



*Dedicated to  
a Future Free of  
Heart Disease  
and Stroke*

## Guidelines for Screening Athletes to Prevent Sudden Cardiac Arrest

As pep rallies kick off another season of school athletic programs, it's sobering to think that every three days a young athlete dies from a cardiac incident in the United States. In fact, sudden cardiac arrest is the number one killer of young athletes, and often it is caused by a pre-existing condition that could have been detected and managed to lower a person's risks.

The typical school athletic program requires athletes to obtain a physical exam that includes listening to the heart, checking blood pressure and reviewing family medical history. But is this enough?

That may depend on the quality of the family medical history and what is done with that information if a cardiac risk is identified, says Jil C. Tardiff, MD, PhD, the University of Arizona Sarver Heart Center's *Steven M. Gootter Endowed Chair for the Prevention of Sudden Cardiac Death*. A professor of medicine in the Division of Cardiology and Department of Cellular and Molecular Medicine at the UA College of Medicine, Dr.

Tardiff's research focuses on hypertrophic cardiomyopathy (HCM), which causes an abnormal thickening of the muscle in the heart's main pumping chamber. HCM, a genetic condition that affects one in 500 people, is one of the most common causes of sudden cardiac arrest in young people.

"Taking a careful family history is an important step in assessing anyone's risk of having a predisposition to HCM. It's important to assess a person's risk before an episode happens and patients need to be honest with their physicians about their symptoms. One of the difficult issues we face in evaluating a patient's symptoms is that they can be unpredictable or dynamic in HCM and this can lead patients to minimize or discount them. Doctors can be guilty of this as well," says Dr. Tardiff.

Doctors should ask about shortness of breath, especially with activity, fainting episodes and any sudden deaths in family members, especially those who were around age 40 or younger. "Sometimes in cases of



*While exercise is important to maintaining heart health, athletes with certain conditions need to discuss exertion levels with their doctors, preferably a cardiologist who is knowledgeable about their diagnosis.*



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## *...from the Interim Director*

The 170 clinical and basic scientists who are members of the UA Sarver Heart Center are continuing to make advances toward our vision of a “future free of heart disease and stroke.” As

we are preparing to announce recipients of the Investigator Awards, totaling \$200,000 for fiscal year 2013-2014, we recap in this newsletter results from the 2012-2013 awards.

Each year, the Investigator Awards are made possible through the generosity of supporters who share a concern about heart disease and a commitment to furthering the Sarver Heart Center’s mission, which includes educating clinical and research-focused faculty and trainees who are dedicated to advancing academic medicine. These awards make a difference. They often allow investigators to obtain critical preliminary data to pursue an innovative idea and turn it into a meaningful proposal that can be used to earn much larger national funding and/or improved patient care. This is especially important at this time in history, since obtaining funding from national sources (e.g., National Institutes of Health) is so challenging. In fact, only one in six grant proposals submitted to NIH are eventually funded. This is the lowest success rate in the history of NIH funding.

These investigator awards are part of the legacy established by Gordon A. Ewy, MD, director emeritus of the UA Sarver Heart Center, before he retired this past summer. As a physician scientist, Gordon understood the value of research in academic medicine. We are pleased to report that in his honor, generous donors helped establish an endowment that will continue his main research focus area, resuscitation science. Please see the story on page 11 to learn how some donors used planned gifts for this purpose.

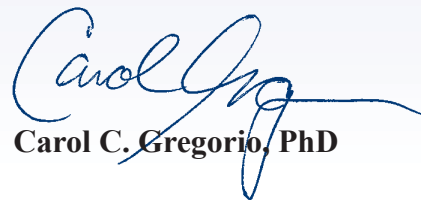
The UA Sarver Heart Center Advisory Board recently challenged our members to recommend areas of research that are likely to yield the greatest advances in our understanding and treatment of cardiovascular

diseases. It was truly rewarding to see so many promising proposals come forward. This is a testament to our board’s understanding of the depth of talent that is present here. I’m very proud to work with an advisory board that is committed to moving forward as the Sarver Heart Center continues its search for a new director.

One focus area we will pursue is an experimental, preclinical testing facility for murine models of human heart disease. This approach to studying heart disease will benefit a large number of researchers and make the UA more competitive on national grant applications. Many breakthroughs are occurring at top research institutions that have cutting-edge equipment and technical expertise (for example, to induce a myocardial infarction in a heart model), and to genetically engineer and study mutations that cause heart disease in humans. Requirements of this facility include high-resolution imaging tools, technical surgery expertise, pressure-volume-analysis systems, exercise stress testing and electrocardiogram machines. A centralized preclinical testing facility with cutting-edge equipment and technical expertise does not exist at the University of Arizona.

Such a preclinical testing facility would accelerate the work of numerous Sarver Heart Center investigators who have demonstrated their abilities to advance our understanding of cardiovascular disease, including our colleagues in neurological, neuromuscular and cancer research.

Besides advancing and retaining these outstanding scientists, the preclinical testing facility will be a significant recruitment tool – one that we hope is in place when the new Sarver Heart Center director joins us as we continue to work toward a future free of heart disease and stroke. ♥

  
**Carol C. Gregorio, PhD**

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**Interim Director** Carol C. Gregorio, PhD  
**Co-Director** Karl B. Kern, MD

**Director of Development**  
**Director of Communications**  
**Additional Writing**  
**Design / Production**

Jennifer Camano (520) 626-4146 or (800) 665-2328  
Katie Maass (520) 626-4083, [KMaass@SHC.Arizona.edu](mailto:KMaass@SHC.Arizona.edu)  
Jennifer Bungler, Jennifer Camano, Carol C. Gregorio, PhD, Peter Ott, MD  
AHSC Biomedical Communications

If you need this information in an accessible format (braille, digital, tape or large print) please contact Katie Maass, (520) 626-4083.

‘accidental’ deaths, such as an adult drowning or a single-car wreck, we have to question whether sudden cardiac arrest could have been the underlying cause,” says Dr. Tardiff. While the lack of a family history of sudden cardiac death does not rule out the diagnosis of HCM, it remains a central component in assessing risk.

A person who may have HCM should be assessed by a cardiologist – ideally at least once by a cardiologist who specializes in HCM. Following a thorough family history and physical exam, the cardiologist who suspects HCM should order an electrocardiogram (ECG) and a transthoracic echocardiogram (ultrasound). If the suspicion for HCM remains high after these tests, further workup likely would include an exercise echocardiogram, cardiac MRI and, in some cases, genetic testing.

“While genetic testing is not yet indicated in all patients with documented HCM, experimental evidence from my lab and others suggests that both the clinical course and outcome of the disease is, in part, dependent on the type of protein that has been affected by the genetic mutation. Thus, in the future it is likely that we will be able to tailor individual treatments to specific mutations and provide personalized care,” says Dr. Tardiff.

In collaboration with pediatric cardiology and structural/interventional cardiology, Dr. Tardiff is developing an HCM clinic at The University of Arizona Medical Center – University Campus where individual patients and, when warranted, entire families can undergo comprehensive evaluation and care.

Some experts who are studying athlete safety advocate an ECG as part of the regular school physical. “The issue of mandated pre-participation clinical screening (usually via ECG) is a controversial topic because the data regarding the efficacy of such programs remains unclear. We want to be careful not to unduly frighten people. HCM in the popular press is usually presented as a dire diagnosis. I would recommend an ECG and an echocardiogram for an athlete whose family has a history of sudden cardiac arrest, any of the symptoms outlined above or a suspected cardiomyopathy, such as HCM,” says Dr. Tardiff.

## **How active should a person be if they are at risk?**

“Management of HCM is usually individualized. This is important because the disease severity can vary widely, even between patients with the same genetic mutations. It is also important to remember that eliminating all exercise clearly is detrimental to heart health. While there are ongoing studies to assess exercise tolerance in patients with HCM, specific recommendations have to be tailored to each individual in consultation with their cardiologist. At present, participating in high-intensity or contact sports (including, but not limited to, basketball, ice hockey, soccer, racquetball and football) largely is not recommended for patients with HCM. Other activities, such as biking, modest hiking, swimming (noncompetitive), doubles tennis and golf, are acceptable. Other sports can be pursued on a case-by-case basis,” says Dr. Tardiff.

“In general, we advise patients to take care of themselves – control blood pressure, diabetes, and engage in exercise as symptoms allow – with a physician’s guidance,” she adds.

## **How is HCM treated?**

“If a patient does not have symptoms, we usually do not treat. With symptoms (in particular, shortness of breath or chest pain) the first line of treatment is medications, such as beta or calcium blockers. In some cases, especially when the enlargement of the heart alters the ability of blood to be ejected from the heart and symptoms cannot be adequately controlled with medications, we will consider surgery to remove the obstructing part of the muscle. Such patients who cannot undergo surgery can be treated with alcohol septal ablation (a procedure that is performed in the catheterization laboratory),” says Dr. Tardiff.

For patients at high risk of sudden cardiac death, an implantable cardiac defibrillator (ICD) is often recommended. The decision regarding the need for an ICD is dependent on risk factors, including discovering certain abnormal heart rhythms during monitoring and the presence of syncope (fainting),” says Dr. Tardiff. Patients with ICDs can lead active lives, including exercise,” she adds. ♥



# Young Faces of Sudden Cardiac Arrest: Raising Awareness and Safety in Schools

The Steven M. Gootter Foundation and the UA Sarver Heart Center have collaborated to fight sudden cardiac arrest by advancing research, raising awareness and educating the public about how to respond. The endowed chair that supports Dr. Jill Tardiff's research is just one example.

The Gootter Foundation, which has donated more than 40 automated external defibrillators (AEDs) to schools, places of worship and recreational centers in southern Arizona, continues to review application requests for AEDs. Details are on the foundation website: [stevenmgootterfoundation.org](http://stevenmgootterfoundation.org).

The Gootter Foundation also produced several public service announcements to encourage more people to learn how to respond if they witness someone suddenly collapse from sudden cardiac arrest. One video features high school student Chris Miller who collapsed at band practice and his



*Cardiac arrest survivor Chris Miller (l.) with Erika Yee, a classmate who learned how to respond from Melissa Ludgate (r.), a UA College of Medicine medical student who now is president of the REACT (Resuscitation Education and CPR Training) Group.*



*Rafael Rendon*

classmate, Erika Yee, who went into action using the skills she learned as a Girl Scout from a Sarver Heart Center trainer, Melissa Ludgate. This and other videos are available on the Gootter Foundation and Sarver Heart

Center websites: [heart.arizona.edu](http://heart.arizona.edu).

Another video features Rafael "Ralphie" Rendon and his mother, Bridget. At age 14, Ralphie was a healthy freshman football player at Ajo High School when he suddenly collapsed during football practice. In his case, he had an undetected structural congenital heart defect that was surgically repaired. He was back to playing football two years later, in large part because a volunteer coach knew how to respond.

Please share these videos with groups to help spread this lifesaving message.

By combining basic research, comprehensive clinical care at the new Hypertrophic Cardiomyopathy Clinic and public awareness of how to respond to a witnessed cardiac arrest, the Sarver Heart Center is attacking this common disorder on all fronts and will lead the way towards providing a future free of sudden cardiac death in the Southwest. ♥

## Investigator Awards

# Bridge Bright Ideas with Promising Results

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 bridge between bright ideas and promising proof that may help researchers compete for national grants.

For 2012-2013, private donors contributed more than \$300,000 to fund investigator awards for

research projects for UA Sarver Heart Center members. This past year, the awards supported the work of researchers at various career levels, from pre-doctoral candidates to professors in numerous departments in the UA College of Medicine – Tucson.

The following recipients received awards under several research categories.

### Novel Research Projects in the Area of Cardiovascular Disease and Medicine

**Christopher Pappas, PhD**, a postdoctoral research associate in cellular

and molecular medicine, used awards from the families of **Stephen Michael Schneider** and **Frank and Alex Frazer** for his project: "Elucidating the Cause of Dilated Cardiomyopathy in the Lmod2 Knockout Mouse." His mentor is Carol Gregorio, PhD, interim director of the UA Sarver Heart Center and professor of molecular, cell biology and anatomy. Dr. Pappas and his coworkers have discovered a structural abnormality in a contractile filament that may be common to all types of dilated cardiomyopathy, regardless of the primary cause. Now, the group is working on developing methods to "rescue" the abnormality and regain cardiac function. They submitted a proposal to the National Institutes of Health this summer to continue this research. ♥



Janet Funk, MD

**Janet Funk, MD**, associate professor of medicine and nutritional sciences (research scholar track), has used the **J.G. Murray Award** for her study of the “Efficacy of a Botanical Dietary Supplement in Lowering Cardiovascular Risk in Type 2 Diabetes Mellitus (T2DM).” Thanks to this generous award, Dr. Funk and her colleagues have uncovered evidence that the dietary spice, turmeric, can prevent human blood vessels in the brain from becoming “sticky” and inflamed, a problem that contributes to worse stroke outcomes in individuals with diabetes. Translating these findings into the clinical setting is a future goal of this research. ♥

**Michael Teodori, MD**, clinical professor of surgery and director of Pediatric and Adult Congenital Heart Surgery, received the **Marjorie Hornbeck Award** to study “Wireless Screening of Rheumatic Mitral Valve Disease in the Developing World.” Due to complexities of equipment and travel to remote countries, Dr. Teodori has an extension to complete his study. However, he has identified communities and expertise in Ethiopia and Sri Lanka, two countries that have significant rates of rheumatic heart disease. Early detection of rheumatic valve disease will help detect people at risk for heart failure and promote the use of strep throat screening to prevent the development of rheumatic fever. ♥

**Alexander Simon, PhD**, associate professor of physiology, is the recipient of the **Anthony and Mary Zoia Award** for his project: “Role of Connexins in Venous Valve Development.” Dr. Simon and his colleagues have discovered that three connexins, proteins involved in cell-to-cell communication, are highly enriched in venous valves as they develop and after they mature. In the absence of one of these

proteins, called Cx37, venous valves fail to develop in mice. Further studies are underway to determine if the other two connexins, Cx43 and Cx47 are also required for valve development. Understanding how venous valves develop and are maintained throughout adult life may lead to new therapeutic approaches for the treatment of chronic venous diseases that cause pain, swelling and leg ulcers. ♥

## Pediatric/Congenital Heart Disease Awards

**Ornella Selmin, PhD**, research associate professor in nutritional sciences, received the **Walter and Vinnie Hinz Award** to study environmental sensitivity in the developing heart.



Jess L. Thompson, MD

**Jess L. Thompson, MD, MSc**, assistant professor of surgery, used the **William “Billy” Gieszl Award** for his project: “Parental and Sibling Distress in Families Caring for Children with Congenital Heart Disease.” ♥

## Heart Failure

An anonymous donor made possible two awards that supported research focusing on heart failure. **Raymond Runyan, PhD**, professor of cellular and molecular medicine, is studying “Novel Mediators of Epithelial-Mesenchymal Transition in Cardiac Fibrosis.”

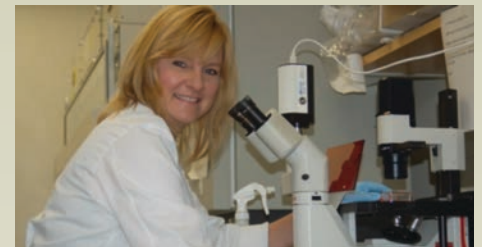
**Qin Chen, PhD**, professor of pharmacology, studied “Nrf2 as a Cardiac Protective Gene.” ♥

## Sudden Cardiac Arrest Research Grants

**Paul Krieg, PhD**, professor of cellular and molecular medicine, is the recipient of the **Steven M. Gootter Foundation Award**, which supported his project: “Cap2 Function

during Cardiac Sarcomere Development.” Lack of the Cap2 protein is known to be a cause of heart failure, but the precise role of the protein in heart muscle is not known. Research in this project will improve understanding of the normal function of Cap2 protein in heart muscle and how its absence may lead to heart defects. ♥

## Heart Disease in Women Research Grants



Betsy Dokken, PhD

Gifts from the Tucson Community supported the research of **Betsy Dokken, NP, PhD**, assistant professor of medicine, who is studying “Coronary Microvascular Dysfunction in Diabetic Women of Color: Treatment with Glucagon-like Peptide-1.” Dr. Dokken and her colleagues have determined a potential novel mechanism for diabetic microvascular complications in the heart, and a treatment that may help prevent it. Translation to human studies is an ultimate goal of this project.

**John Konhilas, PhD**, assistant professor of physiology, received the **Edward and Virginia Madden Award**, a three-year renewable grant to support his project: “Impact of Pro-biotic Administration on an Acute Coronary Event.” Pro-biotics (beneficial gut microbes) have surged in the natural health market as major contributors to normal digestive and immune health, but more recently as anti-inflammatory agents. Inflammation is established as a key contributor in every aspect of the atherosclerotic process including plaque development, rupture and subsequent heart attack — an acute coronary event (ACE). The study showed that pro-biotic administration to mice prior to an ACE minimizes the damage to the heart. Dr. Konhilas is using this data to seek funding from the American Heart Association and the National Institutes of Health. ♥

## International Grant Boosts Molecular Heart Research

**H**enk Granzier, PhD, a professor in the UA College of Medicine Department of Physiology and the Molecular Cardiovascular Research Program, was selected as one of two principal investigators leading a European and United States research collaboration of seven institutions. Dr. Granzier also is the *Allan and Alfie Norville Endowed Chair for Heart Disease in Women Research* at the UA Sarver Heart Center.

The grant from Fondation Leducq, a French non-profit health research foundation that supports international efforts to combat cardiovascular disease, will enable the research group to gain a better understanding of how the heart deals with mechanical stress under healthy conditions and in the case of a defect.

“With this project, we want to try and understand the interplay between mechanical stress and heart disease, and how titin – a

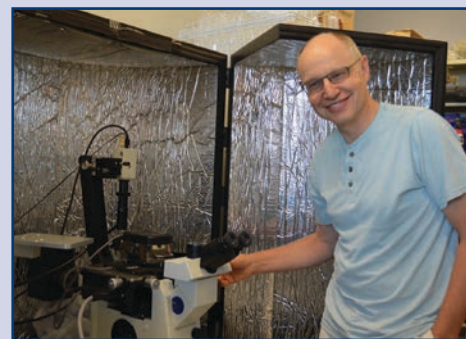
protein that acts as a molecular spring – factors into all of that,” said Dr. Granzier.

Scientists hope that once they better understand the processes at a molecular level, they can develop therapies for conditions that are untreatable now.

For example, one particular mutation in the titin gene is known to cause ARVC, or arrhythmogenic right ventricular cardiomyopathy, an inherited condition where damaged heart muscle is gradually replaced by non-muscle tissue.

A different series of genetic alterations in titin’s DNA sequence were found to be the causal defect in about one third of individuals afflicted with a condition called dilated cardiomyopathy – another form of heart failure. Affected individuals frequently develop severe heart failure in their 30s or 40s.

“It is a huge honor for Henk and the UA to lead this international,



*Henk Granzier’s research group uses an atomic force microscope sensitive enough to hold onto a single titin protein molecule and measure the tiny forces that occur during stretching and contracting under various conditions.*

multidisciplinary project from Fondation Leducq to decipher the impact of mutations in contractile proteins on human cardiac myopathies,” said **Carol Gregorio, PhD**, interim director of the UA Sarver Heart Center, who heads the Molecular Cardiovascular Research Program and is a collaborator on the grant.

In addition to the Fondation Leducq grant, Dr. Granzier also was awarded a \$1.5 million grant from the National Institutes of Health for studying the role of titin in heart function and disease. ♥



## Use of Defibrillators and EMS Team Approach Improves Cardiac Arrest Survival Chances

Chest-compression-only CPR training that included real-time audiovisual feedback and emphasized a “pit crew” or team approach to pre-hospital care for cardiac arrest patients increased survival by almost

60 percent, according to a study led by UA Sarver Heart Center Resuscitation Research Group members at the UA College of Medicine – Phoenix.

“Ours is the first study to demonstrate an association between a dedicated CPR quality initiative using real-time audiovisual feedback and out-of-hospital cardiac arrest outcomes,” said lead study author Ben Bobrow, MD, professor of emergency medicine.

Dr. Bobrow’s study, “The Influence of Scenario-Based Training and Real-Time



## Clinton Global Initiative Takes Dispatcher Training to Asia

The Ramsey Social Justice Foundation recently has partnered with Sarver Heart Center members at the Save Hearts in Arizona Registry and Education (SHARE) Program at the Arizona Department of Health Services to disseminate the very successful model of dispatch-assisted CPR used in Arizona. Together, they have created a standardized measurement tool for telephone CPR along with an interactive web-based training video designed specifically for call takers and dispatchers worldwide.

“The program was selected by the Clinton Global Initiative to work with emergency medical dispatch centers around the world to save more lives from a leading cause of death worldwide – cardiac arrest,” said Dr. Ben Bobrow, MD, professor of emergency medicine and medical director of emergency and trauma services for the Arizona Department of Health Services.

UA College of Medicine - Phoenix medical students **Christian Dameff, Aaron Dunham, Ryan Murphy and Jeff Tully** also are involved in the project that has begun building international collaborations and efficiently implementing the dispatch-assisted CPR, which was successfully implemented in Arizona, and measuring its impact in 10 countries across Asia.

“It’s very rewarding to see that the cardiocerebral protocols that have been developed and researched in Arizona will have extra inertia behind our efforts to extend this knowledge globally,” said Karl B. Kern, MD, professor of medicine at the UA College of Medicine – Tucson, co-director of the UA Sarver Heart Center and chair of the Center’s Resuscitation Research Group.

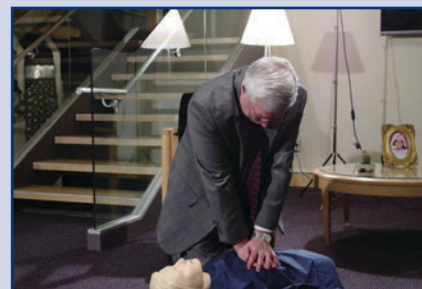
In addition, the Ramsey Foundation also has partnered with the Cardiac Arrest Registry to Enhance Survival (CARES) and the Pan-Asian Resuscitation Outcomes Study (PAROS) to spread the latest guidelines for the implementation and measurement of telephone CPR. ♥

Audiovisual Feedback on Pre-hospital Cardiopulmonary Resuscitation Quality and Survival from Out-of-Hospital Cardiac Arrest,” was published in *Annals of Emergency Medicine*.

The Mesa Fire and Medical Department implemented two hours of didactic teaching, two hours of scenario-based training and activation of real-time audiovisual feedback. Training emphasized a team approach to resuscitation, assigning each member of the team a role in a ‘pit crew’ model of

resuscitation.

CPR quality measures improved significantly after the training protocol was established. “This is very encouraging news for all communities trying to tackle the major public health problem of out-of-hospital cardiac arrest. This intervention is feasible on a large scale and has the potential to save thousands of lives every year,” said Dr. Bobrow, who is also medical director of the Bureau of Emergency Medical Services and Trauma System for the Arizona Department of Health Services. ♥



*Dr. Karl B. Kern demonstrates chest-compression-only CPR in the UA Sarver Heart Center’s viral training video.*

## Still Going Viral With 9 Million Viewers

Despite breaking all the rules of a viral video, the UA Sarver Heart Center Resuscitation Research Group’s chest-compression-only CPR training video continues to go viral, now with more than 9 million viewers. “We were told it had to be about two minutes and a little quirky,” recalls Dr. Gordon A. Ewy, director emeritus of the Sarver Heart Center. “It’s gratifying to know that our six-minute, serious video featuring two white-haired men—Dr. Kern and me—continues to get about 50,000 hits a week.”

More gratifying are the calls and notes the group receives from viewers who saw the video and used the information to save a life. Recently, a reporter from the *Jerusalem Post* contacted the Sarver Heart Center on behalf of Israel’s Health Ministry, asking permission to translate captions into Hebrew and Arabic. Captions on YouTube now are available in Spanish, Portuguese, German and English. Search for Sarver Heart Center to find the video on YouTube, or visit [heart.arizona.edu/learn-cpr](http://heart.arizona.edu/learn-cpr) for more resources. ♥

## MRI Scans Now Safely Done on Selected Pacemaker and ICD Patients

By Peter Ott, MD, associate professor of medicine, Division of Cardiology

**M**agnetic resonance imaging (MRI) is a powerful diagnostic tool that can produce highly detailed images of virtually any area in the body. Unlike other diagnostic imaging tools, such as X-ray or CT scans, it does not use radiation. MRI uses a powerful magnetic field and delivers strong radiofrequency energy pulses to generate its images.

It is, however, exactly these energy sources that can create a problem for patients with implanted pacemakers or implantable cardioverter defibrillators (ICDs). In particular, the radiofrequency energy pulses can be picked up by the pacing leads (akin to an antenna) and transferred into the generator (altering or destroying its controlling software) or be transferred towards the heart muscle, potentially rendering the pacing lead inoperative or generating abnormally fast heart rhythms. The magnetic energy field



*Dr. Peter Ott, electrophysiology cardiology specialist, teamed up with Dr. Aiden Abidov, cardiology imaging specialist, to establish protocols to safely use magnetic resonance imaging on patients with pacemakers or implantable cardioverter defibrillators (ICDs).*

also may affect device function.

Therefore, MRI scans typically are not done on patients with pacemakers or ICDs.

However, Sarver Heart Center members at University of Arizona Medical Center – University Campus, who are part of the electrophysiology group and the MRI imaging group, built on the experiences of other medical centers and initiated a protocol that allows MRI scanning

in carefully selected and supervised patients with implanted pacemakers or ICDs whose medical conditions require an MRI.

An estimated 50 to 75 percent of patients with implanted devices may at some point need MRI scans, so all pacemaker and ICD companies are developing “MRI safe” devices. These devices contain lower ferrous content of the hardware, filters and lead design in an effort to protect the device software from the radiofrequency energy.

A careful review of current medical diagnosis and available pacemaker or ICD technology is required to choose the correct device for each individual patient. This discussion should be led by a cardiac electrophysiologist (specialist trained in pacemaker and ICD technology), in close cooperation with the patient’s primary physician or cardiologist. ♥

## Sarver Heart Center Members Receive Honors



**Frank I. Marcus, MD**, professor emeritus at the UA College of Medicine - Tucson, was honored by the Pima County Medical Foundation “in recognition of lifetime achievement in the furtherance of medical

education.” The founding chief of the Section of Cardiology at the UA College of Medicine, Dr. Marcus is an internationally recognized expert in electrophysiology and cardiac arrhythmias.



**Lorraine Mackstaller, MD**, clinical associate professor of medicine at the UA College of Medicine – Tucson and holder of the Sarver Heart Center’s *Bertram Z. and Hazel S. Brodie and the Edwin J. Brach Foundation Endowed Lectureship for*

*Heart Disease in Women*, received the inaugural “Community Impact Award” from the Delta Sigma Theta Sorority, Inc., Tucson Alumnae Chapter. The award, presented by Wanda Moore, recognizes “a woman whose selfless work positively reflects the sorority’s public service program.”



**Elizabeth Juneman MD**, associate professor of medicine, Division of Cardiology at the UA College of Medicine - Tucson, was the recipient

of the 2012 – 2013 Clinician of the Year at the Southern Arizona VA Health Care System. She was nominated by both her peers and patients for her outstanding patient care, professionalism, ethical practice and collegiality.



## Gootter Foundation Raises Funds to Support Resuscitation Research Lab

While the UA Sarver Heart Center Resuscitation Research Group is renowned for its research and advocacy of compression-only CPR, many people don't realize that the group also has been actively researching and developing new lifesaving protocols for emergency responders and hospitals in cases of sudden cardiac arrest.

"Early on when we were doing trainings about new protocols for emergency medicine responders, some of them said, 'Doc what are you going to do to change what happens to patients we resuscitate and bring to the hospital,'" says Karl B. Kern, MD, professor of medicine, co-director of the UA Sarver Heart Center and director of the Resuscitation Research Lab.

"We have made progress and have more survivors. We now need to update our post-resuscitation care research unit to better simulate the clinical situation for survivors of cardiac arrest," adds Dr. Kern.

The generous support of the Steven M. Gootter Foundation will allow this highly productive research laboratory to continue to explore and test new approaches in resuscitation to improve survival from sudden cardiac arrest. It will provide the means to enable our post-resuscitation care unit continuous 24-hour operations to better simulate the human clinical situation. This support also will allow the laboratory to continue to pursue the most important resuscitation science questions and newest techniques quickly, and to provide important translational data that then will be applied in the care of those suffering cardiac arrest.

"We plan to explore new ways to further improve survival, but also ensure that all survivors have good quality of life, including good brain and heart function. Aggressive post-resuscitation treatments, including hypothermia (cooling) and emergent opening of coronary blockages, are keys to the next major advances in resuscitation. We want to make sure we are using best practices for the best possible outcomes," says Dr. Kern.

"We are delighted to support the research efforts of Dr. Karl Kern and the Resuscitation Research Group. We are very impressed with what this group has accomplished in the field of cardiopulmonary resuscitation and are eager to aid them in developing techniques to improve the quality of life of sudden cardiac arrest survivors," says Andrew Messing, president of the Steven M. Gootter Foundation. The Gootter Foundation is dedicated to saving lives by defeating sudden cardiac death through increased awareness, education and scientific research. ♥



*Claudine and Andrew Messing of the Gootter Foundation with Dr. Karl B. Kern.*

*Thank you*

**to the Steven M. Gootter Foundation**

Because an endowment takes time to build and even more time to grow before its potential can be realized, the Sarver Heart Center is indebted to the Steven M. Gootter Foundation for recently awarding the Lab \$150,000.

This contribution will allow the Resuscitation Research Lab to continue uninterrupted while the *Gordon A. Ewy, MD Endowment for Resuscitation Research* builds. Thank you to the Steven M. Gootter Foundation Board of Trustees for your continued belief in the importance of this work. ♥

# Honoring Seymour Zuckerman

The Sarver Heart Center recently received a significant estate gift from Seymour Zuckerman in honor of his cardiologist, Dr. Gordon A. Ewy, for whom Seymour had great admiration.

While Seymour enjoyed good health into his late 80s, he had undergone a triple bypass procedure in his native New York and needed to see a cardiologist. He had grown to love the University of Arizona, since his arrival to Tucson as a young man, and he reached out to Drs. Copeland and Ewy for care. It was Dr. Ewy who provided care to Seymour for many years.

Seymour was born on February 13, 1920 and raised in New York along with his brother, Herman, a physician who pioneered mammography in the 1950s. Seymour attended NYU and then joined the military where he trained as a weatherman. He didn't report the weather, rather he went out into it and placed balloons and other devices which recorded data. After his military service, Seymour went against his family's prescribed career path, which was to become a doctor, and instead continued his profession as a weatherman, which ultimately brought him to Tucson.

Though he never married, he never lived with regret. He and his brother cared for their mother throughout her long life. Seymour had a deep curiosity and zest for life. He was an avid cyclist and hiker who loved to have multiples of everything! He had three bikes, and later three vehicles and four scooters. He also had three computers and stayed abreast of news locally and globally. He received a

number of newspapers and periodicals which he read daily and was always in the middle of several articles in different journals. Seymour was also a foodie and enjoyed dining at some of Tucson's more upscale restaurants on a regular basis.

He amassed his wealth by making solid investments in the stock market and tending to his finances himself. He insisted to his adopted family, the Francks, that they take care of their own money. "Never let someone else do it for you. It's too important." Seymour believed deeply in philanthropy and gave to many organizations.

He was a wise man to have befriended the Francks, who became his adopted family and cared for him until he died. Through a casual grocery store connection in a Safeway express line,

Seymour and Lori became fast friends. Over the next 20 years, Seymour would spend countless holidays, graduations and weddings with the Francks. They even helped him celebrate his 91st birthday (pictured above).

As a longtime resident of downtown Tucson, Seymour made many friends. A former neighbor, Joseph BlackCoyote, commented, "He inspired me not to take life for granted, that we must do things, go places, while we are fortunate to do so."

Seymour told Lori that he never wanted for anything and that he felt very blessed to have the life he had.

*Thank you to Lori for sharing stories of Seymour Zuckerman with us. ♥*



*Seymour Zuckerman celebrating his 91st birthday.*

## Bequests Help Ewy Endowment for Resuscitation Research Top its Goal

**T**hank you to all who contributed to the Gordon A. Ewy, MD Endowment for Resuscitation Research. We are pleased to report that through your contributions as of June 30, 2013, the Sarver Heart Center raised \$2,234,692 to support the important research in sudden cardiac arrest!

A key component of fund raising for the lab came in the form of bequests. Roughly 60 percent of the total endowment has been pledged through planned gifts from longtime patients of Dr. Ewy. Another significant gift came unexpectedly from the estate of a former patient of Dr. Ewy's (see "Honoring Seymour Zuckerman," page 10). Bequests are an easy way for individuals to make meaningful gifts that have substantial impact on an organization.

A bequest is a provision in your will or living trust that directs a portion of your estate to a named person or charity, such as the Sarver Heart Center. You may bequeath a specific asset, a dollar amount, a percentage of your estate or the remainder of your estate after all other gifts have been distributed.

For more information on making a bequest or establishing other forms of charitable gifts through your estate, please call Jennifer Camano, director of development at the Sarver Heart Center at (520) 626-4164. ♥

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## Best Wishes to Retirees Dianna Rosler, Dr. Ewy, Debbie Young



*About a hundred years of experience left the UA Sarver Heart Center with the retirements of (l. to r.) Dianna Rosler, who retired after 24 years, including serving as administrative assistant to Dr. Karl B. Kern; Gordon A. Ewy, MD, director emeritus of the UA Sarver Heart Center, who retired after 44 years; and Debbie Young, administrative assistant to Dr. Ewy who said she just didn't want to train another doctor after her 30 years of service. We wish all of them a retirement filled with relaxation, wonderful travels and much laughter with their families.*

Join us to  
Beat Heart Disease

## Green Valley Lecture Series

In cooperation with  
Green Valley Recreation, Inc.

Join us for another year of heart health lectures in Green Valley! Free and open to the public. Presentations are held Thursdays at 10 a.m. at Canoa Hills Social Center, 3660 S. Camino del Sol, Green Valley.

No reservation required.  
Refreshments provided.

**November 21, 2013**  
**Improving Cardiovascular Risks for Diabetes Patients: Is Moderation Enough?**  
Betsy Dokken, NP, PhD

**December 19, 2013**  
**Heart Transplantation: The Future and the Present**  
Zain Khalpey, MD, PhD

**January 16, 2014**  
**Sorting Out Heart News You Can Really Use**  
Lorraine Mackstaller, MD

**February 20, 2014**  
**How Paramedics and Hospitals Work to Preserve the Brain during Sudden Cardiac Arrest**  
Karl B. Kern, MD

**March 20, 2014**  
**To Be Announced**

For more information, please visit our website: [heart.arizona.edu](http://heart.arizona.edu); email us at [heart@email.arizona.edu](mailto:heart@email.arizona.edu); or call 520-626-4146. Do you want to receive health talk reminders via email? Please email your address to us.



ADDRESS SERVICE REQUESTED

8th Annual



SARVER  
HEART  
CENTER

\$35  
per person

Saturday, October 12, 2013

Westward Look Resort

10:30 a.m. – 2 p.m.

# The Heart of the Matter

An Educational Luncheon on  
Heart Disease in Women



*Journey Toward a Better, Healthier You*



**10:30 a.m.** – Registration and Reception, including health information, screenings and a tour of the Westward Look Chef's Garden.

**Noon** – Luncheon and Panel Discussion focused on questions submitted by attendees.

### Featuring:

**Carol C. Gregorio, PhD**, interim director and the *Luxford/Schoolcraft Endowed Professor of Cardiovascular Disease Research*, at the University of Arizona Sarver Heart Center

**Karl B. Kern, MD**, interim chief of the Division of Cardiology and professor of medicine at the University of Arizona College of Medicine – Tucson; *The Gordon A. Ewy, MD Distinguished Endowed Chair of Cardiovascular Medicine*, chair of the Resuscitation Research Group and co-director at the UA Sarver Heart Center

**Lori Mackstaller, MD**, associate professor of clinical medicine at the University of Arizona College of Medicine; *The Edwin J. Brach Foundation/Hazel and Bertram Brodie Endowed Lecturer* of the UA Sarver Heart Center

**Anne Rosenfeld, PhD, RN**, associate dean of research, the University of Arizona College of Nursing

**Nancy Edling-Brown**, clinical leader of cardiopulmonary rehabilitation at the University of Arizona Medical Center – University Campus

**Cheralyn Schmidt**, program coordinator, The Garden Kitchen, the University of Arizona Pima County Cooperative Extension

**Bring Your Questions for the Extensive Q&A Session**