

# SARVER HEART CENTER

NEWSLETTER ISSUE 73 • SUMMER 2016

## WORKING EVERY DAY TO ADVANCE HEART DISEASE RESEARCH AND CARE

Heart Month. National Minority Health Month. National Donate Life Month. Rise Above Heart Failure Day. National Women's Health Week. These are just some of the heart-health-related events we've recognized so far in 2016, reinforcing our everyday commitment to leadership in heart disease research and patient care.



On April 14, we joined the Heart Failure Society of America and had some fun with red socks to "Rise Above Heart Failure," drawing attention to this serious condition that affects 6 million people in the United States.

### What Is Heart Failure?

Contrary to what the name suggests, heart failure does not mean that the heart suddenly stops working. Instead, heart failure occurs as a result of a damaged and sometimes weakened

heart muscle. Injury to the heart, such as damage caused by a heart attack, high blood pressure or abnormalities in a heart valve, are all causes of heart damage that sometimes lead to heart failure. A damaged heart must work harder to continue normal blood flow to the body. Because the word "failure" has such a negative connotation, we prefer to call this condition **advanced heart disease**. This term is actually more accurate – any underlying heart disease, when it becomes advanced, can cause heart failure. Unfortunately, advanced heart disease manifesting as heart failure is hard to diagnose, and often not recognized until its later stages.

### Improving the Odds of Living Longer, Better

At the UA Sarver Heart Center, our growing Advanced Heart Disease Team is working to raise awareness about the disease, including how to detect it. We want to empower patients to work with the right health-care providers to improve the odds of living longer with a better quality of life despite advanced heart disease. The UA Sarver Heart Center Advanced Heart Disease Team provides a full spectrum of care for patients, including personalized medication management, catheterization procedure for valve disease in patients considered to be high risk for open-heart surgery, and mechanical circulatory assist devices to help the heart pump blood, the total artificial heart and heart transplantation.

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# NOTE FROM THE DIRECTOR



We are in a period of transitions at the University of Arizona Sarver Heart Center.

The Center has always pursued a model of translational research (developing highly focused laboratory research that could effectively lead to breakthroughs in patient care). **Carol Gregorio, PhD**, co-director of the UA Sarver Heart Center, has been a highly productive, collaborative leader in this area, particularly for scientists, physicians and students in our Molecular Cardiovascular Research Program and our successful Investigator Awards Program. We are very pleased to announce that Dr. Gregorio has been appointed vice dean for innovation and development in the UA College of Medicine – Tucson (COM-T). In this role, Dr. Gregorio will enhance innovation and development through strategic partnering and team building, and will provide strategic vision, oversight, liaison activities and advocacy for COM-T research. Dr. Gregorio's leadership opportunity will enhance Sarver Heart Center's ability to collaborate more seamlessly with researchers across the UA Health Sciences. (Read more on page 8.)

It's with mixed emotions that we also announce a transition for **Aiden Abidov, MD, PhD**, who served as associate professor of medicine and radiology and the Leonard C. Pfeiffer Endowed Chair in Cardiology since 2009. He is heading to Detroit where he will serve as professor of medicine at Wayne State University and cardiology section chief at John D. Dingell VA Medical Center. We will miss his many contributions, but are always pleased when a faculty member leaves for an excellent career opportunity.

On the positive side we welcome **Mathew D. Hutchinson, MD**, a board-certified electrophysiologist with particular expertise in ablation of complex arrhythmias such as atrial fibrillation and ventricular tachycardia. He specializes in heart rhythm disorders. Dr. Hutchinson, who will serve as director of the Electrophysiology Program, joins Sarver Heart Center from University of Pennsylvania, one of the top electrophysiology programs in the country. (Read more on page 8.)

One of the brightest areas of change has been the Clinical Research Program, led by **Catherine MacDonald, BScN, MBA**. Clinical research is central to our academic mission of advancing knowledge and patient care to prevent heart disease and improve outcomes. As of the end of 2015, the active clinical trials at UA Sarver Heart Center sponsored by biotech industries increased from seven to 16. This number is projected to increase to 21-plus by the end of 2016. Active clinical trials funded by non-industry sources increased from two to 11, including one American Heart Association grant and four federal grants. This number is projected to increase to 14 by the end of 2016.

The successes of our clinical research faculty and staff would not be possible without the willingness of people like you who agree to participate in clinical research. If you are interested in learning whether you are eligible to participate in a clinical trial at Sarver Heart Center, please visit [heart.arizona.edu/clinical-research](http://heart.arizona.edu/clinical-research) to learn more and complete a Cardiology Research Registry Form. You'll also find information about the Sarver Heart Center Biorepository, which will enable physicians and basic scientists to access biological samples in a range of people with and without different heart diseases. This resource will support our efforts in precision medicine, with the goal of improved understanding of how heart disease develops.

As a new academic year begins and summer heats up in Arizona, progress continues as we take on new leadership roles, welcome new faculty, and prepare for our next class of cardiology fellows.

A handwritten signature in black ink, reading "Nancy K. Sweitzer".

Nancy K. Sweitzer, MD, PhD  
Director, University of Arizona Sarver Heart Center  
Chief of Cardiology and Professor of Medicine  
University of Arizona College of Medicine – Tucson

## DONATE LIFE MONTH

That brings us to National Donate Life Month, recognized each April. According to the National Heart, Lung, and Blood Institute, about 3,000 people in the United States are on the waiting list for a heart transplant on any given day. About 2,000 donor hearts are available each year. The UA Sarver Heart Center encourages everyone to register to be an organ donor and to tell their family about their wishes. Visit [donatelifeaz.org](http://donatelifeaz.org) for registration information.

We also understand the need for more treatments for advanced heart disease. There is a shortage of donor organs. Some patients dying of heart failure are not eligible to be heart transplant recipients. Through our clinical programs and research, we continue to seek options to improve quality of life for all of our patients.

## MECHANICAL CIRCULATORY PROGRAM GIVES HEART FAILURE PATIENT ENERGY TO BE A GRANDPA



Jerry Stanaford (front, center), a patient from Midland, Texas, was in Tucson for a “tune up” of his left ventricular assist device. He’s pictured with members of the mechanical circulatory support team.

Given his family history, Jerry Stanaford of Midland, Texas, wasn’t too surprised when he had his first heart attack in 1997 and required five coronary artery bypass grafts (CABG) to get back on his feet. “My father had his first CABG at age 65. After many years of heart problems, my mother died from heart failure at age 82,” said Jerry.

His heart disease did take him by surprise five years later when several heart attacks in a row caused damage that

began his battle with advanced heart disease. His cardiologist in Midland managed his condition aggressively with medications until he became very sick in January 2014.

By Thanksgiving of that year, he was on oxygen and his doctor started talking about an implantable heart pump. That’s when his sons, who work in the medical device sector, told him about a surgeon they trusted in Tucson – **Zain Khalpey, MD, PhD**, a cardiothoracic surgeon and Sarver Heart Center member who is doing exciting research with stem cells to repair damaged heart muscle in advanced heart disease.

First stop in Tucson was an evaluation with **Nancy K. Sweitzer, MD, PhD**, director of the UA Sarver Heart Center who is chief of cardiology and a board-certified heart failure specialist. “I was assessed by a team of about 10 people, including **Dr. Kapil Lotun**. I had a blockage behind my heart and Dr. Lotun said, ‘I can fix it.’ It took him 11 hours and seven stents, but that wasn’t enough to improve the heart muscle and restore adequate blood flow,” said Jerry.

On Dec. 15, 2014, Jerry underwent surgery to have a left ventricular assist device (LVAD) implanted as permanent therapy to help his heart effectively pump blood through his body. “Dr. Khalpey also poured 8 million stem cells on my heart and a couple million on my lungs,” said Jerry.

Dr. Khalpey, associate professor of surgery, is the Sarver Heart Center Tony A. Marnell, Sr., Endowed Chair for Research in Cardiac Surgery, surgical co-director of Heart Transplantation and surgical director of the Mechanical Circulatory Support and Mitral Valve Program at Banner – University Medical Center Tucson. He was awarded a 2015-2016 Fulbright Distinguished Chair and has been working collaboratively with Ryszard T. Smolenski, MD, PhD, at the Medical University of Gdansk in Poland, in the field of translational adult stem cell therapy to repair damaged hearts.

“I had thousands of people praying and the best doctors and best team players. I’ve had a year of ups and downs. Now I have lots of energy,” said Jerry.

“We have six grandkids and they used to think he was always sick. Now, they think he’s a young 74 and expect him to play,” said Kathie Stanaford, Jerry’s wife, who is a retired nurse. “This is a remarkable team here. The LVAD provided the perfect answer. We didn’t want no or low quality of life.”

A former tire store owner who retired after 40 years in his business, Jerry is working on adding a house and shop onto the barn home he built. He enjoys his grandchildren and lunch with his friends. He’s looking forward to a golf game that Dr. Khalpey promised him.

“God’s not through with me. I hope I’m smart enough to realize why,” said Jerry.

## MINORITY HEALTH MONTH IN APRIL:

### ADVOCATE BOUNCING BACK FROM OPEN-HEART SURGERY

As an African American woman who heads the University of Arizona Sarver Heart Center Community Coalition for Heart Health Education (**Minority Outreach Program**), **Wanda Moore** is very aware that she is in one of the highest risk groups for dying from heart disease. She also believes that lifestyle risk factors are manageable



Heart disease runs in Wanda Moore's family. (From left: Major, Gary (quadruple bypass), Vernon, Wanda (coronary artery disease/open heart surgery), Joyce (deceased following heart failure, 2015) and Jen.

and has become a powerful advocate to help those at risk understand how to reduce risk.

For Wanda and her committee members, knowledge is power! According to the National Heart, Lung and Blood Institute, heart disease disproportionately afflicts African American women, killing as many as 50,000 each year. The good news is women can lower their heart disease risk by as much as 82

percent by addressing risk factors:

- Smoking – about one in five African American women smokes. After one year of quitting, heart disease risk drops by more than half.
- High blood pressure (hypertension) – about 37 percent of African American women have high blood pressure, which increases the risk of stroke and heart failure. Healthy eating, including low salt intake, regular physical activity, maintaining a healthy weight and moderate alcohol consumption can help, plus taking medication if prescribed.

“Heart disease, diabetes, obesity and inactivity are risk factors that run rampant in my immediate family and my parents’ families. I have been aware of these risks for many years, but despite that did not think I would get heart disease,” said Wanda. “I made every effort to change my lifestyle to offset those risk factors. In spite of my healthy, active, watch-my-food-intake lifestyle, I too became a victim of heart disease. I have coronary artery disease (CAD) and in 2015, I had to have bypass surgery.”

Heart disease also affected two of her four siblings, including her brother, Gary Lang, who had quadruple bypass surgery and her sister, Joyce Harris, who died of heart failure in 2015. “There is nothing like the pain and helplessness of losing my sister to heart disease.”

Although she has had a very tough year between her family's health challenges and her own, Wanda remains an active advocate for health education in the minority community. “Please be an open and honest advocate for your own health. Only you can know exactly what is going on with your health. No matter how minor it may seem,” said Wanda.

## Know the risks for heart failure:

- **High Blood Pressure**
- **Diabetes**
- **Prior heart attack**
- **History of heart murmurs**
- **Enlarged heart**
- **Family history of an enlarged heart**

## Know the symptoms:

- **Shortness of breath**
- **Difficulty breathing when laying down**
- **Weight gain and swelling in the ankles, legs and abdomen due to fluid retention**

Symptoms may be subtle and go undetected. When shortness of breath is brought on by activity, even low levels of activity like dressing or showering, it may be mistaken for normal aging.

## Work with your cardiologist:

Advanced heart disease cardiologists from the University of Arizona Sarver Heart Center use the following to diagnosis the causes and severity of heart failure:

- **A thorough health history**
- **Physical examination**
- **Blood tests**
- **Electrocardiogram (also called ECG)**
- **Echocardiogram (also called “echo”)**



## Lifestyle Checklist for Patients:

Although heart failure is a chronic disease (it will never go away no matter how good a patient feels) it can be treated, and people with heart failure can live quality lives for many years if they adhere to the following:

**Take medications according to guidelines and as ordered by a doctor**

**Maintain doctor follow-up appointments**

**Monitor daily weight and report weight gains (3-5 pounds in a week)**

**Monitor symptoms and report**

**Monitor salt and fluid intake – too much of either can worsen fluid retention**

**Maintain daily exercise**

**Limit alcohol and caffeine**

**Avoid tobacco use**

## What if the basics aren't enough?

A number of procedures may be considered.

These include implantable defibrillators to protect your heart from life-threatening arrhythmias, special pacemakers to coordinate your right and left ventricles, bypass surgery, heart valve surgery, VAD implantation, an artificial heart or a heart transplant.

**Care from a specialized heart failure physician is a good idea if you:**

**Were admitted to the hospital for fluid overload within the last year**

**Are on medications and still not as active as you would like to be**

**Have had a shock delivered by your defibrillator for VT or VF**

**Have kidney problems related to your heart failure**

For more information, visit the UA Sarver Heart Center's **Heart Health webpage** [heart.arizona.edu/heart-health](http://heart.arizona.edu/heart-health). Also, we recommend the Heart Failure Society of America's **patient education modules**. [hfsa.org/patient/education-modules](http://hfsa.org/patient/education-modules).

## WOMEN'S HEALTH WEEK – UNDERSTATING HEART DISEASE SYMPTOMS

That brings us to the three questions **Anne G. Rosenfeld, PhD, RN, FAHA, FAAN**, professor and cardiovascular nurse-scientist at the **University of Arizona College of Nursing**, suggests women of all ages ask their health-care provider at their next appointment.

1. What is my risk for heart disease?
2. I've been having these symptoms; what do they mean?
3. How do I keep myself heart healthy at this stage in my life?

"Due to a number of factors, including lack of awareness, often women fail to recognize their symptoms as heart disease. Women frequently delay seeking help, and when they do inform providers of heart disease symptoms, they report difficulty receiving a correct diagnosis because health-care professionals also don't recognize their symptoms as heart disease", said Dr. Rosenfeld, vice chair of the American Heart Association writing group that recently published the statement, *Preventing and Experiencing Ischemic Heart Disease as a Woman: State of the Science*.

"By and large women don't say, 'I have chest pain,' they say 'I have chest discomfort.' However, if a clinician is listening for 'pain' and they hear 'discomfort,' they may not suspect heart disease initially," said Dr. Rosenfeld. "Instead, women should say, 'I think I'm having a heart attack. These are unlike symptoms I've had before.'"

Promoting awareness among minority women is particularly important. African American women have a higher prevalence rate of heart disease (7 percent) compared to Hispanic women (5.9 percent) and white women (4.6 percent). However, compared to 65 percent of white women, only 36 percent of African American women and 34 percent of Hispanic women are aware that heart disease is the leading cause of death for women.

Additionally, the death rate from heart disease for younger women ages 35-44, while low, is continuing to increase while decreasing in their male counterparts of the same age. Since 80 percent of heart disease is preventable, the authors of the statement stress that educating women about their risk factors should start as early as childhood.

### Heart Failure by the Numbers

**6 MILLION** – Number of people in the U.S. with heart failure

**250,000** – Number of people who die from heart failure each year

**6** – Number of Sarver Heart Center cardiologists who specialize in treating heart failure patients

# ARIZONA'S FIRST PATIENT FOR TRANSCATHETER MITRAL VALVE REPLACEMENT

## USING TRANSSEPTAL APPROACH IS BACK TO THROWING POTS

Lola Cotton's first mitral valve surgery served her well for at least five years. That open-heart procedure was done in 2009 by former Sarver Heart Center co-director Jack Copeland, MD. "That was a long recovery," recalled Lola, an 81-year-old resident of Saddlebrooke, Ariz.

The good results wore off about two years ago. "I started feeling very sick and weak, dropped to 90 pounds. I became anemic and required several blood transfusions. I asked my cardiologist if it could be that my porcine valve had started to leak," said Lola. She was referred to **Kapil Lotun, MD**, at UA Sarver Heart Center. Indeed, her pig valve was leaking, and was the cause of her decline. In January 2016, Lola became the first patient in Arizona to have Transcatheter Mitral Valve Replacement using the transseptal approach.

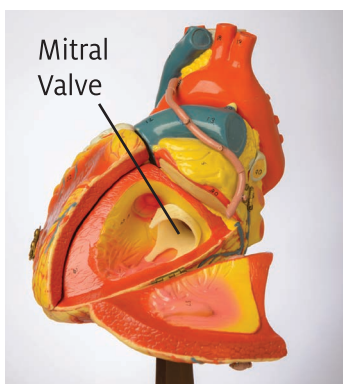
The mitral valve, perhaps the most complex of the heart's four valves, permits blood flow from the left atrium into the final pumping chamber, known as the left ventricle. When the mitral valve becomes calcified or hardened, it can narrow and it becomes hard for blood to flow forward from the left atrium to the left ventricle. Under other circumstances, the valve leaks and some blood flows backward from the left ventricle to the left atrium. In both these situations, the lungs can fill with fluid and shortness of breath occurs. Other symptoms can result from heart-valve disease.

Until recently when the mitral valve became dysfunctional, open heart-surgery was required to either replace or repair the valve. Recently, "percutaneous" valve procedures have been performed more frequently. Percutaneous valve procedures are performed less invasively, typically using catheters inserted into the blood vessels in the groin and manipulating valves into place through catheters. For those too ill to survive open-heart surgery, these minimally invasive procedures have been shown to safely and effectively replace valves.

Beginning in 2012, Dr. Lotun opened the Transcatheter Aortic Valve Replacement (TAVR) Program for patients with aortic stenosis. More than 165 minimally invasive aortic valve procedures have been done at the Sarver Heart Center and Banner University Medical Center Tucson. In Lola's case, these techniques were used to place a new mitral valve via catheter with the transseptal approach – a first in Arizona.

"We now have the ability to replace multiple heart valves less invasively in patients who have high risk for open heart

Lola Cotton, 81, the first transseptal mitral valve patient in Arizona, was back in the pottery studio five days after her procedure.



surgery," said Dr. Lotun, associate professor of medicine and director of Interventional Cardiology and the Structural Heart Disease Program and Vascular Medicine in Cardiology at the UA College of Medicine – Tucson. The approach used to place Mrs. Cotton's valve involved only a hole in the groin. The highly skilled doctors of the TAVR Program were able to place the new valve in the mitral position without any other incisions. This minimizes the invasiveness of the treatment and allows a faster post-procedural recovery. The technology for transcatheter valve replacement continues

to advance, allowing more and more valves to be replaced less invasively.

"I felt good the first day after my surgery, and went home from the hospital on the third day. Five days later I was back in my pottery studio," said Lola.

When asked how she felt about being the first in Arizona to have this procedure done, Lola said, "I saw it as an opportunity to turn my health around. Many people think you have to go to a place such as Cleveland Clinic for this level of care, but it's available right here."

**For more information, please contact Monique Crawford, RN, MSN, 520-626-2769.**





# MEMBER UPDATES

## Dr. Carol Gregorio named Vice Dean for Innovation and Development



**Carol Gregorio, PhD**, who has been co-director of UA Sarver Heart Center since 2007 and the Luxford/Schoolcraft Endowed Professor of Cardiovascular Disease Research, has been appointed Vice Dean for Innovation and Development for the UA College of Medicine – Tucson.

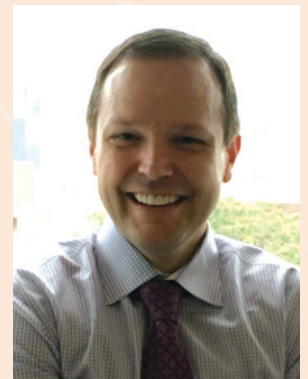
In her new role, Dr. Gregorio will work with Dean Charles Cairns, MD, and Sarver Heart Center Director and Chief of Cardiology Nancy Sweitzer, MD, PhD, to continue building the highly collaborative research programs Sarver Heart Center is known for. Her priorities include recruitment of key faculty to form new concentrations of translational research strength, greater involvement in philanthropy to fund transformational research, and a strong focus on the Sarver Heart Center's identified priority areas of heart failure, sudden cardiac death, precision diagnostics and therapeutics, preventive health and wellness and health disparities.

"Everyone involved with the Sarver Heart Center knows first-hand Dr. Gregorio's ability to mentor collaborative researchers, recruit top talent and spearhead innovative projects. We look forward to building stronger collaborative relations across the College of Medicine under her leadership," said Dr. Sweitzer.

Dr. Gregorio, nationally recognized as a leader in heart muscle research, is chair of the Department of Cellular and Molecular Medicine and director of the UA Sarver Heart Center Molecular Cardiovascular Research Program. She has been the force behind the center's highly successful Investigator Awards Program.

## Welcome Cardiologist Dr. Mathew Hutchinson

The University of Arizona Sarver Heart Center welcomes **Mathew D. Hutchinson, MD**. Board certified in internal medicine, cardiovascular disease and clinical cardiac electrophysiology, Dr. Hutchinson will serve as director of the Cardiac Electrophysiology Program. He specializes in treating complex heart rhythm disorders, such as atrial fibrillation and ventricular tachycardia.



Dr. Hutchinson comes from University of Pennsylvania where he has been an associate professor of medicine at the Perelman School of Medicine. He completed his medical degree at St. Louis University School of Medicine and his medical residency at Beth Israel Deaconess Medical Center and Harvard Medical School in Boston. His cardiology and electrophysiology fellowships were completed at the Hospital of the University of Pennsylvania.

Dr. Hutchinson cares for patients with complex arrhythmia disorders, as well as adult congenital heart disease and arrhythmias.

His clinical research activities focus on developing new techniques to improve procedural outcomes in patients with atrial and ventricular arrhythmias. He is internationally renowned for his work in the use of imaging to characterize arrhythmia substrate in patients with structural heart disease.

"Dr. Hutchinson's international reputation as a clinician and scientist will strengthen and expand our arrhythmia practice, which already provides outstanding patient care, including remarkable outcomes for some very complex procedures," said Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center and chief of cardiology.



# SARVER HEART CENTER WELCOMES NEW MEMBERS



**Michael Grandner, PhD**, assistant professor of psychiatry in the University of Arizona College of Medicine – Tucson joined the UA Sarver Heart

Center. He is certified in behavioral sleep medicine and is director of the Sleep and Health Research Program. His research focuses on how sleep and sleep-related behaviors are related to cardiovascular disease, neurobehavioral functioning, mental health and general well-being.

One of his current research projects focuses on how sleep patterns relate to cardiometabolic disease risk, as well as neurocognitive function.

Dr. Grandner received his bachelor's degree from the University of Rochester in 2001, and completed his master's at San Diego State University, and his PhD from a joint doctoral program at San Diego State University and the University of California, San Diego. He completed fellowships in the behavioral sleep medicine department and earned a master's in Translational Research from the University of Pennsylvania.



**Martha Gulati, MD, MS**, is the first division chief of cardiology for the University of Arizona College of Medicine-Phoenix, a professor of medicine and the physician executive director for the Banner University Medicine Cardiovascular Institute in Phoenix.

Dr. Gulati's study of women and cardiac diseases has won her numerous awards and distinctions, including the CREDO

(Coalition to Reduce Racial and Ethnic Disparities in Cardiovascular Outcomes) Award from the American College of Cardiology. In 2012, she received the National Red Dress Award for her efforts in raising awareness of heart disease in women and advancing research in this field.

She was the principal investigator of the St. James Women Take Heart Project, a study examining cardiac risk factors in women. She also was a co-investigator on the Women Ischemic Syndrome Evaluation (WISE) and previously served as a co-investigator on the Women's Health Initiative (WHI).

She has published articles in peer-reviewed publications, including *The New England Journal of Medicine*, *Circulation*, and *Journal of the American Medical Association* (JAMA).

Dr. Gulati was an associate professor of medicine and clinical public health at Ohio State University. She is the author of "Saving Women's Hearts" and is the editor-in-chief of the American College of Cardiology's "CardioSmart," a patient education initiative.

She completed medical school at the University of Toronto, Canada, and her internship, residency and cardiology fellowship at the University of Chicago. She is a fellow of the American College of Cardiology and the American Heart Association and is board certified in cardiovascular disease.



**Franz Rischard, DO, M.Sc.** is an assistant professor of Medicine at the University of Arizona College of Medicine – Tucson, Division of Pulmonary and Critical Care Medicine, and director of the

Pulmonary Hypertension Program at the University of Arizona. He is board certified in internal medicine, critical care medicine and pulmonary disease. As the director of the Pulmonary Hypertension Program, Dr. Rischard's research focuses on the right ventricle and its interaction with the pulmonary circulation. He also researches vascular physiology, bioengineering, and exercise physiology. He collaborates with other Sarver Heart Center faculty members in imaging and catheterization for clinical and research purposes.

Dr. Rischard received his bachelor's degree in exercise physiology and his master's in zoology from the University of Idaho. After earning his Doctor of Osteopathic Medicine at Western University of Health Sciences in Pomona, Calif., Dr. Rischard completed a residency in internal medicine and a fellowship in pulmonary and critical care at the University of Arizona Health Sciences.

## Researchers Look to Collaborate With Cuba on Diabetic Wound Therapy



Sarver Heart Center members **Marvin Slepian, MD** (left white coat), and **David Armstrong, DPM, PhD** (right white coat),

are in discussions with Cuban researchers to pursue a groundbreaking partnership to steward U.S. Food and Drug Administration approval of a drug that helps heal diabetic foot ulcers.

The drug, Heberprot-P, has been used in Cuba since 2006 and is being used in 26 other nations. Developed by the Cuban Center for Genetic Engineering and Biotechnology, Heberprot-P has resulted in rapid wound healing, a 75 percent reduction in amputations and longer and better quality of life for diabetic patients treated with the drug. The Cuban embargo has left the United States without access to this lifesaving drug.

Dr. Armstrong is professor of surgery at the UA College of Medicine – Tucson and director of the Southern Arizona Limb Salvage Alliance

(SALSA), a collaborative clinical and research alliance based at the UA Health Sciences dedicated to advancing care of the diabetic foot and preventing amputations in North America and worldwide.

Dr. Slepian, professor of medicine and biomedical engineering, directs the Arizona Center for Accelerated Biomedical Innovation (ACABI), which helps researchers form collaborations, find applications for new discoveries, develop their technologies and access resources to move their innovations forward.

## More Honors for Dr. Slepian

Dr. Slepian also was inducted as a **fellow of the National Academy of Inventors** at the U.S. Patent and Trademark Office in Alexandria, Va. on April 15. NAI fellow status is granted to academic inventors who "have demonstrated a prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development and the welfare of society." Dr. Slepian is a named inventor on 52 issued patents and applications and is a co-founder of SynCardia Systems, which makes the only FDA-approved total artificial heart.

The **University of Cincinnati College of Medicine** named Dr. Slepian **Alumnus of the Year**.



In April, **Kalidas Madhavpeddi** (right) received the 2016 **Mary Anne Fay Women's Heart Health Advocate of the Year Award** for his dedication and enthusiastic support of the work of the Women's Heart Health Education Committee. The award was established in 2011 to honor Mary Anne Fay's (left) dedication to raising awareness about heart disease and its impact on women. Kalidas has served as chair of the UA Sarver Heart Center Advisory Board since 2010.

## Hall Award Recipients for 2016

This year, the Charles W. Hall, Jr. and Virginia C. Hall Memorial Awards were presented to **Halie Shah, MD** (left), and **Kristina Skinner, DO**, second-year internal medicine residents in the UA Department of Medicine – Tucson. A Hall award includes a monetary stipend and recognizes amazing residents on the coronary care unit rotation at Banner University Medical Center – Tucson.



During her CCU rotations, Dr. Shah conscientiously met her patients' needs, while remaining open to learning and demonstrating a passion for cardiac physiology. "Thank you to the Hall family for the resident excellence in the cardiac care unit award. I am so honored and appreciative of this recognition. Thank you for your generosity with your gift as well," said Dr. Shah. She plans to pursue primary care after residency. She has identified cardiology as an important area in which a primary care physician should be particularly knowledgeable.

Dr. Skinner received the University Of Arizona Internal Medicine 'Intern of the Year' Award in her first year of residency. She has a passion for cardiology and plans to continue onto a cardiovascular medicine fellowship program after residency. "Thank you to the Hall Family. I am honored to accept the prestigious Charles W. Hall, Jr. & Virginia C. Hall Memorial Award and grateful to the Hall family for their generosity," said Dr. Skinner.

"We are thankful the Hall family continues to provide the UA Sarver Heart Center with the means to recognize and encourage the newest generation of health professionals," said Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center and chief of cardiology.



UA Sarver Heart Center board member and chair of the Minority Outreach Program, **Wanda Moore** (*center*), received the Tucson Urban League's Henry Quinto Award in March in recognition of her extensive volunteer efforts to address social justice issues surrounding health care disparities, particularly regarding heart disease. About 47 percent of African American women are living with cardiovascular disease, including coronary artery disease, high blood pressure and diabetes, conditions that also disproportionately affect Mexican American and Native American women.

During the past six years, Wanda has led committee members who have volunteered more than 200,000 hours, trained 3,100 people in chest-compression-only CPR, delivered more than 30 heart disease presentations in the community, funded three investigator awards to research heart disease in women of color and established an endowment to fund continued research into heart disease in women of color. *Also pictured: Debra Embry* (*left*), chief executive officer of the Tucson Urban League, and *Georgia Hale*, interim chair of the TUL board.



**Lori Noirot, RN**, (*center*) received the **2015 Brian Bateman Superb Service Award** for her efforts in “consistently being a team player and going the extra mile to advocate for diagnostic cardiology patients.” The award was established by Sarver Heart Center’s former development director, Brian Bateman (*left*) to honor staff members who demonstrate outstanding service in support of the Sarver Heart Center mission. Lori was nominated by Samir Dahdal, MD (*right*), a cardiologist with Banner – University Medical Center.



**Steven Taylor, MD**, a 2016 graduate of the UA College of Medicine – Tucson, received the **Zenas B. Noon, MD, Award of Excellence in Cardiology**. Dr. Taylor will pursue a residency in internal medicine at the University of Colorado in Denver.

Dr. Noon was born in Nogales, Ariz., in 1905. A 1926 graduate of the University of Arizona, he studied medicine at the Medical College of Virginia and completed his internship at the University of Michigan before pursuing post-graduate work at Johns Hopkins University and the University of Pennsylvania. In 1933, he returned to Nogales as the medical director of the Federal Emergency Relief Administration Transient Camp. He later established a private practice and was the only surgeon in Nogales for 35 years, except for the four years he was on active duty during WWII. Despite suffering a heart attack in 1971, Dr. Noon lived a full, happy life with his wife and six children until 1981. In gratitude for the excellent care Dr. Noon received from the cardiology department at what was then University Hospital, his family set up the Zenas B. Noon Award for Excellence in Cardiology.

Congratulations Dr. Taylor! We know you will take the Wildcat spirit with you to Colorado.





# MORE ADVANCED PROCEDURES AVAILABLE FOR CONGENITAL HEART PATIENTS

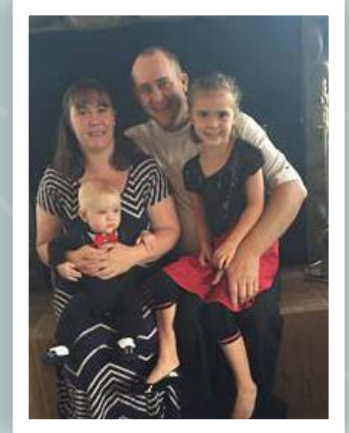
Children and adults in southern Arizona once again are able to receive minimally-invasive pulmonary valve replacements in Tucson as an alternative to open-heart surgery, thanks to addition of a new surgeon to the team.

With the arrival of **Mary-Jane Barth, MD**, a pediatric cardiothoracic surgeon, Michael Seckeler, MD, MSc, assistant professor of pediatrics and pediatric cardiologist, has resumed minimally invasive valve placements in adult and pediatric patients with congenital heart disease. Implanted via a cardiac catheterization procedure, the valve improves function of pulmonary artery conduits that are implanted in children with congenital heart disease between the right heart pumping chamber and the lungs that may become narrowed or leaky over time. Banner University Medical Center – Tucson is the only hospital performing this procedure in Southern Arizona.

Dr. Barth joined the UA College of Medicine –Tucson Department of Surgery from Oklahoma State University and University of Oklahoma where she was site director of the Pediatric Residency Program/Pediatric Cardiac Surgery. She is board certified in thoracic surgery and congenital heart surgery.



Abraham Hurtado, 6, shares a smile with UA pediatric cardiac surgeon Mary-Jane Barth, MD, who corrected his congenital heart defect in June. With Dr. Barth's arrival from Oklahoma, Diamond Children's pediatric cardiac surgery program is back on track and Tucson children need not leave town to receive this highly specialized care.

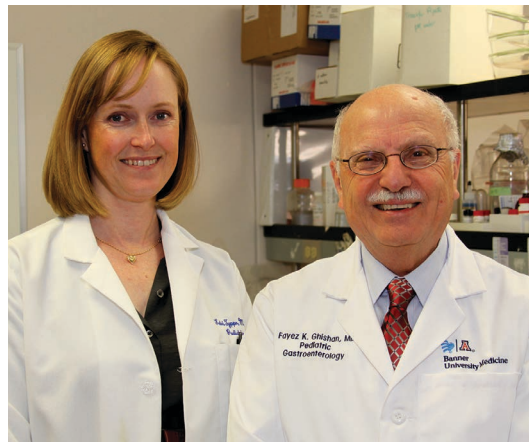


Urie Kiersten Stephenson was born with Truncus arteriosus and had her first open-heart surgery in 1982 at 1 year of age, followed by two further surgeries to replace the pulmonary artery conduit as she grew. After her valve implantation in April, she went home the next day and has had more energy to run and play with her children (pictured here with her and her boyfriend).

## INVESTIGATOR AWARD Leads to National Funding

University of Arizona pediatric critical care physician-scientist **Katri Typpo, MD**, was awarded a four-year, \$740,000, K23 **“Mentored Patient-Oriented Research Career Development”** grant, by the **National Institutes of Health’s (NIH) Institute of Diabetes and Digestive and Kidney Diseases** to improve the health of infants and children with congenital heart disease (CHD). These patients often suffer organ failure after heart-repair surgery.

Dr. Typpo, assistant professor, UA Department of Pediatrics and



Dr. Typpo (left) with her mentor, Faye K. Ghishan, MD, professor and head, UA Department of Pediatrics, and director of the UA Steele Center.

the UA Steele Children's Research Center at the UA College of Medicine – Tucson, learned during a pilot study that earlier delivery of nutrition results in better gut barrier function in children with CHD. Dr. Typpo received a Sarver Heart Center William “Billy” Gieszl Award to fund the pilot study which resulted in the preliminary data supporting her K23 application.

**“The KIND (Kids Intestinal Dysfunction in Congenital Heart Disease) Heart Study”** is a multi-center research project.



From left: Joe G.N. "Skip" Garcia, MD, UA senior vice president for Health Sciences, Margaret Richardson, UA President Ann Weaver Hart, and Charles B. Cairns, MD, Dean, UA College of Medicine – Tucson

# PHILANTHROPIC VISIONARY HONORED

## WITH THE UNIVERSITY OF ARIZONA'S HIGHEST HONOR

**Margaret Richardson**, successful businesswoman and inspirational philanthropist, was conferred with an honorary degree from the University of Arizona on April 11. UA President Ann Weaver Hart and Provost Andrew Comrie presided as Mrs. Richardson was awarded the degree, Doctor of Humane Letters, in a private ceremony at Old Main. This is the highest honor given by the UA and celebrates Mrs. Richardson's impact on the health and wellness of our community.

Margaret and her late husband, UA alumnus Howard Richardson, established *The Howard G. and Margaret C. Richardson Endowed Chair for Excellence in Cardiology* at the UA Sarver Heart Center. She also established *The Margaret and Howard Richardson Endowment for Cancer Research* and *The Margaret and Howard Richardson Endowment for Medical Research*. These gifts will continue to support research at the University of Arizona Health Sciences.

During her life, Margaret has transformed obstacles and adversity into opportunities, exemplifying the Wildcat Spirit and the Never Settle sentiment. Born and raised during the Great Depression, her parents could not afford to send her to college. She left Pennsylvania in 1947 with \$200 in savings and moved to Los Angeles to start a new life. She found success in the automobile sales industry working alongside her husband. Together, they invested time and resources in the community and supported many of the institutions that contributed to their success.

That commitment is still very much a part of her life. At the degree ceremony, Margaret shared her sentiments about giving back with her many nieces and nephews in attendance stating, "I feel that, if you're successful, you must give back to your community, including your alma mater."

Margaret is a member of the Founders Society, the Old Main Society, and The President's Club.



# UPDATE

The 11th annual Steven M. Gootter Gala was held on March 4 at the Westin La Paloma. More than 350 people attended. The event featured a silent auction, a live auction, wonderful food, music, and dancing. The 2016 Philanthropic Honoree was Dr. Lori Mackstaller.

Andrew Messing, president of the Steven M. Gootter Foundation, affirmed that the mission of the Foundation is to provide community outreach, research and AEDs. In keeping with that mission, the Gootter Foundation sponsored Greater Tucson in becoming a PulsePoint connected community. On April 20, the mayors of Tucson, South Tucson, Oro Valley and Marana, along with multiple fire districts in the region, jointly announced the PulsePoint app for smartphones.

The goal of PulsePoint is to get a CPR/AED trained person to a victim of sudden cardiac arrest as soon as possible. The free app will alert registered users of the need for CPR and of the location of the nearest AED. Sudden cardiac arrest events

claim the lives of 1,000 people every day in the United States. PulsePoint will give Tucson-area citizens the chance to hopefully reduce that number and become a role model for the rest of the country.

**EVERYDAY HEROES NEEDED**

**GET THE APP. SAVE A LIFE.**  
Sudden Cardiac Arrest (SCA) is one of the leading causes of preventable deaths. The PulsePoint app alerts bystanders—like you—who can help victims before professional help can arrive.

**PulsePoint alerts you to nearby people in need.**  
For every minute that passes before help arrives, SCA survival odds decrease by 7%–10%.

**PulsePoint is like AMBER Alert for Sudden Cardiac Arrest victims.**

- 1 SCA victim in need
- 2 911 operator sends PulsePoint alert
- 3 Signal received by nearby PulsePoint users
- 4 Users rush to help victim before professional help arrives

**LIVES NEED SAVING EVERY DAY**  
SCA kills almost **1,000 PEOPLE PER DAY** IN THE U.S.

Nearly **60%** of SCA victims **DON'T GET CPR** until professional help arrives.

**13M** Americans are **CPR TRAINED AND CERTIFIED ANNUALLY.**

The U.S. survival rate for SCA is **11%** **BUT YOU CAN HELP IMPROVE IT!**

SCA data source: American Heart Association, "About Cardiorespiratory Resuscitation (CPR)" (2012)

**HOW TO HELP**  
Call **911**  
**STAYIN' ALIVE. STAYIN' ALIVE.**

Push hard and fast on the center of the chest to the beat of "Stayin' Alive"—100 times

Early CPR and rapid defibrillation before an emergency team arrives can boost survival by 50%.

@1000everyday—real-time app activations  
@PulsePoint—general news and updates

**DOWNLOAD THE APPS:**  
Search PulsePoint

**GET TRAINED:**  
San Diego Project Heart Beat  
sdprojectheartbeat.com • 619-243-0909  
American Heart Association  
heart.org • 858-410-3850  
American Red Cross  
redcross.org/take-a-class  
1-800-RED-CROSS, Option 3

**BROUGHT TO YOU BY:**  
STEVEN M. GOOTTER FOUNDATION

**PulsePoint** PHYSIO CENTRAL



Thank you to Desert Toyota of Tucson for once again supporting UA Sarver Heart Center's community education programs with a donation and matching grant from Toyota Corporation. This is the 14th consecutive year of support from Desert Toyota. Pictured from left: Bob Rockov, general manager of Desert Toyota; Cheryl House, senior development director for University of Arizona Health Sciences and Sarver Heart Center; Brent Berge, owner; and Jerry Cannella, manager.



## Why a Will?

The death of Prince left us poorer for the loss of a unique musical talent. The tragedy is magnified by the news that he may have died without a plan in place for his vast estate.

Unfortunately, this scenario is far too common: A majority of adult Americans do not even have wills, the simplest way to ensure that upon your death your assets will be distributed according to your wishes.

Some 70 percent of us will spend a lifetime working, accumulating an estate, and caring for a family and loved ones and then die without appropriate planning. When this happens, distribution of property proceeds according to state laws. Often this distribution of property is not in accordance with the wishes of the person leaving the estate. Probably no other document in your lifetime is as important as your will.

With a will you can:

- determine to whom, how, and when your assets will be distributed;
- name an executor who will manage the estate in accordance with your intentions;
- create trusts for your spouse, children, or others, thus providing income for beneficiaries as well as saving taxes; and
- reduce and sometimes eliminate estate taxes.

The time to prepare a will is when you are healthy. This allows you the time to fully explore the options for distribution of assets to the people and causes that matter most to you.

In planning your estate, you are able to make gifts to an organization such as the University of Arizona Sarver Heart Center. The Sarver Heart Center can never receive funds from the estate of an individual who dies without a will. When donating to the Sarver Heart Center, you may determine the amount to give (specific assets, a specific amount or a remainder or percentage of your estate), choose if your gift is to be endowed for permanent use or spent on immediate needs, and most importantly, specify how you wish your bequest gift to be used.

Gifts to the Sarver Heart Center are not subject to federal estate taxes and so could significantly reduce the tax burden of an estate. The value of the bequest may be deducted when the taxable estate is determined, and there is no limit to the deduction.

A will should not be made and forgotten; periodically it should be reviewed and revised. To ensure that your exact intentions are carried out, consult with an attorney specializing in estate planning and a member of our planned giving staff when preparing your estate planning documents. Please contact Cheryl House, CFRE, senior director of development, (520) 626-6022, [chouse@email.arizona.edu](mailto:chouse@email.arizona.edu).

## Yes! I would like to Support the University of Arizona Sarver Heart Center!

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone: \_\_\_\_\_

Email Address: \_\_\_\_\_

Enclosed please find my check for \$\_\_\_\_\_

Payable to the UA Foundation/UA Sarver Heart Center

Please use my:  Visa  MasterCard  American Express

*UA Foundation will appear as the vendor on your credit card statement*

Name (as appears on card): \_\_\_\_\_

Billing Address: \_\_\_\_\_

Card Number: \_\_\_\_\_ Exp.: \_\_\_\_\_

Signature: \_\_\_\_\_

**Give online at <https://heart.arizona.edu>**

I would like to make a gift to support:

Greatest Need

Research Innovation Fund to support the 10-year vision  
Special area of focus (optional) \_\_\_\_\_

Education and Training

Heart Disease and Stroke in Women of Color

Other \_\_\_\_\_

**To learn about other giving options, please call the Development Office at (520) 626-5752 or (877) 518-4638 or email [give@ahsc.arizona.edu](mailto:give@ahsc.arizona.edu).**

**All donations are greatly appreciated!**

My gift is in  honor of:  memory of:

\_\_\_\_\_

Please notify: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Your gift to the UA Sarver Heart Center is fully tax-deductible to the extent allowed by the IRS. Please mail this form and donation to Development Office, UA Sarver Heart Center, P.O. Box 245046, Tucson AZ 85724.



THE UNIVERSITY OF ARIZONA  
HEALTH SCIENCES

**Sarver Heart  
Center**

The University of Arizona  
Health Sciences  
Sarver Heart Center  
PO Box 245046  
Tucson AZ 85724-5046

ADDRESS SERVICE REQUESTED

# UA SARVER HEART CENTER IN THE NEWS

Here are some recent news clips featuring UA Sarver Heart Center members and research and education programs. For more on these stories, visit [heart.arizona.edu](http://heart.arizona.edu) and click on "In the News" under "News."

## Help is just a phone call away – Telephone CPR improves cardiac arrest outcomes

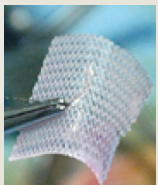


**UAHS News, May** – A Telephone Cardiopulmonary Resuscitation (TCPR) program increases survival rates and favorable outcomes for patients who experienced an out-of-hospital cardiac arrest, according to a **UA Department**

**of Emergency Medicine** study published in the June issue of *JAMA Cardiology*.

## UA awards \$1.1 million to boost promising tech

**Arizona Daily Star, May 23** – A patch for a beating heart is one of the technologies the University of Arizona is nurturing toward the marketplace. UA Sarver Heart Center cardiologist **Steven Goldman, MD**, and principal research specialist **Jordan Lancaster, PhD**, who invented a method for transplanting living cells to repair diseased hearts in what's been called a "beating heart patch," have established Avery Therapeutics, a start-up company named after Dr. Lancaster's 3-year-old daughter.



 Find us on  
**Facebook**

University of Arizona  
Sarver Heart Center

## Don't use chest compression only CPR in water emergencies

**KVOA News 4, Kristi's Kids, April 28** – Use "compression only for primary cardiac arrest, where it's a heart problem causing the heart to stop. But, for near-drowning or drowning victims, we recommend ventilation, and then compression in the standard ratio," **Dr. Art Sanders** told Kristi's Kids.

## Change of Heart

**Times Video, March 21** – This Times Video recaps the history of the total artificial heart, including commentary by our own **Zain Khalpey, MD, PhD**, associate professor of surgery, cardiothoracic division, and the Sarver Heart Center's Tony A. Marnell, Sr. Endowed Chair for Research in Cardiac Surgery.

## Finding sleep's sweet spot

**ScienceDaily, April 21** – When it comes to promoting healthy hearts, it's not a matter of getting more sleep. It's a matter of getting adequate sleep at optimal times. **Michael Grandner, PhD**, is a co-investigator on the study published in *Annals of Behavioral Medicine*.

## Heart Failure: it isn't what you think



**Green Valley News, March 19** – **Elizabeth Juneman, MD**, associate professor of medicine and heart failure specialist, outlines how the chronic condition of heart failure can be managed to help people live their lives and feel better. Exercise, healthful eating, medications and sometimes surgery are all options that contribute to better quality of life.



Twitter @SarverHeart