When Linda Ewald was diagnosed with atrial fibrillation, a prolonged irregular heartbeat that can lead to stroke, she searched for the best place to go for care. She could have gone almost anywhere—but she chose UVA. She’s not the only one. UVA offers one of the nation’s leading programs for treating heart rhythm problems, especially A-fib.

For Ewald, a nurse in nearby Richmond, the irregular heartbeat came out of the blue. When it persisted, she went to a cardiologist and tried various medications. Nothing helped. When she came to UVA, Dr. Mike Mangrum performed a catheter ablation procedure to eliminate the heart tissue that triggers an abnormal rhythm. Since the procedure, Ewald has suffered no further episodes.

Experience and successful outcomes make UVA’s Heart and Vascular Center a destination for patients who want excellent care and access to national heart rhythm clinical trials. UVA offers the latest clinical protocols, procedures, and devices. The heart rhythm team treats arrhythmias in all parts of the heart and sees patients with highly complex cases who might be turned away elsewhere. They are constantly looking for new solutions to heart rhythm problems.

UVA established the first heart rhythm clinical laboratory in Virginia 30 years ago. Some of the earliest investigations in catheter ablation to treat atrial fibrillation were performed in UVA laboratories. Ten years ago, Mangrum established UVA’s Atrial Fibrillation Center, now a national model for cardiac care. The center combines innovation in patient care with clinical research on new treatments and specialized education for cardiac healthcare providers.

Ultimately, this combination of clinical care and research sets the stage for a new goal: to create a world-class atrial fibrillation institute for directing lifesaving clinical trials, leading research, creating global collaborations, improving efficiencies and quality of care, and developing new patient technologies, devices, and tools.

UVA is setting the standard for heart rhythm care and driving innovative research nationally and globally.
PROTECTING THE HEART’S VASCULAR PATHWAYS

With aging comes an increase in life-threatening conditions of the vascular system. Vascular disease causes its own distinct problems and is associated with serious, disabling, or even fatal conditions like heart attacks, aneurysms, or strokes. UVA’s Heart and Vascular Center offers the highest level of expertise in vascular care and surgery, as well as leading research to develop new treatment options.

Dr. Gilbert Upchurch, chief of the Division of Vascular Surgery, has invested his career in treating and studying aortic aneurysms—a dangerous bulging of the heart’s largest artery. His clinical practice extends to all types of aortic repairs, including catheter-placed “endografts” for complex aneurysms that occur at or above the kidneys. He also participates in numerous clinical trials of emerging treatments and pursues research aimed at developing new medical therapies to treat patients with small aortic aneurysms.

UVA’s vascular team, including surgeon Megan Tracci, also has broad experience in peripheral artery disease (PAD), a condition of poor circulation to the legs due to plaque build-up in the arteries. Left untreated, PAD can lead to heart attack, stroke, and even limb amputation. Dr. Brian Annex, chief of the Division of Cardiovascular Medicine, is an international leader in PAD, especially gene and cell therapy, genetics, and blood vessel growth. Recently, his team was chosen by the National Institutes of Health to examine whether PAD can be treated with an existing drug currently in use for other purposes.

UVA’s multidisciplinary teams of skilled clinicians offer state-of-the-art care for patients with all types of vascular disease. At the same time, they conduct breakthrough research, aimed at developing promising therapies for the future. This expertise in both heart and vascular diseases allows UVA to offer comprehensive care for even the most complex patients.
EVEN YEARS AFTER BEING diagnosed with a severe heart condition, Stanley Behrens faced a tough decision. If left untreated, his condition could kill him, but, at 91, open heart surgery was risky. Turned down by other centers, Behrens travelled across the country to receive a new, minimally invasive procedure offered at UVA. He had an excellent result with a MitraClip procedure, designed to treat a leaky heart valve without surgery. UVA is one of the few medical centers in the nation to offer this procedure, along with other minimally invasive options for at-risk patients that may involve no surgical incisions or small keyhole incisions. Those options are available thanks to an exceptionally skilled and experienced team of heart valve experts in UVA’s Advanced Cardiac Valve Center.

The center provides a full complement of complex open heart valve surgeries as well. UVA surgeons and cardiologists work closely together to provide the best approach tailored to each individual patient, including investigating new treatments for valve conditions through clinical research trials. Interventional cardiologists, cardiovascular surgeons, and imaging specialists each use their particular expertise to diagnose and treat patients with heart valve disease. This multidisciplinary partnering among a variety of experts sets UVA apart from its peers and benefits patients through collaborative approaches to care.

What about tomorrow’s heart valve patients? Those patients are already on the minds of UVA researchers. Drs. Gorav Ailawadi and Scott Lim lead clinical trials investigating minimally invasive treatment of aortic, mitral, and pulmonary valve disease. Lim is also an internationally recognized teacher of mitral valve repair with the MitraClip. Ailawadi, the first surgeon in the US to perform catheter-based mitral valve repair, is also advancing the next generation of valve science and helping UVA to participate in a variety of first-in-market clinical trials.

FOCUS

Using cardiovascular imaging to help predict sudden cardiac death and heart failure

RESEARCH

Leading a consortium of 40 centers in 6 countries with $14.4 million in National Institutes of Health support to develop better risk predictors for hypertrophic cardiomyopathy, a genetic disease that leads to thickening of the heart muscle and is the number one killer of young athletes

IN HIS OWN WORDS

“My hope is that better predictors will lead to better treatment for this condition—and better chances to save lives.”
As a patient, I received exceptional care from UVA’s Heart and Vascular Center. I have supported the center because I believe it’s important to continue to build its clinical strengths and to break new ground on innovative heart treatments and therapies. An investment in cardiac care and research will pay major dividends for current and future patients.

—Andrew D. Hart, Jr.

**PERSONALIZED CARE FOR EVERY HEART**

**WHEN JIMMY HOWELL CAME TO UVA** on a football scholarship, he also began managing a heart condition. Referred to Dr. Robert Battle after an athletic physical uncovered an irregularity, Howell was diagnosed with an enlarged aorta and mild connective tissue disorder. Undiagnosed, the condition could have led to dangerous complications. Knowing about the condition allows Howell to manage it through lifestyle choices and annual check-ups. Howell’s younger brother has the same condition, suggesting a family link. Genetics counselor Matthew Thomas can confirm the link and counsel both brothers, as well as their future children.

The ability to diagnose, treat, and predict inherited heart diseases requires UVA’s strong collaborative expertise across the spectrum of congenital heart diseases and cardiovascular genetics. Sports cardiology also plays a role, since heart conditions are often identified when young people become involved in athletics. UVA also offers the state’s only comprehensive team of experts devoted to helping patients better understand what a hereditary heart condition means for them and their families. Early detection can be lifesaving, as undiagnosed conditions may be responsible for up to 20 percent of sudden cardiac deaths nationally. For structural heart defects, UVA offers multiple surgical options, including the state’s largest cardiopulmonary organ transplant program.

Every heart is different. Understanding the particular genetic make-up of an individual's heart can affect medical decisions and even how he or she responds to treatment. Going forward, personalized cardiac medicine will use an individual's genetic profile to help determine which medications, surgeries, or other treatments are most likely to bring about the best outcomes. Researchers in UVA’s Heart and Vascular Center are advancing genetic testing and personalized medicine to create the future of cardiac care—and to offer tomorrow’s patients the most customized care possible.

**WHAT DOES IT TAKE?**

- Specialized Patient & Program Support
- Funding for Innovative Research
- Support for Labs & Personnel

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