontz began feeling exhausted. He decided to go to UVA, where he met with Gorav Ailawadi, MD. Impressed by Ailawadi’s professionalism and manner, Koontz — now the Middle School Pastor at his church — and his wife prayed about his decision. “We felt like God had brought us to him,” he says.

Dr. Ailawadi successfully performed a minimally invasive valve repair. Now two years later, Koontz has lost 20 pounds, competes in Spartan races and looks forward to seeing his children grow up.

“After our appointments at UVA, we had so much confidence in the surgeon and the healthcare team. We felt that if anyone was going to help us get through this it would be UVA.” — Eric Koontz, Patient

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COMPLEX AORTIC DISEASE

There are few conditions more catastrophic than a ruptured aneurysm or aortic dissection. UVA Heart and Vascular Center has responded by assembling the multidisciplinary expertise needed, not merely to treat the most difficult aneurysms in an emergency, but also to identify, evaluate and repair them before they become an emergency. In the process, it has become a regional referral center for treating all aspects of aortic disease.

Thanks to the excellence and breadth of UVA Medical Center’s Radiology Department, our physicians can draw on a wide range of imaging technologies to discover and assess aneurysms or dissections. One of the distinguishing features of our aortic disease program is the use of genetic testing to determine if there is an inherited element to a patient’s condition. These findings not only help direct treatment, but also set the stage for screening at-risk family members.

For patients with aneurysms, we offer a wide range of options that include the latest minimally invasive endovascular methods that can spare them the rigors of open surgical repair. We were the first in Virginia to perform thoracic endovascular aortic repair, and in 2015, we were the first medical center in the world to use the Endurant Evo AAA stent graft system. We are leading a clinical trial of this new technology that makes endovascular repair of abdominal aortic aneurysms an option for more patients. We are also one of the few centers in Virginia to implant fenestrated endografts for aneurysms close to the kidneys.

But when surgery is necessary, we perform the most complex procedures, including a staged total aortic replacement of the ascending aorta, aortic arch, descending thoracic aorta and abdominal aorta.

When there is an aortic dissection, our Aortic Alert system helps emergency rooms and referring physicians transfer their patients as quickly as possible. Operators at UVA Transfer Center immediately connect the referring physician to the attending cardiac and vascular surgeon, and personnel from UVA’s Telemedicine Office patch into the call to assist the referring physician’s staff in the transfer of pertinent images to UVA radiologists. Once the call is complete, the triage officer works with the hospital operator and emergency room physician to assemble the appropriate team to receive and treat the patient.

Our success in treating aneurysms reflects our determination to advance the field. We developed a hybrid approach for patients with certain kinds of dissections that involve a thoracic stent graft and an open procedure. This technique has been adopted by many other medical centers. Our Vascular Surgery Research Laboratory, focusing on aneurysm formation and prevention, has research funding totaling $6 million, including three grants from the National Institutes of Health.

We are also the only medical center in Virginia that participates in the International Registry of Aortic Dissection (IRAD), a consortium of research centers evaluating the current management and outcomes of acute aortic dissection. This positions us to take advantage of best practices as they emerge.
Sometimes I get to follow patients all the way through. I see them in clinic, in preadmission testing, the operating room, the ICU, the step-down unit and back in clinic again. I have the opportunity to see the strengths of all of those different areas. I’m able to help spread each area’s strengths to the others, to share and build bridges between groups. It’s one of the best jobs in the world, being able to bring all the pieces together.

—April Howell, MSN, RN, CNOR
Restored to His Family

After retiring from the Air Force in 2004, Col. Jay Williams was offered his dream job: post engineer at the Virginia Military Institute, his alma mater. As much as Williams wanted to return to VMI, the deciding factor was proximity to UVA Heart and Vascular Center. Four years earlier, Williams almost died from an aortic dissection. He knew that progressive thinning of the aortic wall would eventually require more corrective surgery.

Williams met yearly with his cardiovascular surgeon at UVA, John Kern, MD, and then as his condition worsened, every six months. In 2013, he and Kern decided the time had come to operate. On the first day of surgery, Kern replaced the defective part of William’s aorta. After a rest day, he corrected a dissection in one of William’s carotid arteries.

A week later, Williams was at home, looking through the window at his children playing in the snow. “It’s hard to describe how I felt at that moment,” he says. “It was a true gift.”
60-to-90 minutes

We are launching a multidisciplinary pulmonary embolism program that formalizes and streamlines our procedures for assembling the necessary multidisciplinary team so that we can begin treatment 60 to 90 minutes after patients arrive at the hospital.

VASCULAR DISEASE

Patients with vascular disease are among the most complex we see at UVA Heart and Vascular Center. They often have diabetes or smoke, all conditions that can lead to kidney and heart problems as well as circulatory issues. That is why our specialists in vascular medicine and surgery routinely collaborate with colleagues in such fields as endocrinology, nephrology, and cardiology when treating these patients. Our goal is not simply to take care of urgent needs — a vessel that is blocked — but develop a long-term plan to keep these patients healthy and out of the hospital.

Because their care is complex, we are creating a preoperative clearance clinic, where patients will see a vascular surgeon, a vascular medicine specialist, and endocrinologist during the course of a day rather than have to come back for multiple appointments. In making a diagnosis, we make use of one of the top radiology departments in the country, with a cross-sectional imaging group that is dedicated to vascular imaging. This close collaboration among specialists can make a dramatic difference in outcomes. Stabilizing patients with diabetes before a surgical procedure, for instance, greatly improves the chances that their wounds will heal without infection.

Our vascular specialists treat the wide range of vascular conditions, from carotid disease and peripheral artery disease (PAD) to chronic compartment syndrome and endofibrosis. We often see patients with peripheral artery disease so severe that they are in danger of losing a limb and employ a variety of strategies — including bypassing and stenting — to restore blood flow.
We are also launching a multidisciplinary pulmonary embolism program that formalizes and streamlines our procedures for assembling the necessary multidisciplinary team so that we can begin treatment 60 to 90 minutes after patients arrive at the hospital. We will be one of just a handful of medical centers nationwide with a quick-response program. These same patients will be followed over the long term by our pulmonary hypertension clinic.

Our ability to offer advanced care for vascular disease is reinforced by our participation in clinical trials and by our own research. We are part of the Crest-2 trial to evaluate treatment for asymptomatic carotid artery disease and a number of trials for managing and treating PAD, including a pioneering project to use a new gene therapy delivery system to restore blood flow in damaged limbs. Participating in these initiatives gives us the opportunity to offer patients therapies not found at most medical centers, while deepening our own insight into the pathology and treatment of vascular disease.
A specialty pharmacy nurse, Liz Amos travels the Mid-Atlantic region helping patients with rare pulmonary diseases. She was at UVA Medical Center working with a patient when she noticed that part of a finger had turned black. It was the first sign that she herself had a rare disease: fibromuscular dysplasia (FMD).

In FMD, patches of abnormal cell growth alter the interior contours of some arteries so that they look like a string of beads, rather than a smooth tube. People with FMD are prone to clots, like the one lodged in her finger.

UVA physicians stabilized her condition, but Amos soon realized that few specialists near her Northern Virginia home understood FMD. When a clot formed in 2013, she traveled to Charlottesville to meet with Aditya Sharma, MD, a vascular cardiologist, and Alan Matsumoto, MD, an interventional radiologist. They performed a series of balloon angioplasties to even out the lining of her arteries.

“As a nurse, I have high standards for the care I receive,” Amos says. “I couldn’t give Dr. Sharma and Dr. Matsumoto higher marks, both for their knowledge and their passion for helping people with the disease.”

—Liz Amos, Pharmacy Nurse
Our patients call us because they know they’re going to get a response from us. It’s just our culture; it’s what we do. If they need labs, we try to find a place close to them to get that done. We work with local PCPs. They see us as not just being here to address their heart failure, but as true healthcare advocates for them. We feel good about being able to deliver that level of care.

— Craig Thomas, MSN, ACNP, Outpatient Heart Failure Clinic

HEART FAILURE

At UVA Heart and Vascular Center, we offer a full array of options for heart failure patients — children as well as adults — including the most high-tech treatments for patients with advanced disease. At the same time, we have developed a series of initiatives for patients discharged with this diagnosis that have proven successful in improving outcomes and helping heart failure patients better manage their condition and enjoy the best possible quality of life.

Our approach to treating heart failure is as varied as the patients who walk through our doors. When heart failure is caused by heart valve disease or arrhythmias, we can choose from an exceptionally wide range of treatments to correct these underlying conditions. Thanks to our tight interdisciplinary coordination across the medical center, we can also bring to bear expertise needed to treat people whose heart failure is related to or complicated by other conditions like diabetes, cirrhosis and interstitial lung disease.

In the case of patients whose heart failure is progressing gradually, we can prescribe medications and lifestyle changes, but for patients needing acute care, we can employ a wide range of treatments. We can place hospitalized patients on temporary assist devices, including extracorporeal membrane oxygenation (ECMO) to provide time for assessment and treatment. Our survival rate for patients on ECMO is far above the national average.

For long-term support we can consider an implantable left ventricle assist device (LVAD), either as a final therapy or as a bridge to a heart transplant. We continue to participate in clinical trials, including HeartMate 3™, the most advanced LVAD available, as well as a trial to determine if stem cells, injected in the heart when the LVAD is placed, can improve heart function. When both pumping chambers are failing, UVA can offer the total artificial heart, a technology particularly helpful for complex congenital heart disease or refractory rhythm abnormalities.

When circumstances dictate, we also perform heart transplants. UVA is the only adult and pediatric heart transplant program in Virginia and the only program associated with a comprehensive transplant center. We have performed more than 300 adult heart transplants since 1989, making us one of the most experienced heart transplant centers in the Commonwealth. We performed our first pediatric heart transplant in 1991.
Hospital to Home Clinic is one of two principal programs to reduce readmission of heart failure patients. Patients return within a week of discharge to see a nurse practitioner specializing in the field. For most patients, however, treating heart failure means less dramatic interventions that include medication, improved nutrition and careful monitoring of weight and vital signs. In 2010, we started the Hospital to Home Clinic, one of two principal programs developed to reduce readmission of heart failure patients. Patients return within a week of discharge to see a nurse practitioner specializing in the field. For patients in this program, our readmission rate is approximately half the national average.

The second program, Heart Health at Home, is a blend of telehealth and home visits. Starting with discharge, certified nursing assistants (CNA) visit patients frequently, reviewing their diet and medications, making sure they are weighing themselves properly and checking their weight and vital signs. The visiting CNAs establish a secure connection, enabling a nurse practitioner at the hospital to immediately follow up. This program makes it possible for us to interact with many more patients than we could do otherwise and do it in their home, where we can get a better sense of the factors that affect their ability to manage their health. We also offer CardioMEMS™ monitoring in selected patients to allow remote monitoring of hemodynamics.
Getting Back to Normal

More than anything else, Donshae Hairston wants to be just another normal 23-year-old, quietly raising her 3-year-old daughter, Amorera, enjoying her family, and working and living on her own.

That was the course she was on, before developing peripartum cardiomyopathy in the months following Amorera’s birth. This rare condition, affecting about one in 3,000 to 4,000 women, is characterized by a sudden and often irreversible weakening of the heart.

“I really felt awful — tired and rundown,” Donshae says. Her heart was functioning at just 7 percent of capacity. Admitted to her local hospital in Roanoke, she was transferred to UVA Medical Center after a week, where a team led by Jamie Kennedy, MD, and James Bergin, MD, used a number of strategies to try to restore function. When nothing worked, they inserted a left ventricular assist device (VLAD) to help her heart pump. She has since been successfully transplanted.

“I was afraid at first of the transplant, but I’ve put my fears away, and now I focus on the outcome,” she says. “I will have more time and be able to do more things with my daughter and family. That’s going to be great.”

“I felt so good about the way I was treated at UVA. I felt safe. My family did as well. I wouldn’t want to be at any other hospital.”

—Donshae Hairston, Patient
HEART RHYTHM DISORDERS

The expertise of our specialists in heart rhythm disorders and the range of cutting-edge techniques they have mastered are essential reasons that physicians from around the region send their high-risk arrhythmia patients to UVA Heart and Vascular Center for treatment. Referring physicians also value our collaborative team approach to arrhythmia disease, which includes experts in electrophysiology, heart failure, interventional radiology and cardiothoracic surgery, among other fields and disciplines. The collective knowledge they focus on each patient is a critical reason that UVA Heart and Vascular Center has been successful in treating highly complex arrhythmias. At the same time, we take pride in our reputation for performing simple ablation and device procedures with efficiency, excellent results, and extremely low complication rates.

This combination of expertise and teamwork characterizes our approach to ventricular tachycardia (VT), one of the most dangerous and difficult-to-treat arrhythmias. While VT can occur in people with structurally normal hearts, it most frequently strikes patients with a history of cardiac disease and very weak hearts. We work closely with colleagues to stabilize the patient before and after the procedure and deploy a variety of minimally invasive and catheter-based techniques to map the electrical impulses causing the arrhythmia and ablate them.

Our ability to effectively treat complex cases of VT and other arrhythmias like atrial fibrillation (A-fib) reflects the variety of advanced treatments we use. For example, treatment of A-fib at UVA includes the entire spectrum of options ranging from medicines, to percutaneous ablation, to two different options of minimally invasive surgical options that avoid opening the breastbone. This range of alternatives gives us the ability to match the best available technology to the exact needs of each patient. UVA Heart and Vascular Center, for instance, is the only medical center in Virginia offering three minimally invasive procedures to close the left atrial appendage, an area of the heart that can be a source of stroke-causing blood clots in patients with A-fib.

Among the other tools we use are sophisticated multiple-sensor technologies that can map complex electrical circuits in unprecedented detail; cryoablation, which can be used in instances where the utmost precision is imperative, and robotic ablation.
Our expertise also extends to the placement of implantable cardioverter defibrillators (ICDs) and pacemakers. We have an ongoing study using cardiac MRIs to determine the most effective placement of ICDs and pacemakers. In the case of an infection, we employ a laser-based technique that enables us to cut and extract leads with extremely low risk. UVA Heart and Vascular Center is also at the forefront of innovation in pacemaker technology. We were the first medical center in Virginia to implant a leadless pacemaker.

As with ICD and pacemaker placement, our active research and our participation in clinical trials allow us to offer more alternatives and more effective treatments to patients. We are also a pioneer in developing low-fluoroscope ablation procedures, which reduce or eliminate radiation exposure for patients.

One of the most significant measures of the quality of the care we provide is the reputation we have earned among other electrophysiologists, who turn to physicians at UVA Heart and Vascular Center for training on the latest technology and procedures.

“The care I get at UVA is first-rate. I appreciate it when people are not only professional, well-trained and competent, but also supportive and kind.”

—Dick Harrington, Patient
CONGENITAL HEART DISEASE

The breadth and caliber of care we offer to UVA Heart and Vascular Center patients with congenital heart disease reflects our commitment to provide advanced treatment for virtually every congenital heart defect.

To do this, we have assembled a multidisciplinary team of pediatric cardiology specialists with advanced training on congenital heart disease. This includes surgeons who have the skills to address even the most complex correctable heart defects, interventionists who deploy the latest minimally invasive catheter-based solutions, and electrophysiologists who treat heart rhythm disorders. We also draw on radiologists who use the full range of imaging technologies to help us evaluate our patients.

In addition, we have established a number of innovative programs that enable us to provide more comprehensive, customized care for children with heart defects. We have a fetal congenital heart program, staffed by specialized pediatric echocardiographers, which enables us to diagnose congenital issues prior to birth, develop a treatment plan and support family members preparing to care for their children. Our genetic assessment program helps us determine if a patient has a congenital defect and, if so, identify other family members who could benefit from medical treatment.

In the case of heart failure, we have dedicated pediatric perfusionists who can place children on temporary life support systems and an active and highly successful pediatric heart transplant program. Recently, we established a pediatric cardiac intensive care service, which is overseen by an intensivist physician who focuses exclusively on pediatric cardiology. This new service has allowed us to provide more focused care for our young patients. We have also created a pediatric cardiac step-down unit for children who are not ready to be cared for in a regular acute care unit.

Thanks to advances in treatment, many more children with congenital defects grow into adulthood and typically require ongoing care to preserve their health. In other instances, a congenital heart defect is not recognized until adulthood. We have a cardiologist dedicated to identifying and caring for adults with congenital heart disease. We provide screening for adults with a family history of heart disease, as well as athletes of all ages.

Our adult congenital heart disease program draws on a similar set of resources as our children’s program — surgeons, interventionists and electrophysiologists. Thanks to our expertise in treating hypertrophic cardiomyopathy (HCM), a common inherited heart condition that often does not appear until adulthood, the Hypertrophic Cardiomyopathy Association certified us as an HCM Center of Excellence. We are the only medical center in Virginia with this designation.
A PINK BABY

The ultrasound came as a shock. Stephanie Plogger’s baby lacked a chamber in his heart. After consulting with Jeffrey Vergales, MD, a pediatric cardiologist at UVA Children’s Hospital, Plogger felt better. In many cases, UVA had performed a series of surgeries that successfully treated babies with his condition.

UVA surgeons conducted Wyatt’s first procedure when he was just six days old. He started gaining weight, but after two months his progress stalled. At four months, it was clear that he was too weak for the second procedure. He needed a transplant.

Eight days after his name was entered in the list, Plogger got word of a donor match. Thirty-six hours later, she could see with her own eyes that Wyatt had a new lease on life. For the first time, he looked pink — not bluish — like a normal, healthy baby.

Today, Wyatt has caught up with his peers, and his mother has only gratitude for the medical team at UVA, not only for their expertise, but also for their compassion. “The nurses and doctors really cared for me and Wyatt,” she says. “They became family.”

Source: UVA Division of Cardiac Surgery, Congenital Heart Surgery Section

UVA Congenital Heart Surgeries
2014–2016 (n = 828)

272 275 284

CY 2014 CY 2015 CY 2016
Our patient population has become increasingly complex and we all play an important part in creating good outcomes. We work well together and support each other. Our doctors, residents, nurses, echo team members all have important skills to contribute that are greatly valued.

—Adrienne Garo, MSN, RN-BC
TRAINING THE HEALTHCARE WORKFORCE OF THE FUTURE
Learning physicians and a variety of healthcare professionals in search of specialized training come to UVA Heart and Vascular Center for much the same reasons as our patients do. We provide the opportunity to work with some of the most accomplished cardiologists, cardiothoracic and vascular surgeons and multidisciplinary clinicians in the nation, to participate in research and clinical trials, to master the most advanced treatments and to gain experience working as part of an interdisciplinary team.

At UVA Heart and Vascular Center, there are approximately 22 fellows in general cardiology and in such cardiology specialties as heart failure and electrophysiology, six in cardiothoracic surgery and four in vascular and endovascular surgery. They are the best of the best; we selected our latest residents in cardiothoracic surgery from a field of 150 well-qualified applicants.

UVA Heart and Vascular Center is an innovator in graduate medical education. We were one of the first to adopt the integrated six-year model (I-6) for our cardiothoracic surgery residency, providing greater stability for residents and their families and enabling them to focus earlier in their surgical training. Because these surgical residents are interested in working in academic settings, we have enhanced the I-6 model to include two years of research.

We have recently expanded the vascular surgery fellowship to include two fellows per year, making this one of the largest training programs in the U.S. We have over 70 applicants per year for two spots. We are sought out in vascular surgery training because of our case complexity and balance between open surgery and endovascular approaches.

Our faculty is invested in educating the doctors, nurses and technicians of tomorrow. The hallmark of our program is the personal attention that each of these new healthcare professionals receives. Faculty members work closely with them, constantly assessing their progress and carefully adjusting their clinical responsibilities to correspond to their growing skill levels.
The clinical curriculum for all programs conforms to the standards required by the appropriate professional group. Faculty members provide ample opportunity for technical training, preparing students for the clinic and operating room. In addition, we provide several levels of evaluation to help students assess their progress in achieving the learning objectives for the program.

In addition to training, cardiothoracic and vascular physicians and surgeons, faculty members and senior clinicians work closely with technical experts like vascular sonographers, echocardiographers, extracorporeal membrane oxygenation (ECMO) specialists and perfusionists, as well as physical therapists and nurses during their cardiovascular rotations. For each of these up-and-coming professionals, we bring to bear the wide-ranging resources of UVA Heart and Vascular Center to ensure they receive not only a well-rounded experience, but immersion in our industry-leading multidisciplinary culture.

Our students invest a great deal of the their time and resources in their training. As an academic teaching hospital, we consider it a privilege to share our knowledge with these extremely talented individuals.
Over 6,500 women have joined Club Red to sharpen their heart smarts by staying informed about the risk factors and symptoms of heart disease.

OUR HEARTS ARE SET ON PREVENTION

Club Red, a UVA Heart and Vascular Center initiative, is committed to giving women the tools they need to make healthy lifestyle decisions and improve their chances of preventing or overcoming heart disease.

This online wellness program offers recipes, fitness tips, member discounts, classes throughout the community and close access to specialists at UVA Heart and Vascular Center — all with the goal of empowering women to take control of their health.

Club Red members will realize the advantage of having expert advice from UVA Heart and Vascular Center specialists in matters of prevention, intervention and world-class treatment options.

Members are only a phone call away from scheduling a quick and simple heart risk assessment that includes family history, blood pressure and cholesterol screenings. Knowing your numbers can give you peace of mind, and it may even save your life. To schedule an appointment with UVA Heart and Vascular Center, call 434.243.1000 or visit clubreduva.com.

As a cardiologist and the Club Red Ambassador, Brandy Paterson, MD not only cares for patients and actively participates in research, but through Club Red community outreach efforts, she engages women in a conversation about heart health and welcomes them into a community full of resources to support heart-healthy lifestyles.
RESOURCES

AORTIC ALERT PROGRAM
For a consult on aortic emergencies, please call the Aortic Alert line: 844.933.7882.

UVA CHILDREN’S HOSPITAL
434.243.5500
childrens.uvahealth.com

DEVELOPMENT
Strong support from those we serve helps to ensure that comprehensive care is always available for you, your family, and friends — when you need it. To learn more, please visit Get-Involved.UVAHealth.com or call UVA Health Foundation at 434.243.GIVE (4483).

EPICCARE LINK
Online portal giving providers secure access to view their patients’ charts at UVA.
To sign up, contact:
Amy Cash
Physician Relations
434.465.7996
alc8mv@virginia.edu

LANGUAGE ASSISTANCE SERVICES
If you are a patient or family member with limited English proficiency (LEP) or who are deaf or hard of hearing, language assistance services, free of charge, are available to you.
434.982.1794
TTY 1.844.346.7516

MYCHART®
Provides patients with secure online access to their information, enabling interaction and communication with our surgeons and team members.
mychartuva.com

PHYSICIAN RESOURCE
UVA Health System news and information for our referring physicians.
uvaphysicianresource.com

REFER A PATIENT
800.552.3723

REQUEST A VISIT
Our physicians are available to visit you in your office and provide more in depth information on our procedures and services.
To request a visit, contact:
Amy Cash
Physician Relations
434.465.7996
alc8mv@virginia.edu

TRANSFER A PATIENT
844.XFERUVA (844.933.7882)

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