

SARVER HEART CENTER

NEWSLETTER ISSUE 69 • SPRING/SUMMER 2014

FOCUSED ON EXCELLENCE AND PATIENT-CENTERED CARE

I am honored to have begun my tenure as director of the University of Arizona Sarver Heart Center, a remarkable institution with an impressive history. It is poised to become a regional and national destination, where patients and physicians can access cutting-edge heart and vascular care. It's an exciting time to be the leader of this storied center and the UA College of Medicine – Tucson Division of Cardiology.



Nancy Sweitzer, MD, PhD

I bring to Arizona my passion for excellence and patient-centered care. These touchstones will guide all my actions as director. This will include excellence in clinical cardiology, our educational mission and research. My research career began with the study of regulation of proteins in heart muscle cells, an area of tremendous scientific strength among current Sarver Heart Center investigators. As I matured in my medical training, I discovered my research strength and passion were really in clinical research – the study of potential new treatments for heart disease in patients themselves.

I would like to share with you some of the impressive history of clinical research that inspires me in my career. Since the

early 1950s, clinical trials research has revolutionized treatment of patients with heart disease. Gone are the decades of extended bed rest, along with oxygen and liquid diets, as the only options doctors could offer patients who suffered a heart attack. **Now, we can offer the vast majority of heart patients longer, healthier lives – lives with improved quality, despite chronic**

heart disease. This transformation in heart care is due in large part to clinical research and the heroic, altruistic people who have agreed to participate in clinical trials over the last 65 years. These unsung heroes are the reason we have therapies such as clot-busting drugs, stents, statins, implanted heart devices, as well as knowledge of the many risk factors for heart disease that we now take for granted.

The Framingham Heart Study, which began in 1948, is perhaps the most famous cohort study in the United States. In a cohort study, a group of people are observed to try to make associations between events in their lives and health outcomes. In the early 20th century, as death from infectious disease declined, the death toll from cardiovascular disease began steadily climbing. The Framingham Study

Continued on page 3



2 Note from the Advisory Board Chair



6 Sutureless Valves and Other Heart Procedure Updates



7 Heart Health Updates



8 Investigator Awards

Plus:

Member Updates

Upcoming Education Programs

NOTE FROM THE ADVISORY BOARD



The UA Sarver Heart Center Newsletter is published three times a year – in spring, fall and winter. News reporters are welcome to quote from newsletter articles and are asked to provide credit.

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@SarverHeart

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It is an honor to chair the UA Sarver Heart Center Advisory Board as we welcome Nancy K. Sweitzer, MD, PhD, as the new director of the center and chief of the Division of Cardiology in the UA College of Medicine – Tucson. As a member of the search committee that recommended Dr. Sweitzer's appointment, it is very clear to me that we made the right choice. Dr. Sweitzer combines the curiosity of a scientist with the passion of a cardiologist committed to high-quality cardiovascular care, all wrapped with the necessary business savvy to lead cardiovascular medicine and research through what continue to be difficult times.

Dr. Sweitzer is nationally recognized for her strong leadership and expertise in clinical research, including significant roles with committees of the National Institutes of Health and the American Heart Association. We look forward to working with her as she implements her plan to grow the Sarver Heart Center's regional and national presence, increasing its prestige and recognition.

As noted in Dr. Sweitzer's message (see page 1), so many great advances in the prevention and treatment of cardiovascular disease that we now take for granted are the result of important clinical research. We support her goal of building the clinical research core of the UA Sarver Heart Center – a key component that will help us achieve the next level of excellence and assist with faculty growth and development.

As a cardiologist with expertise in caring for heart failure and transplant patients, Dr. Sweitzer also brings a fresh focus on these important and growing areas of advanced heart disease.

Since Dr. Gordon Ewy's well-deserved retirement, we have been fortunate to have strong, dedicated interim leaders keeping our staff and communities focused on the Sarver Heart Center's mission. On behalf of the advisory board, I'm particularly grateful for the time and talent Carol Gregorio, PhD, contributed. She served not only as chair of the search committee to select Dr. Sweitzer, but also as interim director of the Sarver Heart Center. We also greatly appreciate the work of Karl B. Kern, MD. Dr. Kern accepted the role as interim chief of the Division of Cardiology, kept the clinical programs running and continued to add much-needed quality faculty to the division.

Now, with Dr. Sweitzer's visionary leadership presence, we look forward to working alongside her in the journey toward a future free of heart disease and stroke.

Kalidas Madhavpeddi,
UA Sarver Heart Center Advisory Board Chair



Note from the Director, continued

monitored behaviors of residents of Framingham, Mass., and helped scientists and doctors understand heart attacks were far more likely to happen when patients had particular risk factors, most notably smoking, high blood pressure, physical inactivity, obesity and high cholesterol.

The story of cholesterol is interesting. The Framingham study and other clinical research demonstrated for the first time an association between cholesterol and heart attacks. Scientists working in laboratories then investigated cholesterol's characteristics that were responsible for this association. They discovered how cholesterol deposits in arteries make the lining of the vessels fragile and at risk for rupture and formation of clots. These clots can block the vessel, preventing oxygen and nutrients from reaching the heart muscle past the blockage, resulting in a heart attack.

Drugs were discovered that could lower cholesterol – the statins – and subsequent clinical trials demonstrated patients taking statins not only were less likely to experience a second heart attack, but these drugs could prevent first heart attacks in those at risk. This scientific progression is called “bedside to bench, and then back to bedside” and is an ideal example of the importance of interaction and communication between basic scientists and physician-scientists. This is a bridge I hope to strengthen in the cardiovascular sciences at the University of Arizona and the Sarver Heart Center.

Based on improved knowledge of what was causing heart attacks, a series of landmark clinical trials were conducted between 1978 and 1990. More than 50,000 people having heart attacks agreed, while in the emergency room, to participate in double-blind studies of thrombolytic (clot-busting) drugs. In a double-blind study, neither the patient nor the doctors know whether the patient is receiving active drug or placebo – a harmless look-alike solution or pill. The studies showed while the potent clot-busting drugs predictably increased bleeding risk slightly, survival after heart attacks was increased about fivefold,

especially if people received treatment within six hours of the beginning of chest pain. We learned that time meant heart muscle and the care of heart attack patients was transformed.

The next series of clinical research trials showed that stents were a better way to open blocked arteries than the clot-busting drugs, because they caused less bleeding. Based on the results of these trials, patients having heart attacks are rushed to cardiac catheterization laboratories, like those at the UA Medical Center – University and South Campuses, operating 24/7 to remove blockages from heart arteries. All heart attack patients then are given high-dose statin therapy to prevent further heart attacks. Due to this clinical trials research, the death rate from heart attacks in the United States has fallen steadily since the mid-1970s.

Cardiology also has a fascinating history of clinical research trials of device therapies in patients with advanced heart disease. Clinical trials demonstrated that internally implanted defibrillators worked better than drugs at saving patients at risk for arrhythmias that cause sudden cardiac death – a long-standing focus at the Sarver Heart Center. Patients dying of heart failure now have heart pumps implanted at advanced centers, such as UAMC, as a result of clinical research trials in these very sick patients. Clinical trials testing the long-term efficacy of the total artificial heart actively are enrolling patients. The total artificial heart is a unique heart pump that was developed at the University of Arizona.

Care of patients with heart disease has been transformed by these and other clinical trials, but in many ways, the revolution has just begun. Heart disease will affect about 80 percent of the people reading this newsletter, and it remains the number one killer of men and women. Despite our progress, there is still so much more to do.

You have heard in recent newsletters about the exciting research being done in cells and animals by Sarver Heart Center scientists. Many of these discoveries will

Note from the Director, continued on page 9

ABOUT NANCY K. SWEITZER, MD, PHD



Dr. Sweitzer is a board-certified advanced heart failure and transplant cardiologist and physiologist. She recently joined

the University of Arizona as director of the UA Sarver Heart Center, professor of medicine and chief of the Division of Cardiology in the UA College of Medicine – Tucson.

Dr. Sweitzer is nationally recognized for her strong leadership and experience in clinical research. Her clinical research program focuses on the interaction of the dysfunctional heart muscle in heart failure with the vasculature and kidneys to better understand how to improve symptoms and organ function in patients. Additionally, she has been involved in many large clinical trials of new drug and device therapies in heart failure patients, along with extensive work on the physiology of heart failure with preserved systolic function, a disease that disproportionately affects elderly women.

She has led and collaborated on numerous studies sponsored by the National Institutes of Health, as well as studies supported by industry and academic sponsors. She also has served on numerous NIH committees, and currently serves as a member of its Clinical and Integrative Cardiovascular Science Study Section and the American Heart Association's Cardiac Biology and Regulation Committee.

Previously, at the University of Wisconsin Cardiovascular Medicine Division in Madison, Dr. Sweitzer directed numerous programs, including clinical research, quality, heart failure and cardiac transplant programs. She also directed the Cardiovascular Medicine and Heart Failure and Cardiac Transplant Fellowship programs.

HEART PROCEDURE UPDATES

NEW OPTIONS AVAILABLE FOR ATRIAL FIBRILLATION PATIENTS WITH HIGH BLEEDING RISKS

Cardiologists specializing in interventional and electrophysiology procedures and cardiothoracic surgeons now have new options for reducing a-fib-related stroke risks, designed for patients who can't tolerate anticoagulation medicines.

Atrial fibrillation, the most common heart rhythm abnormality, affects 2 to 3 million people in the United States, a number projected to increase to 12 million by 2050 as the population ages, according to the U.S. Centers for Disease Control and Prevention. Atrial fibrillation also increases stroke risk, which usually is mitigated by anti-coagulation medicines, unless the patient is at high risk for bleeding and unable to tolerate these medicines. Now, more options are available for such patients.

In atrial fibrillation, the heart rate tends to be fast and irregular. Many patients complain about heart palpitations, a sensation of racing heart or skipped beats. Other patients experience no symptoms.

"A-fib" is related to about one-fifth of all strokes occurring in the U.S. (approximately 500,000 per year), and these strokes tend to be more devastating and lethal than those related to other conditions," said Peter Ott, MD, associate professor of clinical medicine and director of the Electrophysiology Laboratory and Arrhythmia Services at University of Arizona Medical Center and Sarver Heart Center. "Anticoagulation therapy (blood thinners) reduces the risk of stroke by approximately 80 percent. Blood-thinning medicine, such as warfarin (Coumadin), is the route to go for the vast majority of a-fib patients. Newer anticoagulants are equally effective in stroke prevention compared to warfarin. Some patients, however, do not tolerate anticoagulants, especially if they are at excessive risk for bleeding."

Lassoing the Source of Stroke-Causing Blood Clots

The left atrial appendage (LAA), a 1- to 2-inch long windssock-like structure, which extends off the upper chamber of the left side of the heart (left atrium), is the most common site for



Zain Khalpey, MD, PhD



Peter Ott, MD



Ranjith Shetty, MD

clot formation inside the heart of patients with atrial fibrillation. (See images on page 5.) If a blood clot forms here and breaks off, it can travel through the blood stream and lodge in the brain, causing a stroke, or lodge in other parts of the body.

Surgical and new, less-invasive catheter options have been developed to tie off the LAA.

Ranjith Shetty, MD, assistant professor of medicine in cardiology, has expertise with the LARIAT procedure. In this procedure, a catheter is guided through the heart chambers into the left atrial appendage and meets up with a catheter inserted under the chest bone into the pericardial sac that surrounds the heart, traversing on the outer surface of the heart to the outside tip of the left atrial appendage. The LARIAT snare then follows this outer catheter and is positioned to tie off the LAA at its base, thereby excluding the LAA from the body of the heart and the blood stream. "A benefit of this procedure is that a patient who is not tolerating anticoagulation medicines can stop taking these drugs right away," said Dr. Shetty.

Cardiothoracic surgeon Zain Khalpey, MD, PhD, associate professor of surgery, uses a surgical clip to tie off the LAA at its base. "This procedure particularly is good in cases where the CT surgeon is doing open-heart surgery for another reason such as heart valve surgery or coronary artery bypass surgery," said Dr. Ott.

If tying off the LAA reduces the risk of stroke in patients with atrial fibrillation, why don't we do this on everybody?

First of all, the stroke risk varies between patients ranging from less than 1 percent per year (cases where aspirin is recommended) to greater than 10 percent per year. Secondly,

approximately 20 percent of patients have anatomic hurdles that prevent the LARIAT snare from snagging the LAA. (For example, the LAA tip points to the back and not the front.) Others may have scarring in the sac of the heart from prior heart surgery that precludes inserting the LARIAT snare. Last but not least, this procedure carries potential serious complications; the most feared one is tearing a hole in the heart chamber when deploying the LARIAT snare suture.

“It’s important to remember that the LARIAT is an option to reduce the risk of stroke in atrial fibrillation patients who cannot tolerate anticoagulation therapy because they have had significant bleeding complications,” said Dr. Shetty. “The hope is that the LARIAT reduces the risk of stroke in these patients with atrial fibrillation who have no alternatives for stroke prevention as much as oral anticoagulation, but this has not yet been proven in clinical trials.”

Reducing the risk of stroke in atrial fibrillation patients is just one aspect of treatment of this heart condition. Treatment of the a-fib itself may focus on achieving and maintaining a normal heart rhythm (rhythm control strategy) or may focus on maintaining a normal heart rate (rate control strategy). To obtain normal rhythm, anti-arrhythmic drugs, such as flecainide, sotalol, amiodarone and dofetilide are used. In most patients, rate control strategies are recommended, since anti-arrhythmic drugs have significant side effects.

In highly selected patients who do not tolerate rate control, and do not respond to anti-arrhythmic drugs with persistent disabling a-fib symptoms, catheter ablation of the left atrium can be performed by an electrophysiologist. While this procedure is not considered a cure for atrial fibrillation, it can make managing the arrhythmia with antiarrhythmic drugs more successful in some patients. In long-term follow up, atrial fibrillation may reoccur.

Patients with atrial fibrillation undergoing cardiac surgery for heart valve or coronary bypass procedures may benefit from a MAZE procedure, in which the surgeon delivers ablation lesions to the left atrium, akin to the catheter ablation procedure.

“The best treatment strategy is individualized and requires careful evaluation of the patient-specific findings by the treating physician,” says Dr. Ott. These new procedures are part of an overall program of options available to control atrial fibrillation.

Prevention: Always the Best Option

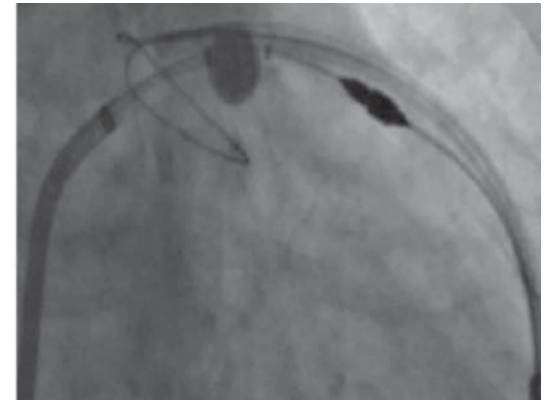
Since atrial fibrillation is strongly linked to high blood pressure and other forms of heart disease, as well as obesity and sleep apnea, every effort should be made to avoid these conditions by healthy lifestyle choices, such as smoking cessation, regular exercise and only modest alcohol use. Once hypertension or heart disease is present, aggressive medical therapy is mandatory to minimize the risk of future development of atrial fibrillation.

More heart health information is available on the University of Arizona Sarver Heart Center website: heart.arizona.edu.

We welcome your questions, suggestions and comments. Please email us at heart@u.arizona.edu.



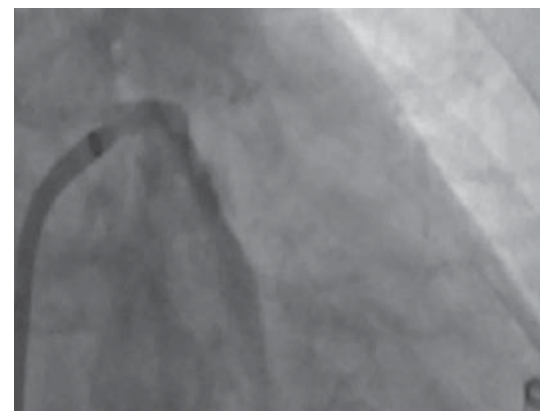
Left atrial angiogram showing the left atrial appendage.



LARIAT is tightened around the origin of the left atrial appendage.



Internal and external magnet wire connection allows LARIAT to be guided over and around left atrial appendage.



Completion – left atrial angiogram shows that blood flow into the left atrial appendage has been eliminated.

UAMC SELECTED AS CLINICAL TRIAL SITE FOR NEW SUTURELESS AORTIC VALVE

Some heart patients who could be helped by surgery have certain conditions that place them at too high a risk because of the length of time they would need to be in surgery. A new heart valve under study at University of Arizona Medical Center – University Campus may reduce surgery times and expand treatment options for such patients.

UAMC is one of 25 sites nationwide selected for participation in a Food and Drug Administration (FDA) Investigational Device Exemption study designed to evaluate the Sorin Perceval S sutureless aortic valve for the treatment of patients with severe calcific aortic stenosis.

“If approved for use in the U.S., this valve, which is widely used in Germany and Canada, will give patients another treatment option to match their unique circumstances,” said Sreekumar Subramanian, MD, assistant professor of surgery at the UA College of Medicine – Tucson and the local principal investigator of the study.

The Perceval is a tissue-aortic valve mounted on a metallic frame that allows the valve to be set in place using radial force and without sutures. This study is intended primarily for low- and intermediate-risk patients with severe aortic stenosis.

Before the valve is placed, the calcified aortic valve is surgically removed, just as with conventional open-heart aortic valve replacement. Surgical removal facilitates a good seal between the sutureless valve and the native aortic wall, thereby reducing the risk of paravalvular leaks, which have been shown to increase longer term risk of death. Once the patient’s diseased heart valve has been removed, the new valve can be deployed into position fairly quickly.

“Although conventional sutured aortic valve replacement (AVR) is an excellent operation that generally requires about one hour on the heart-lung machine, certain groups of patients may require substantially longer time,” said Dr. Subramanian. These may be patients with a small aortic valve area, a heavily calcified valve, or those needing combined procedures, such as AVR and coronary artery bypass grafting (CABG). “In general, patients tolerate the heart-lung machine very well, but those with pre-existing lung or kidney dysfunction are more likely to require



Sorin Perceval S Sutureless
Aortic Valve

more blood transfusions, experience more complications and have longer intensive care and hospital stays when they undergo long operations,” added Dr. Subramanian.

European studies have demonstrated a 30 to 50 percent reduction in operating room time, which also has translated into a reduction in blood transfusions and time in the intensive care unit. Importantly, the European data show that the mortality with the Perceval sutureless valve is similar to (or below) that of patients undergoing standard AVR. These data serve as the foundation for the FDA study.

“One of the reasons the UA was selected for study participation was my experience with this valve during my tenure at the Heart Center Leipzig (Germany),” said Dr. Subramanian. “I implanted this valve while there and saw firsthand the benefits, including the shorter times on the heart-lung machine and its potential value to patients.”

Since the elimination of suturing makes the valve easier to implant, more surgeons are adopting minimally invasive techniques for valve implantation. Currently, UA heart surgeons already offer a partial upper sternotomy for primary and reoperative aortic valve and ascending aortic/hemiarch procedures – techniques that require smaller breastbone incisions.

“As with any surgical approach, it is important to realize that this technology does not fit for all patients – by using a tailored approach, we can be assured that we are providing the best therapy for each individual patient. This FDA study allows us to expand the portfolio of services we are able to offer patients with severe aortic stenosis,” noted Dr. Subramanian.

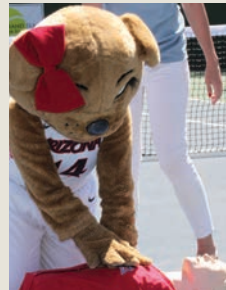
For more information about eligibility or to refer a patient, please contact Dr. Subramanian (ssubramanian@surgery.arizona.edu), 520-626-6339 or the research study coordinator, Trina Hughes, 520-626-0968.

HEART HEALTH UPDATES



When Washington State winter visitors Linda and Art Myers took part in a chest-compression-only CPR (CCO-CPR) training at the Voyager RV Resort in Tucson, little did they know that five days later Linda would use her new skills to resuscitate her husband. Art collapsed suddenly while playing pickle ball, and Linda reacted with the “3 C’s” – Check, Call, Compress. She checked that he was unresponsive, directed someone to call 911 and get an automated external defibrillator (AED), and started compressions. Her quick actions saved her husband’s life. “The training helped me to be mentally prepared. It was almost like I knew it was going to work,” said Linda. Riley Hoyer and Melissa Ludgate (pictured with the Myers) are part of the **REACT (Resuscitation Education and CPR Training)** Group, medical students at the UA College of Medicine – Tucson who volunteer to teach people CCO-CPR. You can learn these lifesaving skills by visiting the UA Sarver Heart Center website: heart.arizona.edu, and watching the training videos on the “Learn CPR” section.

▶ University of Arizona mascot Wilma Wildcat demonstrated chest-compression-only CPR during the **9th Annual Gootter Grand Slam** on March 16. The **Steven M. Gootter Foundation** honored Humberto and Czarina Lopez with its Philanthropic Award during the grand slam and gala. In memory of Steven Gootter, who was a victim of sudden cardiac death, family and friends raise funds to provide automated external defibrillators (AEDs) to schools, places of worship and other nonprofit organizations. They also generously support research focused on resuscitation science and prevention of sudden cardiac death at the UA Sarver Heart Center.



Many thanks to **Robert Sarver** and the **Phoenix Suns** for collaborating with the UA Sarver Heart Center, **Steven M. Gootter Foundation** and **Kaimas Foundation** to raise awareness of the “Be A Lifesaver” public education campaign. The Suns printed “3-Points/3-Steps” cards that were both fun and educational, highlighting the “3 C’s” of chest-compression-only CPR. The

Suns also produced a public service announcement with their own Channing Frye, a former UA-Wildcat-turned-NBA pro who has a heart condition that puts him at increased risk for sudden cardiac arrest. You can watch his video on the UA Sarver Heart Center website: heart.arizona.edu/learn-cpr. (Pictured: Rob and Ann Charles)

PAT ZABALETA RECEIVES SUPERB SERVICE AWARD

The Brian Bateman Superb Service Award annually recognizes and celebrates people who go above and beyond the call of duty to advance the mission of the Sarver Heart Center. As coordinator of customer service for valet parking at University of Arizona Medical Center – University Campus, Pat Zabaleta was honored by Brian Bateman, past director of development at the Sarver Heart Center, for going the extra mile to serve the patients of the Sarver Heart Center and UAMC. For 12 years, she has been at the heart of assisting patients at the front door of the hospital. Pat keeps the valet service running smoothly and offers to help patients with their walkers and wheelchairs and sometimes a reassuring hug. Congratulations and thank you, Pat!



ART ON LOAN AT UA SARVER HEART CENTER

Thanks to local artists Kate Breakey, John Schaefer, PhD, Kwan Lee, MD, and Danielle Skidmore for lending works of art and photography for display in the UA Sarver Heart Center. If you have an opportunity to visit, take some time to enjoy the art.

INVESTIGATOR AWARDS

2013-2014

GENEROUS GIFTS OF ALL SIZES HELP RESEARCHERS ADVANCE PROMISING IDEAS

When a medical researcher is intrigued by a question that may lead to a breakthrough in knowledge and treatment, the first step is often the most difficult: obtaining funding to collect data to prove the research shows promise.

Since 1995, the University of Arizona Sarver Heart Center's Investigator Awards Program has provided a stepping stone between ideas and promising evidence that may help researchers compete for national grants.

For 2013-2014, private donors contributed more than \$200,000 to fund investigator awards for research projects for UA Sarver Heart Center members under several research categories.

CATEGORY: NOVEL RESEARCH PROJECTS IN THE AREA OF CARDIOVASCULAR DISEASE AND MEDICINE



(From left to right) Steven Goldman, MD, Pablo Sanchez, Rose Silvilli, Maribeth Stansifer, Jordan Lancaster, Sherry Daugherty.

Steven Goldman, MD, professor of medicine and cardiologist at the Southern Arizona Veterans Administration Health Care System, received an award made possible by

Florence Jaffe and an anonymous donor to study regenerative reprogramming of heart cells to treat failing hearts. The idea is to reprogram heart cells to improve their ability to grow

new heart cells to repair damaged cells. In contrast to current studies, where stem cells are injected into the heart, this simpler approach allows the heart to change the function of its own cells without introducing foreign cells into the heart. This reduces the chance of damage and rejection.

Kapil Lotun, MD, associate professor of medicine (research scholar track), was awarded the **Phil and Bobbie Hanft Award** to evaluate the optimal treatment of cardiac arrest patients who require both percutaneous coronary intervention (PCI) and CPR. Patients who go into cardiac arrest because a blocked artery is impeding blood flow to the heart typically are treated with a catheter inserted into the artery to remove the blockage. In such cases, it is difficult to keep blood flowing with hands-on CPR in tandem with PCI. The study will compare coronary blood flow, with a mechanical CPR device and a left ventricle assist device.

Mienscheng Chu, PhD, a postdoctoral research associate, received awards funded by **J.G. Murray** and **Anthony and Mary Zoia** to study the potential role of FXR1 in pathological cardiac hypertrophy. His experiments are designed to elucidate the role of FXR1 in calcium homeostasis and contractility, which are critical for maintaining cardiac function. This may lead to a therapeutic intervention of abnormal calcium homeostasis, which is a major cause of heart failure and sudden cardiac death. His mentor is **Carol Gregorio, PhD**, co-director of the UA Sarver Heart Center.

Elizabeth Juneman, MD, associate professor of medicine, and **Kirk Hutchinson, PhD**, post-doctoral researcher received the **Irving J. Levinson Award** for their research project that is evaluating the effectiveness of myocardial echocardiographic speckle-tracking-based strain analysis, a sensitive ultrasound technique, as a preclinical tool for diagnosing diastolic heart failure. This is a condition that prevents proper filling of the heart due to increased stiffness of the left ventricular chamber and mostly affects women.

CATEGORY:

CARDIOVASCULAR RESEARCH

Linda Restifo, MD, PhD, professor of neurology and neuroscience, received the **Ralph and Shirley Morgan Award** for her project that seeks biomarkers to predict statin neurotoxicity. Some patients experience reversible memory loss and confusion when taking statins. Dr. Restifo is studying the FDA database for patient characteristics and seeking a genetic marker that might predict which patients are likely to be sensitive to statins.

Jess Thompson, MD, assistant professor of surgery, received the **William “Billy” Gieszl Award** and the **John J. Wettaw Thoracic Surgery Award** and is mentoring second-year medical student **Michael Stepita** on his project. He is studying a new injecting solution that may provide better protection to the heart muscle when it needs to be stopped during surgery.



Dennis Pollow and Heddwen Brooks, PhD.

Dennis Pollow, Jr., MS, RD, was awarded the **Heart Disease in Women Award**, under the mentorship of **Heddwen Brooks, PhD**, associate professor of physiology. After menopause, women are at greater risk than age-matched men of developing high blood pressure. The research goal is to understand how T cells of the immune system mediate the development of hypertension and to identify potential pharmaceutical interventions for treating heart disease in

women. His research recently was accepted for publication in the American Heart Association's journal *Hypertension*.

Miranda Good, BS, under the mentorship of **Janis M. Burt, PhD**, professor of physiology, received a **Finley and Florence Brown Endowed Research Award**. Her study will improve the understanding of how the blood flow process recovers following an impaired or complete loss of blood supply in peripheral artery disease.

Jennifer Vranish, MS, under the mentorship of **E. Fiona Bailey, PhD**, associate professor of physiology, also received a **Finley and Florence Brown Endowed Research Award** to study whether a novel exercise regime designed to improve respiratory muscle strength can alter the course of obstructive sleep apnea and reduce the risk of cardiovascular disease and death.



Jennifer Vranish and E. Fiona Bailey, PhD.

John Konhilas, PhD, assistant professor of physiology, received a second year of funding from the **Edward and Virginia Madden Award** to support his project: “Impact of Pro-biotic Administration on an Acute Coronary Event.”

Note from Director, continued from page 3

soon be ready to be tested in “first-in human” clinical trials. My vision is to see the Sarver Heart Center move into leadership as a vital and nationally-recognized site of excellence, where important basic science discoveries are translated into future therapies for heart disease. In addition, the University of Arizona is focusing on how we can select, among all the known effective therapies, a personalized treatment regimen based on each patient’s genetic and cellular characteristics, to deliver “precision therapy” and optimize outcomes.

These are just some of the reasons I am passionate about clinical research, and salute the courageous and generous people willing to step forward and help us learn the best options for all patients. This is why it is so important for the UA Sarver Heart Center to develop a clinical research core where all faculty members can engage in clinical studies on promising new medications and devices that will improve outcomes for our patients.

Additional, increased clinical research infrastructure and participation will not only help the Sarver Heart Center develop and mentor the careers of our younger faculty members, it will ensure our patients have access to the newest, most innovative treatments. I will continue my involvement in trials of advanced heart failure and heart transplant, which will join an already robust clinical trials effort in heart attacks and catheterization-based therapies. Physician-scientists of the Sarver Heart Center will be participating in more device trials, and we will accelerate participation in trials targeting patients with genetic, arrhythmic and congenital heart disease.

I look forward to working with you and all the members of the UA Sarver Heart Center as we continue to revolutionize the care of cardiovascular patients.

A handwritten signature in blue ink that reads "Nancy K. Sweitzer".

Nancy K. Sweitzer, MD, PhD
Director, UA Sarver Heart Center

MEMBER UPDATES

UA Faculty Present at American College of Cardiology Conference

Several UA Sarver Heart Center members were invited to present cardiology updates during the 2014 American College of Cardiology meeting in Washington, DC, the end of March.

Aiden Abidov, MD, PhD, associate professor of medicine and radiology associate chief, presented, "How to Translate Nuclear Quantitative Data to Patient Management and Risk Assessment." He was also the session moderator in the "Novel Applications of SPECT and PET Imaging."

Joseph Alpert, MD, professor of medicine, presented "Dig or No Dig – Is digitalis therapy still worth using when treating heart failure?"

Raj Janardhanan, MD, associate professor of medicine and medical imaging presented two case-study posters. One demonstrated how 3D Transesophageal Echo imaging was used to determine that a patient's worsening mitral valve regurgitation was related to a perforation in the mitral leaflet, helping to plan an appropriate and successful surgery. It was presented in collaboration with Naktal Hamoud, MD, a first-year cardiology fellow, Senthil Anand, a medical student, and Jess Thompson, MD, assistant professor of surgery. The second poster, in collaboration with Lindsey Renee Trutter, MD, MPH, an internal medicine intern, covered the challenges of managing a patient with apical hypertrophic cardiomyopathy (located in the apex of the left ventricle).

National Recognitions



Leslie Ritter, PhD, RN, FAHA, FAAN, has been inducted as a fellow of the American Heart Association. Dr. Ritter holds the William M. Feinberg Endowed Chair for Stroke Research at the UA Sarver Heart Center and is a professor of nursing and neurology in the colleges of nursing and medicine. Dr. Ritter conducts research on how inflammation affects a patient's recovery after suffering from a stroke.



Parker Antin, PhD, has been elected as president-elect of the Federation of American Societies for Experimental Biology, the largest coalition of biomedical researchers in the United States, representing 26 scientific societies and more than 115,000 researchers from around the world. His term begins July 1.



Carol C. Gregorio, PhD, director of the Molecular Cardiovascular Research Program at the UA College of Medicine – Tucson and co-director of the UA Sarver Heart Center has been appointed to the National Heart, Lung and Blood Institute (NHLBI) Cardiac Differentiation and Development Study Section.

Welcome New Faculty



Tom Lassar, MD, joined the cardiology team at the Sarver Heart Center as a professor of medicine, clinical scholar track at the University of Arizona College of Medicine - Tucson. He also is a clinical and interventional cardiologist who received his medical degree from St. Louis University School of Medicine, and specialized in interventional cardiology. Prior to coming to the UA, he served as an associate professor of medicine and associate director of adult cardiac cauterization and intervention at University Hospitals of Cleveland.



Scott Lick, MD, has joined the University of Arizona as professor of surgery and director of Heart and Lung Transplant Surgery in the College of Medicine – Tucson. Receiving his medical degree from the University of Minnesota Medical School, he completed his internship and residency at the University of Arizona. Previously, Dr. Lick worked for the University of Texas Medical Branch in Galveston as professor of surgery and director of Thoracic Organ Transplantation. Dr. Lick brings 20 years of experience in cardiac surgery and heart and lung transplantation. He devotes his time to studying artificial lung development, as well as heart and lung transplantation.



Marvin Slepian, MD, professor of medicine and biomedical engineering, (pictured with Nancy K. Sweitzer, MD, PhD) was awarded the 2014 Catapult Award from Tech Launch Arizona. This award recognizes leading examples of inventions developed at the University of Arizona that have made a worldwide impact.

The New England Journal of Medicine also invited Dr. Slepian to co-author a review article in the April 17, 2014, issue, citing the benefits of hydrophobic light-activated adhesive (HLAA), an advanced sealant that may be beneficial to patients who undergo minimally invasive cardiovascular procedures.



Karl B. Kern, MD, professor of medicine and co-director of the UA Sarver Heart Center (right) presented the Charles W. Hall Jr. and Virginia P. Hall Award to Department of Medicine residents **Glenn Stokken, MD**, and **Keri Maher, DO**. The award includes a monetary stipend and recognizes outstanding residents on the coronary care unit rotation.

The European Cardiac Arrhythmia Society also awarded Dr. Stokken a “Best Abstract” honor for a presentation, in collaboration with **Frank I. Marcus, MD**, emeritus professor. The abstract outlined their research that added to tilt-table testing a measurement of patients’ sweat to improve diagnosis of why some people faint while standing and selection of appropriate treatment. Some faint due to a drop in blood pressure, an abnormally slow heart rate or both conditions. Nervous system stimulation may be a trigger and measuring sweat may help differentiate the causes.

In Memory of Helen Lovaas

Long-time friend and board leader of the UA Sarver Heart Center, Mrs. Helen B. Lovaas, passed away in California on January 12, 2014. Helen was a powerful supporter of the Sarver Heart Center, beginning in its early days.



Humberto Lopez, Helen Lovaas and Robert Sarver at the Sarver Heart Center building dedication in 2000.

She was tremendously dedicated to building a leading heart center and shared her resources generously. Her gift, in honor of her first husband and business partner, Allan C. Hudson, remains the largest gift to the Sarver Heart Center in its history. Helen was an intelligent, hard-working and compassionate woman who was one of the first female CEOs of a medical device company in the United States.

Helen attended the University of Arizona and received her bachelor’s degree in education in 1960, and remained deeply connected to the UA. She eventually held numerous leadership positions, including the campaign chair for the university’s last capital campaign in 2000. “We continue to be grateful for the visionary legacy that Helen Lovaas established at Sarver Heart Center,” said Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center.

Helping Friends and Family While Leaving a Legacy Gift

The UA Sarver Heart Center encourages supporters to consider a planned gift. Here is one remarkable story of a planned gift that benefited five friends and family before the remainder came to the Sarver Heart Center.

Rose O. Goldman established trusts during her lifetime (in 1980 and 1994, respectively). Ms. Goldman’s generosity first benefited five friends and family members. For almost 20 years, the Sarver Heart Center received a nominal monthly gift from her two trusts. The remaining trust, if any, would later be donated to the Sarver Heart Center in honor of her late brother, Irving Levinson.

Well, two of the beneficiaries lived to be 100 years old each! Both friends recently passed away within 30 days of one another. The remaining trust of \$1.7 million was given to the Sarver Heart Center. We greatly appreciate the foresight and generosity of Rose Goldman.

In Memory of Bob Preble



The UA Sarver Heart Center pays tribute to our beloved volunteer, Robert Preble, who began his volunteer work at the Sarver Heart Center in April 2002. Bob was a UA Alum (’54) and longtime employee of UA Facilities Management when Gulshan Sethi, MD, performed a successful triple bypass on him. When he recovered, Bob promised Dr. Sethi he would volunteer for the Sarver

Heart Center once he retired. True to his word, Bob showed up every Monday, Wednesday and Friday for more than a decade. He helped coordinate volunteers and set up events, delivered Sarver Heart Center newsletters to hospital waiting areas, folded letters, stuffed envelopes and stamped mailings. Most importantly, he greeted everyone at the Heart Center with a smile, a handshake and delicious baked goods from Nadine’s! We miss Bob very much and extend our deepest sympathy to his wonderful family.



**SARVER
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▶ Many
▶ *Thanks*

to Alliance Beverage for once again generously supporting the mission of the UA Sarver Heart Center. This year, a group gathered not only to recognize Alliance Beverage's \$25,000 donation, but also to celebrate a reunion of Stella Taylor, 6, and one of her favorite physicians, Michael Teodori, MD, a pediatric cardiothoracic surgeon at the UA who performed one of several lifesaving surgeries on Stella to correct a congenital heart condition. Pictured from left: Shawn Thurman, president, Alliance Beverage, Dr. Teodori, Jennifer Camano, director of development at Sarver Heart Center, Tom King, vice president, Compliance, Regulatory and Community Affairs at Alliance Beverage, Stella Taylor and her mom, Shawn Christianson, who also works at Alliance Beverage.



▶ ▶ ▶
Bob and Claudia Rasmus, with help from their friends, raised more than \$6,000 to support the UA Sarver Heart Center and UA Cancer Center during the annual Ventana Cares charity event. The couple presented the joint gift to Nancy K. Sweitzer, MD, PhD, director of the Sarver Heart Center.

**Save
the Date**
– Oct. 21

The UA Sarver Heart Center Women's Heart Health Education Committee is planning a "Heart Smart" movie and panel discussion with Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center, and Victoria Maizes, MD, executive director of the Arizona Center for Integrative Medicine, at the Loft Cinema in Tucson, Tuesday evening, Oct. 21. Watch for more details.

