

INOVA

MAGAZINE

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PUMP IT UP

FALL
2015

*Inova Heart and
Vascular Institute's
bold new vision to
save more lives*

Brian Stevens, a fitness trainer,
underwent a heart transplant at
Inova in October 2012.

 INOVA®

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PUMP IT

PHOTO BY
ADAM AUDEL

Ten years ago, fitness trainer Brian Stevens was taking a routine walk around a track with some clients and suddenly had so much trouble breathing that he had to stop several times to complete the lap. Doctors at his local hospital diagnosed the 36-year-old from Bowie, Maryland with congestive heart failure, a serious condition where the heart cannot pump enough blood to meet the body's needs. A cardiologist at another hospital discovered he had sarcoidosis, an inflammatory disease affecting the heart, and gave him a pacemaker. "I lived with a pacemaker for five years and it was replaced in 2010, but soon after that, I took a turn for the worse," Brian says.

Finally, he was referred to Shashank Desai, MD, Medical Director of the Heart Failure/Transplant Program at Inova Heart and Vascular Institute (IHVI) who

delivered the shocking news: Brian had severe heart failure and needed a transplant, but his heart was too weak keep him alive until a donor heart could be found. The cardiovascular team at Inova Fairfax Hospital implanted two ventricular assist devices (VADs), one on each side of his heart. The VADs kept Brian alive for 11 months until he received a heart transplant in October 2012.

Brian was in good hands because IHVI is one of only a few centers in the country that can implant two VADs in one procedure and also performs the highest number of heart transplants in the mid-Atlantic Region. "IHVI is well-known for the high-quality, high-quantity VAD work we've been doing over the last 10 years. Inova Fairfax Hospital has been involved in ventricular assist devices since the early days of the technology," Dr. Desai says.

Healthy Strides
Brian Stevens, a fitness expert, just a few years ago relied on ventricular assist devices (VADs) to stay alive.

UP

HEART FAILURE BY THE NUMBERS

The number of Americans currently living with heart failure:



The number of new heart failure cases diagnosed in the U.S. each year:

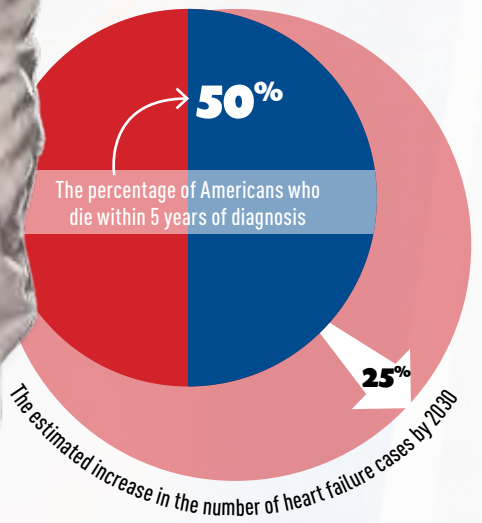
670,000

55,583 new cases per month

1,836 new cases per day

76 new cases per minute

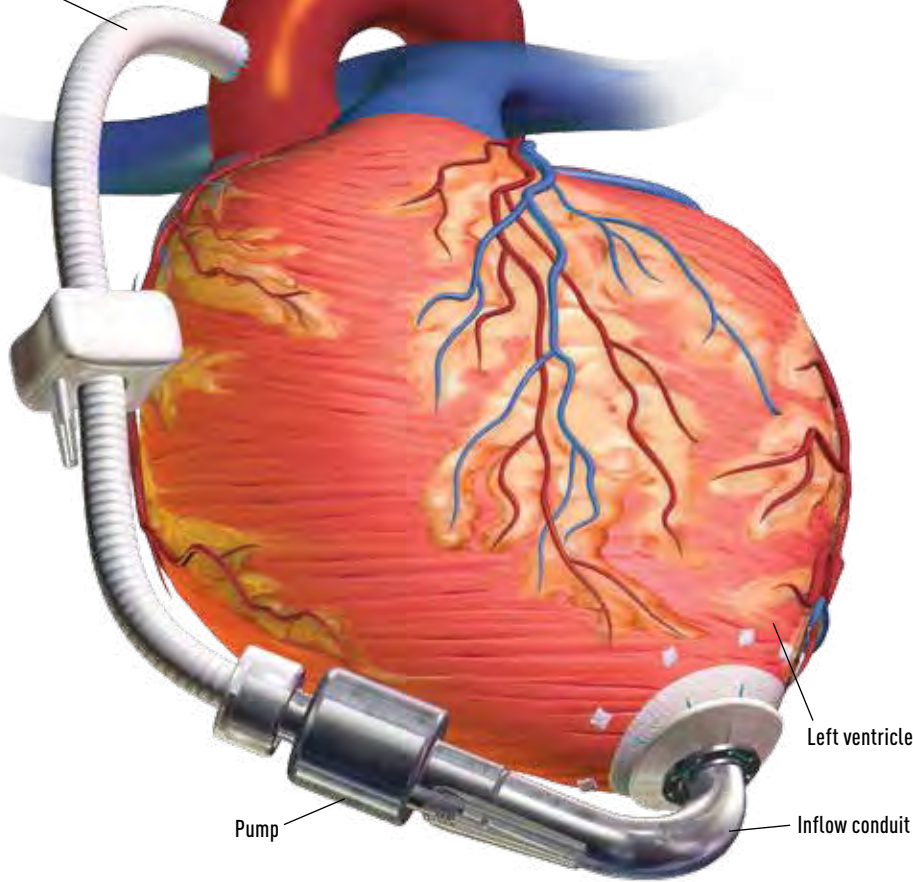
Heart failure is responsible for more **hospitalizations** than all forms of cancer combined.





Outflow conduit

Aorta



ALTERNATE ROUTE

Today, about 5.1 million Americans are living with heart failure. There is no cure for heart failure, but ventricular assist devices (VADs) can help heart failure patients live longer with a higher quality of life. For those with advanced heart failure, the left ventricle of the heart does not pump with enough force to keep the body's organs alive. Until VADs were developed, patients had limited options. Initially, VADs were implanted as a stop-gap measure to help patients survive until heart transplantation, but more recently, they are used as a long-term permanent support for patients who are not candidates for heart transplants.

The VAD consists of a small mechanical pump implanted in the chest and connected to the heart with tubes. A controller unit and a battery pack worn outside the body manage blood flow. Advances in design mean that VADs are now much smaller than even a few years ago. In the future, they may be fully implantable. Inova will continue to offer patients leading-edge VAD technologies.

Blaesen Medical Communications, Inc.

GIVE FROM THE HEART

For more information on philanthropic opportunities for IHVI, please contact Mary Myers, Executive Director of Development, Inova Fairfax Medical Campus, at mary.myers@inova.org or 703.776.3682.

Today, IHVI is setting a bold new course to save more lives. Nationally renowned cardiologist and heart failure specialist Christopher O'Connor, MD, became the new CEO of IHVI in April 2015, and is directing a five-year strategic plan to transform IHVI's heart program from a top regional program to a top-10 national program. His vision focuses on building programs of distinction in the areas of heart failure and interventional cardiac services, and recruiting more clinicians and researchers across a number of disciplines to accelerate the discovery of leading-edge treatments.

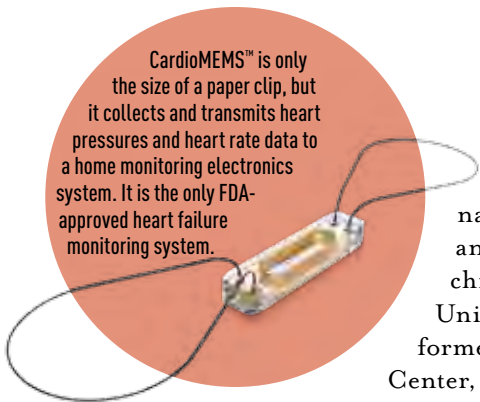
"My five-year plan is to really drive quality, drive strategic growth, drive an outstanding patient experience and bring innovation and clinical research in a greater capacity to the institute," Dr. O'Connor says. "There are 150 cardiovascular specialists who practice at the institute, and my goal is to bring everyone under one vision with a unified set of goals to accomplish the objective of becoming a nationally and internationally recognized heart institute."

HEART FAILURE NETWORK

IHVI continues to offer state-of-the-art devices, advanced therapies and surgical expertise for patients needing VADs and heart transplants. However, saving more people like Brian will require providing earlier identification and intervention. "The number of heart failure specialists is infinitesimally small compared to the number of patients," Dr. Desai says. "It is important that patients with heart failure are identified and treated early and aggressively at their first point of contact with the healthcare system. In order to accomplish this and bring heart failure expertise and therapies locally into the community, Dr. O'Connor and I are committed to building a heart failure network that extends into every community in our region. We want to involve local cardiologists and primary care physicians in advanced diagnostics and therapeutics available to heart failure patients nationwide."

As of this fall, IHVI is one of the first few hospital programs implementing the only

FDA-approved heart failure monitoring system called CardioMEMS™. The size of a paper clip, the small device is placed in the pulmonary artery of patients with severe heart failure during a minimally invasive procedure. It collects and transmits heart pressures and heart rate data to a home monitoring electronics system, which sends the information directly to the heart failure doctor managing the patient. Studies show that remote monitoring with CardioMEMS reduces the number of hospitalizations by 43 percent and reduces deaths by 57 percent. The ultimate objective for Inova's future is to create a comprehensive heart failure technology center, where a team of nurses and technicians will remotely monitor a large number of patients across the mid-Atlantic states and improve their quality and quantity of life.



CardioMEMS™ is only the size of a paper clip, but it collects and transmits heart pressures and heart rate data to a home monitoring electronics system. It is the only FDA-approved heart failure monitoring system.

INTERVENTIONAL CARDIAC INNOVATIONS

IHVI provides a range of specialized cardiac services for patients needing heart valve replacements, atrial fibrillation treatments, high-risk pacemaker extractions and non-surgical procedures to open chronically and completely blocked coronary arteries.

“With our new strategic plan, there is a greater commitment to offering state-of-the-art care to become a quaternary center, one where very complex patients benefit from an enhanced multidisciplinary approach,” says interventional cardiologist Harvey Sherber, MD, FACC, Medical Director of IHVI.

For example, Inova is one of the first hospital systems to offer a new option for patients with atrial fibrillation (AFib) who cannot take anticoagulation medication long term. The WATCHMAN™ is a small, parachute-shaped device that closes a small pouch in the left atrium where 90 percent of stroke-causing blood clots can form. Studies show that this device allows many patients to discontinue anticoagulation therapy altogether, while providing a meaningful reduction in the risk of stroke.

“There are 150 cardiovascular specialists who practice at the institute, and my goal is to bring everyone under one vision.”

—CHRISTOPHER O’CONNOR, MD

CARDIAC DREAM TEAM

Dr. O’Connor is an internationally recognized clinician and researcher. As the former chief of cardiology at Duke University Medical Center and former director of the Duke Heart Center, he brings more than 25 years of experience to Inova. Leaders at IHVI are confident that he will be able to attract the best talent as he accelerates efforts to expand the current team of cardiovascular specialists and researchers. “We are undergoing a seismic shift to bring in new sub-specialists to further broaden the cardiovascular offerings already here at Inova,” Dr. Desai says. “With Dr. O’Connor, we can attract and maintain a world-class physician roster, putting us on the national stage of clinical care and innovative investigations.”

Dr. Sherber agrees: “With Dr. O’Connor, we anticipate doing more first-in-human trials and utilizing our clinical research to accelerate the delivery of cutting-edge treatments and enhance our educational outreach.”

Many top specialists are interested in moving to Inova and several have already joined, including a critical care cardiovascular surgeon with patient safety expertise, and a nationally-recognized interventional cardiologist/antiplatelet researcher who is

creating a new unit for phase I drug trials. Other doctors interviewing have special expertise in sports medicine, cardio-oncology, population health, personalized medicine and genomics.

With a strong strategic plan in place, IHVI is poised to save many more lives throughout the mid-Atlantic States, helping more people like Brian. “When I had my VADs, Inova gave me so much confidence, making it that much easier to transition back to life after transplant,” he says. “Today, three years post-transplant, I am fitter and stronger than ever. I have no restrictions and I’m actually doing more now than when I thought I was in my best shape. I pinch myself and count my blessings every day.” ■



Four guiding principles form IHVI’s commitment to research:

1

Every patient will have an opportunity to participate in research.

2

Every physician and staff member will be part of IHVI’s research team.

3

IHVI’s research network will be a highly efficient, high volume, site-based research network across the health system and its cardiovascular affiliates.

4

Translation of research activities will be accelerated in both directions, from clinical trials to patient care, and from personalized patient care research back to clinical practice.



HEART WORK

Learn more about Inova Heart and Vascular Institute at inovaheart.org.