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Many Fire Departments across the state of Arizona have adopted the Sarver Heart Center's Cardiocerebral Resuscitation protocol. Pictured are Bentley Bobrow, MD and Gordon A. Ewy, MD (front row, 6th and 7th from left) with members of the Fire Departments of Phoenix and surrounding areas.

## The New CPR: The Public Has Made up Its Mind

**Dr. Sanjay Gupta: Cheating Death with chest compressions**

In a recent article he wrote for *Parade Magazine*, Sanjay Gupta, MD, points out how important it is for bystanders to "start chest compressions on someone who is in cardiac arrest and not stop for anything." Dr. Gupta, neurosurgeon, chief medical correspondent for CNN, columnist for *TIME Magazine*, and a frequent host on the "Today" show, encourages readers to use Chest-Compression-Only CPR and relates the Sarver Heart Center's research as the driving force behind the new technique that has gathered so much momentum with the public and paramedics alike. Dr. Gupta

says: "This is not a fancy technology born in a gleaming lab, yet it is one of the most significant recent breakthroughs in medicine. Because heart disease is the biggest killer in the U.S., this simple act could save thousands of people's lives every year."

Shortly after Dr. Gupta's article was published in *Parade*, he expanded his message in his book, *Cheating Death*, in which he explores the fates of people who have miraculously returned from the brink of death, and the doctors who are pushing the envelope in trying to save them. Dr. Gupta devotes an entire chapter to the New CPR and the physicians and researchers behind

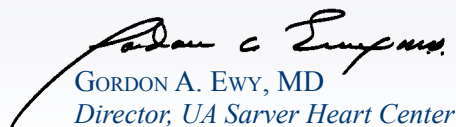
## ...from the Director

In the past few months, the Sarver Heart Center has made such exciting progress in our efforts to improve the chances of survival after cardiac arrest that we felt it was appropriate to dedicate another issue of the newsletter to this important topic. Why is cardiac arrest so important? The majority of deaths in the United States are cardiac in nature, and 60 percent of these occur somewhere away from a hospital – suddenly and unexpectedly. This major health problem claims as many lives every week as were taken in the Sept. 11 attacks. A man age 40 has a one-in-eight chance of having sudden cardiac arrest; a woman of the same age faces a risk of one in 24.

In our main article, “The Public Has Made up Its Mind,” we share some good news: The public rapidly is accepting Chest-Compression-Only CPR. Studies from Arizona have shown that even though the number of bystanders taking action by performing CPR increased only slightly over the past four years, the proportion of those bystanders who opted for Chest-Compression-Only CPR climbed from 16 to 77 percent. This is the result of an ongoing education effort started in Arizona in 2003. This analysis, led by Bentley Bobrow, MD, medical director of the Arizona Department of Health Services’ Bureau of Emergency Medical Services, has shown even more encouraging news: Chest-Compression-Only CPR clearly outperformed standard CPR (compressions and breaths). The survival rate among patients whose collapse was witnessed and whose heart was in a shockable rhythm—and who received chest compressions only—was found to be 32 percent, compared to 19 percent in those who received chest compressions plus mouth-to-mouth breathing.

Our effort to change the way the world approaches patients with out-of-hospital arrest is gaining traction but is an ongoing effort. Why do we have to change the way the world thinks about CPR? The national and international guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care are published about every five years. The groups that make these guidelines are comprised not only of physicians volunteering for the American Heart Association (AHA), but also physicians from the International Liaison Committee on Resuscitation (ILCOR), a group made up of representatives from all over the world. However, physicians in Europe have a great influence on these guidelines. We are trying to change their “world view.” And, as you know, that is never easy.

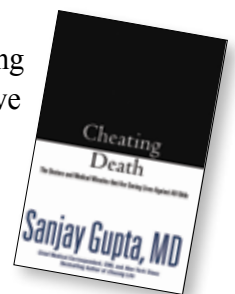
Finally, this work would not be possible without the generous support from the Laerdal Foundation and matching funds from numerous generous supporters of the resuscitation research efforts at the Sarver Heart Center.

  
GORDON A. EWY, MD  
Director, UA Sarver Heart Center

‘Cheating Death’  
continued from page 1

it – Gordon A. Ewy, MD, and the Resuscitation Research Group at the Sarver Heart Center. Dr. Gupta, a practicing neurosurgeon at Grady Memorial Hospital in Atlanta, Ga., writes, “If Ewy’s results had been accepted at that time, I probably would have learned a very different sort of CPR when I was in medical school...” He starts his article by recounting Mike Mertz’s brush with death. Mertz, a resident of Glendale, Ariz., was driving home after finishing his day as a school bus driver, when his heart suddenly stopped. Corey Ash, a passing UPS driver, found Mertz slumped over the steering wheel, his car wedged between a wall and a palm tree with the engine revving at top speed. Gupta writes, “Mertz probably owes his life to a handful of physicians who were willing to challenge the rules, if not quite break them. And when the doctors say there was nothing to lose, they have a point.”

*Cheating Death*  
– The Doctors  
and Medical  
Miracles that Are  
Saving Lives Against All Odds  
by Sanjay Gupta, MD, Wellness  
Central, New York, 2009



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## Changing the World, One Lecture at a Time



*The Sarver Heart Center Resuscitation Research Group: Arthur Sanders MD, Gordon A. Ewy, MD, Bob Berg, MD, Ron Hilwig, DVM, PhD, Karl B. Kern, MD. Not shown are Marc Berg, MD, Ben Bobrow, MD, Ashish Panchal, MD, PhD, Betsy Dokken, PhD, NP, Lani Clark, Charles Otto, MD, Vince Sorrell, MD, and Julia Indik, MD, PhD.*

Intrigued by the research results published by the Sarver Heart Center Resuscitation Research Group and the encouraging news coming from Arizona's Emergency Medical Services, physicians, researchers and emergency response experts in many parts of the world want to hear firsthand what they can do to improve their survival rates. This growing interest has made for a busy travel schedule for the doctors at the Sarver Heart Center. During the past few months, the Center's director, Gordon A. Ewy, MD, presented new data collected from Arizona's EMS providers and research results obtained in the lab to colleagues not only in the U.S. (Spokane, Wash., Morristown, N.J. and Jacksonville, Miss.), but he also traveled as far as India! This coming spring, he will present in Munich. "These opportunities are priceless. We not only get to present our changes in cardiac resuscitation and post-arrest care to the physicians at the primary-care hospitals, but we also get the buy-in from the EMS personnel in the area. Only if the public, the

emergency medical service providers and the physicians are on the same page, can we make a difference by rescuing more people from sudden cardiac death."

Dr. Ewy adds: "But our official 'International Cardiocerebral Resuscitation Ambassador' has to be Karl B. Kern, MD." (See his travel

log on page 5.)

Charles Otto, MD, professor of anesthesiology and member of the Sarver Heart Center Resuscitation Group, spoke to the Indiana Society of Anesthesiologists and at the University of Alabama Anesthesiology Review Course. A month later, he joined the conference of the International Liaison Committee on Resuscitation (ILCOR) and the American Heart Association meeting in Japan. This group will continue its deliberations in February 2010 to finalize the CPR and Emergency Cardiac Care Guidelines.

Most of the members of the SHC Resuscitation Research Group attended the Resuscitation Science Symposium in Orlando Fla. in November to present their findings and discuss recent advances related to treating cardiopulmonary arrest and resuscitation. Research and invited presentations were made by Bentley Bobrow, MD, Gordon A. Ewy, MD, Betsy Dokken, PhD, NP, Julia Indik, MD, PhD, and Karl B. Kern, MD. ♥



### Sarver Heart Center Resuscitation Research Group Member Betsy Dokken, PhD, NP,

was selected by the American Heart Association to receive a Young Investigator Award for her contribution on the effects of Glucagon-Like Peptide-1 on heart protection following a heart attack or cardiac arrest. Glucagon-Like Peptide-1 (GLP-1), a hormone made by the body, plays a role in inflammatory processes. The Young Investigator Award recognizes the best abstracts submitted by early career scientists in cardiac and trauma resuscitation science. ♥

In the next  
**ISSUE:**

- Stroke in Women
- "Her story": Heart Disease in Women

# American Heart Association Honors Dr. Karl Kern



The American Heart Association's Council on Cardiopulmonary, Perioperative and Critical Care selected Karl Kern, MD, as the 2009 Dickinson W. Richards Lecturer at the American Heart Association Scientific Sessions 2009 in Orlando, Fla. With this honor, named after Dr. Richards, a Nobel Laureate for work leading to a practical method of cardiac catheterization, the council recognizes

Dr. Kern's accomplishments in strengthening the "chain of survival" for cardiac arrest. In his lecture, Dr. Kern gave an overview of the groundbreaking improvements and success stories obtained by systematically implementing the chain of survival in Arizona: Chest-Compression-Only CPR for bystanders, a revised resuscitation protocol for paramedics (Cardiocerebral Resuscitation) and optimized post-resuscitation care at specialized hospitals (Cardiac Arrest Centers).

Dr. Kern is renowned worldwide as one of the leading experts in resuscitation and post-resuscitation critical care. His standing in the scientific community is underscored by his substantial role in securing significant support from the Laerdal Foundation in Norway. Laerdal is the



*Karl B. Kern, MD, during a visit to Japan in 2008, with Hiroshi Nonogi, MD (left), director of the National Cardiovascular Center in Osaka, and Ken Nagao, MD (right), of Surugadai Nihon University Hospital in Tokyo. Dr. Nagao is the lead author of the SOS-KANTO study, which provided evidence for the impact of bystander CPR on cardiac arrest survival.*

manufacturer of the famous "ResusciAnne" mannequin used all over the world in training CPR and other courses of Basic and Advanced Life Support. "The fact that the foundation chose to support the work of our research group half-way around the globe is very telling," said Dr. Ewy. "Europe is home to many leaders in cardiovascular research, but Laerdal considers our CPR research efforts important enough to reach across the Atlantic and grant their support to the UA SHC Resuscitation Research Group, chaired by Dr. Kern." ♥

## Spreading the word about the New CPR in Europe

Despite the growing interest in the Cardiocerebral Resuscitation and the New CPR in the United States, most European countries are lagging behind. "A lot of that has to do with the immense amounts of medical data that are being published in the world literature every day," explains Dr. Ewy. In the U.S., the scientific community tends to pay more attention to the medical literature published on its own continent, and the same is true for Europe. "We felt it was important to report the scientific basis for Chest-Compression-Only CPR (without mouth-to-mouth ventilations) for the European audience," Dr. Ewy said. Together with Radhakrishnan Ramaraj, MD, a resident-physician at the UA College of Medicine, he published a "Rationale for Chest-Compression-Only CPR" in the medical

journal *Heart*, an important source of information for cardiologists and cardiovascular scientists in Europe. Universally, an important deterrent that keeps bystanders from performing critically needed chest compressions is the fear of mouth-to-mouth breathing, but many think it necessary. Drs. Ramaraj and Ewy reviewed the evidence, detailing 10 reasons chest compression only should be used and why mouth-to-mouth and other forms of positive pressure ventilation should not be used to treat primary cardiac arrest (unexpected witnessed collapse in an unresponsive person). ♥





## A Travel Log by Karl B. Kern, MD

In the last three years, my travels to speak about how we have developed new ways of tackling the global health crisis of sudden cardiac arrest have taken me to the Island of Grenada in the West Indies, Australia, Brazil (twice), Ireland, Uruguay, Japan, Korea, Switzerland, Italy and Sweden. In December of 2008, I was invited by the Uruguay Society of Cardiology as a keynote speaker. Shortly thereafter, I was a Visiting Scientist in Japan, where I spent time at three different universities in Tokyo, Osaka and Kyoto. During this wonderful opportunity, I had a chance to mentor young cardiovascular researchers, and participate in a number of conferences. I spent a substantial amount of time with the Kyoto University Cardiovascular Research Group, both reviewing their previous work and discussing their future projects. This past May, I traveled to Pusan, Korea, again as a keynote speaker at the 5th Asian Conference on Emergency Medicine. The following month, I was invited as a Visiting Professor to the University of Basel in

Switzerland, by Mathias Fuercher, a former visiting research scholar who spent a year working with our Resuscitation Research Group at the Sarver Heart Center. In August, I traveled back to Brazil to be a Visiting Professor at Anhembi Morumbi University in the city of Sao Paulo, where my long-term friend and colleague Sergio Timmerman is now Dean of the College of Medicine. Finally, this summer I had the opportunity to speak at the 10th World Federation on Intensive and Critical Care Medicine in Florence, Italy, followed by a trip to Sweden. The University of Lund had invited me as a keynote speaker to their 3rd International Hypothermia Symposium, to share our great successes we have had here in Arizona in applying mild hypothermia to cardiac arrest survivors.



Dr. Kern leading Grand Rounds at a teaching hospital in Osaka, Japan.



Dr. Kern at Anhembi Morumbi University, Sao Paulo Brazil.



Dr. Kern speaks to an audience in Osaka, Japan, about the improvements in bystander CPR and EMS protocols that have resulted in increased survival rates in Arizona.







*Educating the public in the importance of administering chest compressions and using Automated External Defibrillators is crucial in improving the chances of survival of someone collapsing from cardiac arrest. Here, students from the UA College of Medicine offer free training classes at University Medical Center's DuVal Auditorium.*

## Latest Statewide Data from Arizona Show Survival with Chest-Compression-Only CPR Twice as High as with Standard CPR

**S**arver Heart Center Director Gordon A. Ewy, MD, presented exciting new data on bystander CPR across the state of Arizona at the Resuscitation Science Symposium of the Annual American Heart Association Scientific Meeting in Orlando, Fla. in November, “We found that the chance of surviving a cardiac arrest outside a hospital was twice as high when bystanders performed continuous chest compressions without mouth-to-mouth breathing than when bystanders performed standard CPR,” Dr. Ewy said. These findings were obtained by the Sarver Heart Center Resuscitation Research Group and the SHARE program (Save Hearts in Arizona Research and Education) at the Arizona Department of Health Services over the past four years.

Only 5 percent of cardiac arrest victims survived if no one performed CPR. In those receiving guideline-directed CPR (chest compressions plus breaths), survival was marginally higher at 6 percent. In contrast, 11 percent survived if bystanders kept pumping on their chest and did not stop until emergency medical services arrived. These trends were even more pronounced in those patients with the greatest chance of survival due to the specific nature of their cardiac arrest, namely those whose collapse was witnessed and whose heart was in a rhythm that is most likely to respond to a shock from a defibrillator. In those, the survival rate was 17 percent without bystander CPR, 19 percent with standard CPR and 32 percent with continuous chest compressions.

The analysis, which included 4,850 out-of-hospital cardiac arrests in Arizona that occurred from 2005 to 2009, also showed that while the percentage of bystanders

administering CPR increased only slightly over the past four years, of those who did choose to help, 77 percent opted for chest compressions without mouth-to-mouth breathing instead of standard CPR. Previously, that number was only 16 percent.

These important findings are from the SHARE program, a cooperative effort between the Sarver Heart Center and the Arizona Department of Health Services. Dr. Ewy said, “This study is the first to show that bystanders can raise the odds of survival by giving chest compressions only rather than the type of CPR being taught in most certification classes. If we can get more people to act, more patients who were on the brink of death will be walking out of the hospital neurologically intact.”

Bentley J. Bobrow, MD, medical director of the Bureau of Emergency Medical Services & Trauma System at the Arizona Department of Health Services, added: “All previously published reports only showed that bystander CPR was better than not doing any CPR until the paramedics arrive, and that early CPR resulted in better survival than late CPR. Our statewide efforts promoting Chest-Compression-Only CPR have resulted in significantly improved survival rates for patients in out-of-hospital cardiac arrest.”

To learn more about Chest-Compression-Only CPR, or to find out about our free public training classes, please visit the SHARE Program Web site at [www.azshare.gov](http://www.azshare.gov) or the Sarver Heart Center at [www.heart.arizona.edu](http://www.heart.arizona.edu). You also can call the Sarver Heart Center Communications and Public Education Office at (520) 626-4083. ♥



## The Importance of Gaspings for Cardiac Arrest Survival

by Gordon A. Ewy, MD

**T**he SHARE consortium and the Sarver Heart Center Resuscitation Research Group made a discovery that cannot be emphasized enough, both to experts in the field of resuscitation science and to the public.

They found that in more than half of cases of witnessed collapse, the patients gasp. Gaspings has been described as snoring, gurgling, moaning, snorting, agonal or labored breathing. However, bystanders often misinterpret gasping and other unusual vocal sounds as normal breathing and do not call 9-1-1 or begin lifesaving chest compressions quickly enough. Or, they call 9-1-1 and when asked by the dispatcher if the patient is breathing, they say ‘Yes’ – leading the dispatcher to believe it is not a cardiac arrest and give inappropriate recommendations to the rescuer. A few minutes later, the gasping stops, and only when the rescuer reports back to the dispatcher do they realize they are dealing with a cardiac arrest. By that time, precious minutes have been wasted during which the patient’s brain and heart have not received any blood flow.

Usually, this gasping or agonal breathing stops within two to four minutes, which is why even experts have not recognized this phenomenon so far! Gaspings is a survival reflex triggered by the brain and can increase the chances of survival for someone in cardiac arrest. “Gaspings is an indication that the brain is still alive and it tells you that if you start and continue uninterrupted chest compressions, the person has a high chance of surviving. The challenge is to educate bystanders that if they are helping someone in cardiac arrest not to mistake gasping for breathing. Contrary as it may seem, a person who is gasping is not OK – they need chest compressions. Bystander-initiated CPR has been shown to be a cardiac arrest victim’s only chance of survival until an automated external defibrillator or the paramedics get to the scene.

Many bystanders are hesitant to perform mouth-to-

mouth ventilation, and in a case of a witnessed (seen or heard) collapse, so-called rescue breathing is not necessary and may be harmful. When the patient gasps, there is a negative pressure in the chest, which not only sucks air into the lungs but also draws blood back to the heart. In contrast, mouth-to-mouth breathing creates overpressure in the chest and actually inhibits blood flow back to the heart. Gaspings during cardiac arrest is much better than mouth-to-mouth breathing.

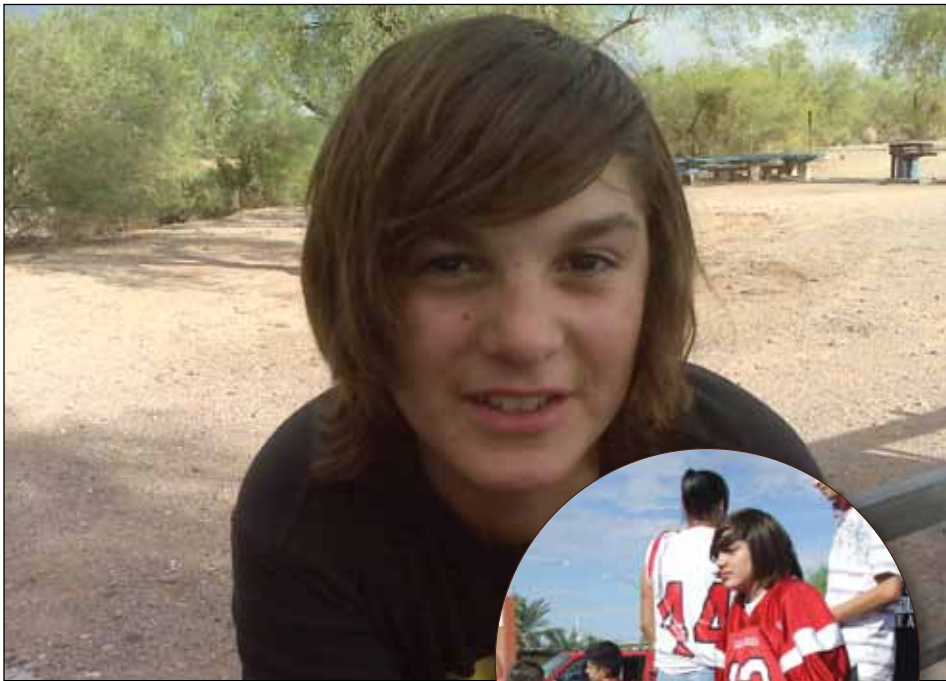
But what about choking? That’s very different. Someone who is choking will be seen to grasp their throat and struggle to breathe, which means they’re responsive. These individuals need the Heimlich maneuver. A primary cardiac arrest is the witnessed unexpected collapse of an individual who is not responsive. Cardiac arrest will cause the stricken individual to pass out and collapse within seconds.

Bentley J. Bobrow, MD, medical director of the Bureau of Emergency Medical Services & Trauma System at the Arizona Department of Health Services, and SHARE Coordinator Lani Clark, examined data from two sources. Transcripts from the Phoenix Fire Department Regional Dispatch Center included information on gasping in patients found by bystanders, whether their collapse was witnessed or not. The department’s first-care reports on 1,218 witnessed patients provided the incidence of gasping upon or after the arrival of emergency medical service (EMS) personnel. Among the 481 patients who received bystander CPR, 39 percent of gaspers survived, but only 9 percent of those who did not gasp survived.

Performing uninterrupted chest compressions may cause a person who has stopped gasping to resume gasping. “Unfortunately, this scares many people and they stop pressing on the chest,” Dr. Bobrow said, “But gasping is an indication that you’re doing a good job.”♥

# Quick Bystander Action Saves 14-year-old's Life

*Survival story illustrates how the statewide efforts in the New CPR save lives*



*Rafael "Ralphie" Rendon, 14, attending homecoming at Ajo High School, about a week before his cardiac arrest.*

On Oct. 6, 2009, Rafael "Ralphie" Rendon, a freshman at Ajo High School in Ajo, Ariz., was running across the field during football practice when his teammates saw him fall down and not get up. Suddenly, for no apparent reason, the heart of the 14-year-old boy had stopped. With no blood flow to his brain, Ralphie had passed out within seconds, in the middle of the action. Once he hit the ground, his chance of surviving would have been slim to none, were it not for the quick and determined action of the people around him.

A local paramedic who volunteers with the high school coaching staff ran onto the playing field and started chest compressions on the boy. Other coaches came to help and quickly were joined by an Ajo Ambulance crew, members

of the Ajo/Gibson Volunteer Fire Department and deputies from the Sheriff's Department.

With fast and uninterrupted chest compressions, shocks from a defibrillator and drug administration, Ralphie regained a heartbeat and struggled to breathe on his own. Because of the town's remote location, a helicopter flew him to St. Joseph's Hospital in Phoenix, where he underwent a series of tests to figure out the cause of his cardiac arrest. While he was undergoing a magnet resonance imaging (MRI) test to study the function and anatomy of his heart, Ralphie suffered a second cardiac arrest and was again resuscitated. Initially in a coma, he rebounded from his ordeal, amazing family, friends

and medical personnel. Within a week, he was off the ventilator and anxious to get out of bed.

"It is extremely gratifying to hear about a young life like Ralphie's being saved because of our statewide efforts," said Lani Clark, a member of the Sarver Heart Center Resuscitation Group who works with fire departments and first responders all across Arizona, helping them put the Sarver Heart Center's Cardiocerebral Resuscitation (CCR) Protocol into practice. "Everybody – from the members of our Sarver Heart Center resuscitation research group, the Arizona State Bureau of Emergency Medical Services and Trauma, to Arizona's Emergency Medical Service providers in the field – has worked together to change how things are now being done. Outcomes like this one make everything worthwhile."

At the request of Dawn Daniels, prehospital manager at Tucson Medical Center, Clark had held information and training sessions in Cardiocerebral Resuscitation in October 2008, which were attended by Ajo Ambulance, Sells Emergency Medical Services, Portal Rescue and the Fire Departments of Corona de Tucson, Douglas, Raytheon Corp., Sunsites-Pearce and Tohono O'Odham Indian Reservation. (Tucson Medical Center acts as the base hospital for the aforementioned Emergency Medical Service units.)

In a letter to Dawn Daniels, Ajo Fire Paramedic Carol Anne later wrote, "I just wanted to write



and tell you thank you so much for giving us the CCR protocol. I truly believe that two years ago, this little boy that I have known all my life and who is a good friend to my sisters would have died. But now that we have adopted the Cardiocerebral Resuscitation protocol, we can save those we love. Thank you so much, Dawn. Thank you for all your hard work and helping us save lives.”

“Ralphie’s case reminds us that cardiac arrest can happen to anyone, anytime, anywhere,” Clark said.

A series of medical tests revealed an anatomical abnormality in Ralphie’s heart unknown to him and his family: Due to a congenital heart defect, one of his coronary arteries traveled between his pulmonary artery and his aorta instead of branching off of the aorta and descending along the front of the heart. Under the elevated physical stress during exercise, the misplaced coronary was squeezed between the two blood vessels with each heart beat, periodically cutting off the blood supply to the heart muscle. Luckily, state-of-the-art imaging tests revealed Ralphie’s condition.

Two weeks after his cardiac arrest, he underwent surgery to correct the malformation permanently. A little later, Ralphie returned home to his parents, Bridget and Adrian, his younger brother, Devon, and his little sister, Ariana, and continued to recover quickly. Visitors said that, unless he showed them the tiny scar from his surgery, they couldn’t tell anything had happened.

*This article was compiled with the generous help of Ajo Copper News Editor Gabrielle David. ♥*

## Open-Chest Surgery on the Wane, New Study Finds

Sarver Heart Center Member Mohammad Reza Movahed, MD, an associate professor of medicine at the UA College of Medicine, presented a study earlier this year that generated quite a splash, both among cardiologists and the public. The study looked at the big picture of how commonly coronary artery bypass graft surgery (CABG) is performed in the United States and whether there are any trends toward those numbers changing over time.

Dr. Movahed and his colleagues found that over the last decade, advances in coronary catheterization techniques and improved heart disease prevention methods have resulted in a large decline in the number of patients in the United States having the open-chest surgery procedure.

Dr. Movahed, who is an interventional cardiologist and the medical director of the Heart Transplant Program at the Southern Arizona Veterans Affairs Health Care System, presented his group’s findings at the annual scientific sessions of the Society for Cardiovascular Angiography and Interventions (SCAI) in Las Vegas, Nev.

Rates of bypass surgery steadily increased between the late 1980s and 1997, but have fallen by more than one-third since then. Open-chest surgery is increasingly being replaced by less invasive coronary interventions and being made unnecessary by advances in medications that fight the build-up of artery-clogging plaque, the researchers said.

“This is good news. Advances in technology and prevention with medications, as well as lifestyle changes, are paying off and fewer patients have to undergo invasive surgeries,” Dr. Movahed said.

For their study, the researchers analyzed National Inpatient Sample data on more than 1.1 million patients who had bypass surgery between 1988 and 2004. Rates of bypass surgery gradually increased from 79 per 100,000 in 1988 to their peak of 131 per 100,000 in 1997. By 2004, the rate was 83 per 100,000, they found. The decline in bypass surgery was seen in both men and women and across various ethnicities.

“I think this trend will continue. Future advances in technology will lead to a further decline in the rate of bypass surgery,” Dr. Movahed said.



*Reference: Mohammad Reza Movahed, MD, PhD, Mehrtash Hashemzadeh, MS, Ali Khoynzhad, MD, M. Mazen Jamal, MD, and Radhakrishnan Ramaraj, MD, Sex- and ethnic group-specific nationwide trends in the use of coronary artery bypass grafting in the United States, Journal of Thoracic and Cardiovascular Surgery (2009)*

## Charitable Gift Annuity – A Gift that Keeps on Giving

Did you know you can receive fixed income payments for life by establishing a charitable gift annuity to benefit the Sarver Heart Center? A charitable gift annuity will pay you (and a second beneficiary, if desired), a fixed income amount when you make an irrevocable gift to the Sarver Heart Center.

A charitable gift annuity is a simple way to make an enduring gift, while providing a higher rate of return than current interest rates on a Certificate of Deposit (CD). Gift annuity payout rates range from 5.3% to 9.5% per year, depending on your age, beginning at age 65. The minimum gift to the Sarver Heart Center is \$10,000 to set up a charitable gift annuity.

Gift annuity payouts may also be deferred to begin at a future date. A deferred gift annuity allows the donor to specify when the annuity payments will begin in the future. The benefit of deferring annuity payments means higher income payments to you.

### Suggested Maximum Charitable Annuity Rates

| Immediate One-Life Annuity at \$20,000 |      |                      |                 | Deferred One-Life Annuity at \$20,000 |       |                   |                 |
|--|------|----------------------|-----------------|---------------------------------------|-------|-------------------|-----------------|
| Age Deduction                          | Rate | Charitable Deduction | Annual Payment* | Deferred Until Age                    | Rate  | Charitable Annual | Annual Payment* |
| 65                                     | 5.3% | \$6,625              | \$1,060         | 55/65                                 | 8.0%  | \$6,973           | \$1,600         |
| 70                                     | 5.7% | \$7,818              | \$1,140         | 55/70                                 | 10.6% | \$8,750           | \$2,120         |
| 75                                     | 6.3% | \$8,976              | \$1,260         | 60/65                                 | 6.5%  | \$6,973           | \$1,300         |
| 80                                     | 7.1% | \$10,150             | \$1,420         | 60/70                                 | 8.6%  | \$8,766           | \$1,720         |
| 85                                     | 8.1% | \$11,367             | \$1,620         | 65/70                                 | 7.0%  | \$8,487           | \$1,400         |
| 90                                     | 9.5% | \$12,437             | \$1,900         |                                       |       |                   |                 |

\* Payments are made quarterly based on a 3.4% charitable midterm federal rate. These examples are for illustration purposes only and are not intended as legal or tax advice. Consult your own legal and tax advisors prior to making any material decisions based on this data.

#### Here is how a charitable gift annuity works:

A charitable gift annuity is a contract between you and the University of Arizona Foundation (UAF) on behalf of the Sarver Heart Center.

1. You (the donor) transfer cash or marketable securities to the UAF.
2. The UAF promises to pay a fixed income stream for a period measured by one or two lives.
3. Upon the death of the annuitant (and the second beneficiary if one has been named), the gift annuity contract terminates and the remaining balance passes to the Sarver Heart Center.

There are several reasons why you would consider a charitable gift annuity:

- Increase income while benefitting the Sarver Heart Center
- Security of fixed payments
- Supplementing retirement income
- Freedom from investment responsibilities
- Assure continuation of payments to surviving spouse or another loved one

Along with benefits mentioned above, you may also enjoy some tax advantages, including the following:

- Immediate charitable income tax deduction
- Portion of the annuity income payment is tax-free
- Avoid capital gain tax upon the transfer of appreciated securities
- Potential estate tax savings

For more information on establishing a charitable gift annuity for you and/or a loved one to benefit the Sarver Heart Center, please contact Clint McCall, director of development at the UA Sarver Heart Center, at (520)626-4146.



## Dr. Copeland Named 'Surgeon of the Year'

Jack G. Copeland, MD, co-director of the Sarver Heart Center and chief of cardiothoracic surgery at University Medical Center, received the “Surgeon of the Year” Award from the Southern Arizona Chapter of the Association of PeriOperative Nurses (AORN).

The award recognizes Dr. Copeland’s “commitment in providing and ensuring quality patient care.” Dr. Copeland has pioneered heart transplantation and the use of artificial hearts and heart-assist devices for end-stage heart failure patients in the Southwest. His achievements include, among many others, Arizona’s first heart transplant, Arizona’s first heart-lung transplant and the first use of the Berlin Heart Assist Device in North America. AORN is a non-profit professional nursing organization whose mission is to promote the highest professional standards of perioperative nursing practice for the optimum care of patients before, during and after surgery. Each year, the association celebrates Perioperative Nurses’ Week with a fundraising event to provide nurses with the ability to attend the AORN national convention and other nursing education events, which in turn benefits the patients under their care. ♥



# Gift Shifts Cardiovascular Research into High Gear



*Jim and Linda Lee*

Jim Lee is a man who recognizes a good idea and business proposition when he hears one. It was during a lunch with Sarver Heart Center Co-Director Carol Gregorio, PhD, that Jim and his wife, Linda, first heard about the BIACORE T100. As Sarver Heart Center Advisory Board members, both Jim and Linda had gained an appreciation for the advances against heart disease and stroke that have been made at the Center. As they learned more about the impact this particular piece of equipment would have on the investigation of the causes of heart and vascular diseases, it was clear to Jim this not only was a good idea, but also a necessity for the Sarver Heart Center's Molecular Cardiovascular Research Program.

Before lunch was over, Jim and Linda had committed to helping to raise the money to purchase this valuable resource. "It was clear that this piece of equipment was essential in helping Dr. Gregorio and her

group to continue to be successful," says Jim Lee. "Even in these tough economic times I knew that we could raise the money—Prescott is an extremely generous community."

Jim went right to work. He formed a committee of individuals who shared his enthusiasm for the University of Arizona and the Sarver Heart Center. Ron James and Swayze McCraine came on board without any hesitation. "These are very smart and savvy business people. When they realized what this could do for the research and the UA, we started making calls," Jim explains. Over the next year, Jim, Swayze and Ron met with foundations, individuals and businesses in Prescott. On Aug



*Housed in the University of Arizona's BIO5 Institute, the BIACORE T100 apparatus can be used to study everything from heart disease to cancer to Parkinson's disease.*

13, 2009, they met their goal, thanks to the gifts from the committee and a handful of others in Yavapai County.

"The BIACORE is going to change the way that we do science," says Dr. Gregorio. "We are the only institution in the state to have this technology. This so exciting for us because it is a shared resource for the University."

Dr. Gregorio already has big plans for the BIACORE. For example, the instrument will allow heart researchers to determine how proteins that contain disease-causing mutations behave differently from normal proteins. "It will have a great impact on our ability to design new therapeutic targets for the specific diseases under study and to meet future challenges within the scientific community. With the BIACORE we can bridge the gap between the tremendous amount of genomic data we are accumulating and determine the functional properties of cells, tissues and organs. It will allow us to accomplish in six days what otherwise would have taken six months. We can't thank Jim and our friends in Prescott enough." ♥

*Save  
the  
Date*

## **Healthy Heart Conference:**

Learn everything you need to know to prevent heart and vascular disease and stroke.

**February 27, 2010**

UA Student Union Memorial Center  
Tucson, Arizona

## *The Heart of the Matter*

### **Women and Heart Disease**

An educational luncheon for women and their loved ones

**October 16, 2010**

Skyline Country Club  
Tucson, Arizona

**Watch for further information on these events in your mail.**

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STEVEN M. GOOTTER  
FOUNDATION 

*Every Life Saved is a Celebration*

“We are elated for Rafael and his family!” says Claudine Messing of the Steven M. Gootter Foundation. [See article “Quick Bystander Action Saves a 14-year-old’s Life”, page 8] “Every life saved is a celebration

In the last issue of the newsletter we brought you the story of the Steven M. Gootter Foundation’s AED Project for high schools in Tucson and Southern Arizona. Thanks to the Foundation’s generosity, 32 new defibrillators have been distributed from Tucson to Douglas.

*Thank you,  
Gootter  
Foundation!*

for the Gootter Foundation and the Sarver Heart Center. This is the very reason that we wanted to provide AEDs to high schools in Tucson and Southern Arizona – we want to hear more stories of survival”.

**Save  
the date:**

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The Steven M. Gootter Foundation’s Gootter Grand Slam Tennis Tournament and Pro Exhibition is going to be held March 28, 2010 at Randolph Tennis Center. For more information about the tournament or the Gala Dinner Celebration, please contact the Gootter Foundation at (520) 615-6430 or visit [www.gootter.org](http://www.gootter.org)