THE UNIVERSITY OF ARIZONA®

SARVER HEART CENTER

Winter 2002 *Issue 36*

Picture This

Improving How Doctors See the Heart

There's an echocardiography machine on the International Space Station and Vince Sorrell, MD, is itching to use it.

"I always wanted to be the first doctor in space," says Dr. Sorrell, who recently joined the Sarver Heart Center as The Allan C. Hudson and Helen Lovaas Endowed Professor of Cardiovascular Imaging.

Someone beat him to that, while he was attending medical school. "Now I've decided I'm going to be the oldest doctor in space."

Jokes aside, Dr. Sorrell does have some stellar plans for the various types of cardiovascular imaging being conducted at the Sarver Heart Center and University Medical Center. He's been charged with the creation of an "imaging laboratory," a kind of one-stop shopping mall for the many ways that doctors can take a peek at the human heart.

"It's something I've always wanted to do," says Dr. Sorrell, who came to the Heart Center from East Carolina University, in Greenville, N.C., where he was chief of cardiology and director of the echocardiography laboratory. Dr. Sorrell is an expert in transesophageal echocardiography (an echo performed with a probe passed down the throat) and stress echocardiography (an echo performed during and/or after physical exercise) – two services he would like to increase at University Medical Center.

Vince Sorrell, MD

"There are lots of great tools for looking at the heart," he says, such as nuclear imaging, echocardiography and magnetic resonance imaging (MRI). What's missing, he adds, is a set of guidelines for which tests work best for which patients.

It could be that two patients with the same heart problem – but from different ethnic backgrounds – would benefit from different types of tests, he says.

The imaging lab would tease out that information, and help direct patients to the right test.

The lab also would serve as a link between medical doctors, surgeons and the coronary catheterization laboratory, helping to clarify what's going on in someone's heart before that person is sent for a catheterization or surgery. Dr. Sorrell also hopes to collaborate with clinical and basic science researchers, providing them with imaging tools for their research investigations.

One of the more innovative tools planned for the lab is a three-dimensional echocardiography machine. Manufactured by Philips, the "Live 3D Echo" will be able to provide real-time views of the heart using information collected by a probe placed on the chest. UMC will be the first hospital in Arizona to have the equipment.

"It allows you to see the heart in ways you couldn't normally see it," Dr. Sorrell says. Not only will it provide images that have not been captured before, but it will

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VA Awards $3.6M to SHC to Study Heart Failure Drug ... page 3

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give surgeons a sneak preview of what to expect before they open someone's chest for heart surgery.

And unlike a standard echo, in which a technician has to move the probe onto several places on the chest, recording the heart's activity in each spot, in order to collect enough data, the 3D echo only needs to be placed one time and for only one heartbeat.

What used to require an hour of a patient's time could be pared down to only a few minutes, he says.

"That one beat can be displayed over and over, as many times as you want, on a computer. And if you want to see a different orientation, you've got all the information. You can rotate it, invert it, do whatever you want."

The technology is so advanced that it's like putting a camera right inside the heart, taking shots of the inside of any of the four chambers, inside a valve or even to the surface of the heart itself.

The only thing it lacks, Dr. Sorrell says, is color. If the 3D images provided color cues about the heart's activity – say the intensity of color assigned to blood corresponded with increasing degrees of valve leakage – then the test would be even more valuable, Dr. Sorrell believes.

He hopes to develop a lab where that color key would be created, based on a computer simulation of various heart conditions, which could then be applied to 3D echo.

In addition to honing cardiovascular imaging services, and conducting related research, Dr. Sorrell will work with students and see a limited number of patients.

In his free time, he'll be found with his wife, Amanda, and their children, Zoe and Jack.

He might also be in his back yard, pursuing a new hobby: tele-astronomy. Also called video astronomy, it involves using a telescope to capture up-close images of the moon, stars and planets and then recording them onto videotape.

So if he doesn't actually get to use that echo machine on the space station, maybe he'll at least get to *see* it. ♥

Healthy Heart ~ a public education experience

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~ Heart Disease in Women
~ Cardiac Medications
~ Heartbeat Irregularities

For more information on registering for this conference, please call

626-4083, or write to pila@u.arizona.edu

Researchers Get $3.6M to Study Heart Failure Drug

Sarver Heart Center researchers have made exciting progress on an agent that could improve heart function in patients with congestive heart failure.

A team led by Eugene Morkin, MD, a co-director of the Sarver Heart Center, and Steven Goldman, MD, chief of cardiology at the Tucson VA, Southern Arizona Veterans Affairs Health Care System, has spent the last several years evaluating the effects of a modified type of thyroid hormone called 3,5-diiodothyropropionic acid, or DITPA, which helps regulate the body's metabolism and adjusts cardiac output accordingly.

The drug originally was developed in the 1960s as a cholesterol-lowering agent, but never was tested extensively experimentally, or studied clinically.

Dr. Morkin hypothesized that a thyroid hormone derivative, such as DITPA, that retained its effects on cardiac output – but not its potential to increase heart rate or metabolism – would help heart failure patients.

Early study results appear to prove him right.

Cardiac output is the volume of blood the heart ejects each minute. In almost all mammals, "from mouse to elephant," cardiac output in relation to body size is virtually the same, Dr. Morkin explains. But in people with congestive heart failure, cardiac output is low and the heart is unable to pump enough blood to the rest of the body.

That can lead to an inability to carry on normal physical activities and shortness of breath.

In a small clinical trial conducted at the Tucson VA, SAVAHCS, DITPA was found to improve cardiac function with fewer side effects than other drugs administered for the same purpose.

Given those encouraging results, the Department of Veterans Affairs has agreed to fund further study of the drug as part of the VA Cooperative Studies Program, granting about $3.6 million to Drs. Morkin and Goldman.

"It's the only drug currently being tested in a Phase II study that has the potential to increase cardiac output," Dr. Morkin says. "It's unique in that respect."

Clinical trials are categorized into "phases." In Phase I, the drug's potential benefits are explored. In Phase II, the effects and adverse events are determined. In Phase III, the scale is larger and there is increased focus on the drug's safety and its possible side effects.

The upcoming trial – a Phase II trial – will be conducted at five VA centers, including the Tucson VA, and involve about 150 patients, 100 of whom will receive the drug. The study will be a double-blind study – meaning neither the researchers nor the patients will know who gets the drug and who gets the placebo.

Each patient will take DITPA for six months. The drug's effects will be monitored non-invasively, meaning the patients won't have to get so much as a needle prick. Instead, the centers will use a machine called BioZ, which measures cardiac output through probes placed on the chest – similar to an electrocardiogram.

"It's the first critical test of whether a thyroid hormone analog that increases cardiac output will be effective in heart failure treatment," Dr. Morkin says.

Dr. Morkin and the other researchers hope to see gradual improvement in the patients taking DITPA, including an increased tolerance for exercise and less shortness of breath.

Another unique aspect of the study is a component that will examine DITPA's effect on cytokines, substances secreted by cells of the immune system. Levels of cytokines are known to increase in heart failure, and it is believed that cytokines are responsible for long-term deterioration of cardiac function. But it's unclear why the human body increases production of cytokines, Dr. Morkin says.

"It's the first critical test of whether a thyroid hormone analog that increases cardiac output will be effective in heart failure treatment."

The study will examine what effect an increase in cardiac output – triggered by the DITPA – will have on the cytokine levels.

Another interesting property of DITPA is its ability to lower cholesterol, and this effect also will be examined in the trial.

The VA grant is only part of the good news. The researchers also learned that a patent for DITPA, for use in heart failure and lowering cholesterol, is being assigned to the University of Arizona and the VA – a confirmation of the group's work in proving its potential benefits.

"The scientific process is not like 'Eureka!' It involves hard work day in and day out," says Gordon A. Ewy, MD, director of the Sarver Heart Center. "This is really a feather – more than a feather, an entire plume – in Dr. Morkin's and Dr. Goldman's hats." ♥

Mazie Kent Slaymaker: A Fascinating, Frugal Philanthropist

"Amazing Mazie" or simply "Momma" is how her friends addressed her. Bright. Artistic. Colorful. Generous. Adventurous. Thrifty. Creative. These are among the myriad ways Mazie Kent Slaymaker's close acquaintances describe her.

The Sarver Heart Center is one of six non-profit organizations to benefit from

Mazie Kent Slaymaker

the wisdom and generosity of this multi-faceted woman. Paul F. Scartezina, Esq., the estate-planning attorney with whom Mrs. Slaymaker worked to craft her bequest, says, "I have never worked with a client who designed her will as creatively and carefully as Mrs. Slaymaker. She cared deeply about what she wanted to support and worked hard to ensure that her beliefs and values were represented. Rather than just give money, she created four endowments with specific directions to seek cures for cancer and arthritis by using desert plants, and to explore electrical problems in the heart and the magnetic forces of human cells. Her story and the story of her gift deserve to be told."

Mrs. Slaymaker died Jan. 3, 2002, at 101 years old. She was under the care of Donnie Briley, the daughter of her first caretaker, who assumed her mother's role after she died of a massive heart attack in 1991. In a recent interview, Donnie gave great insight into the paradoxical life of this exciting woman – a lady who lived life to its fullest and always was eager for new experiences.

Although Mazie never graduated from high school, she played the market like a genius. Although she never entered a college classroom, her voracious appetite for learning led to a lifelong curriculum chock full of history, literature, music, art and culture.

A late-model baby blue Cadillac served as her transportation and she lived in a 1950s mobile home and made careful purchases so that she would have more to give away. When solicited by mail, she often made donations to charities whose work she appreciated.

Ms. Briley recalls a story that typifies the woman from whom she learned so much over the years. When Mrs. Slaymaker's first husband, Mr. Osborne, died in a tragic car accident in the 1930s, the lumberyard and coal hauling company that he owned became her businesses to run. She was a savvy and successful businesswoman by day and a crafty and clever poker player by night, winning the truck drivers' checks back from them.

A number of treasured train trips from Illinois to Tucson incited her love for the desert southwest. She and her second husband moved to Tucson in 1956. Their mutual photographic talent led to work with renowned Ray Manley Studios and frequent contributions to *Arizona Highways*. Following the death of Mr. Slaymaker in the early 1960s, Mazie followed her wanderlust and traveled America with her camper on the back of her truck and her dog by her side. Knowing that traveling alone as a woman could jeopardize her safety, she often tucked her hair under a hat and dressed as a man.

In addition to her photographic talent, Mrs. Slaymaker was an accomplished artist with a penchant for painting landscapes. Though she never did so, she often dreamt of having her own artist's studio. She played the trumpet until the constant pursing of her lips grew tiring and turned to the piano. She wrote poetry together with her husband, penning verses that captivated friends and family members.

The Native American tribes of New Mexico fascinated her and she often traveled east from Tucson to take clothes and supplies to her friends. The turquoise jewelry that often adorned her dressiest outfits may well have been gifts from grateful Indian friends.

Her fascination with health and medicine likely began in childhood, as her father was a medical doctor. She enjoyed a vibrant and healthy existence with the exception of a bout with breast cancer in the mid-1960s. Thanks to a radical double mastectomy combined with laetrile she smuggled from Mexico, Mazie survived 40 more years.

A love of the desert, a reverence for nature and a deep grounding in native beliefs all mingled to prompt her conviction that "… all we need is the earth." The cure for cancer, heart disease and other illnesses, she was convinced, would be discovered in native plants. "When I trim my mesquite tree one day and see that new growth has emerged the next day, I think she may have a point. There is great promise in the healing potential of desert plants," says Scartezina.

Mrs. Slaymaker directed that the cardiology portion of her bequest to the University of Arizona Foundation establish an endowment to benefit the electrophysiology laboratory "… to conduct research aimed at understanding the effects of electricity and electrical charges on all human cells." ♥

Choosing a Cookbook

Look for sound dietary advice, avoid fads

In our last issue we talked about diet books, and their usefulness for weight loss and healthful eating habits in general.

In this issue we look at cookbooks and suggest some things to consider when purchasing one for yourself or as a gift.

There is an immense variety of cookbooks available, covering every conceivable eating topic, from Aborigine foods to Zimbabwe foods. Bookstores and libraries have shelf upon shelf of cookbooks, the vast majority of which offer at least a couple healthful recipes.

There are a large number of cookbooks devoted to disease treatment, including heart disease, and prevention and improving health. Choosing a cookbook should be based on one's food preferences, nutritional goals, cooking ability or willingness to learn, the need to treat, the want to prevent disease, and several other, often personal, variables.

When looking for a cookbook, keep a few general guidelines in mind. First, avoid cookbooks based on fad diets and illogical thinking. If the book is making a claim for health, consider the evidence backing the claims. Commentaries and testimonials by other "users" of the cookbook need to be evaluated critically. If they seem too good to be true, they likely are. Consider the author's training.

Second, keep in mind healthful dietary guidelines: portion size does matter, use reduced amounts of lean meat and poultry, use fatty fishes at least twice weekly (avoid long-lived fish such as tilefish, swordfish, king mackerel and shark, as they have higher mercury levels), increase vegetables and fruits, avoid saturated and trans fats, use less salt, use low-fat or fat-free dairy products, and use whole grains rather than refined or enriched.

Third, if you are trying to keep track of one or more nutrients in your eating plan, look for a cookbook that provides a nutritional analysis of each recipe.

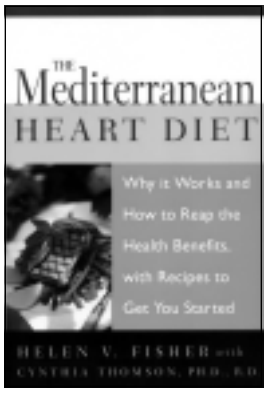
Fourth, page through the cookbook before purchasing it to be sure you will use it often enough to make it a reasonable purchase. Or, first borrow the book from your local library to be sure you like the recipes.

Have fun when you cook! Recipes are terrific starting points, but with some imagination and experimentation you can modify many of your favorite recipes from cookbooks you already own. Current dietary recommendations suggest that cutting fat too much is not the best alternative for all of us. If you own, or use, low-fat cookbooks, enhance your favorite recipes with a small amount of olive oil or a few chopped nuts. Experimenting with spices and herbs allows you to personalize all of the recipes you use.

Choosing a cookbook is ultimately a matter of personal preference. At right are some cookbooks I love, few of which I use without some personalizing of each recipe, whether to reduce the fat or sodium content, to change the kind of fat, enhance the fiber and nutrients by using whole grains and whole grain flours, or to change the flavor by changing some or all of the herbs and spices.

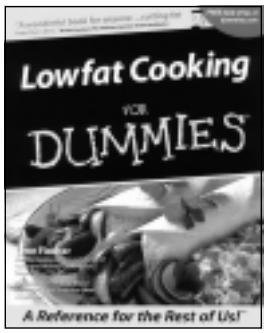
Cookbooks are a useful culinary tool. Enjoy finding one that helps you prepare more healthful foods for your family, your friends and yourself! ♥

The Mediterranean Heart Diet



This book has a brief, complete explanation of the Mediterranean Diet with many terrific recipes. Uses all-purpose flour rather than whole grain flour in most bread recipes.

Lowfat Cooking for Dummies

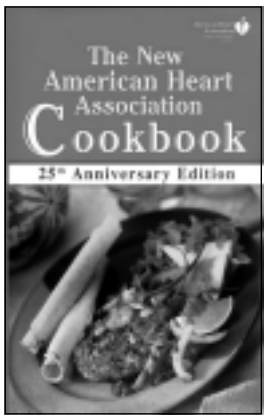


Relies on dietary advice advocating low fat as the best choice. Current dietary guidelines suggest reducing saturated and trans fats to be of greatest importance.

Cooking Light Magazine

Although not a cookbook per se, it provides updated health and nutrition news, and an ever-changing variety of healthful recipes.

The New American Heart Association Cookbook



Considers sodium and fat content of recipes

By Deborah Pesicka, Registered Dietitian

SHC Doctors Speak in Sierra Vista

Gordon A. Ewy, MD, (left) responds to a question as UA Vice President for Health Sciences Raymond L. Woosley, MD, PhD, listens.

About 70 residents of Sierra Vista attended a public education conference held by the Sarver Heart Center at the Pueblo del Sol Country Club on Oct. 19. It was the first such conference held in Sierra Vista and hopefully will become an annual event. The event was coordinated with help from Sierra Vista Regional Health Center.

The conference speakers (above): Joseph L. Mills, MD, Jose Gonzalez, MD, Gordon A. Ewy, MD, Raymond L. Woosley, MD, PhD, and Peter Ott, MD.

Volunteer Lorna Emmons

Volunteers Virginia and Edward Madden

... and Yuma

The Sarver Heart Center held its third annual public education conference in Yuma on Nov. 2.

The event was co-sponored by Yuma Regional Medical Center, with help from the Yuma Friends of the Arizona Health Sciences Center.

Members of the Yuma Friends of the Arizona Health Sciences Center.

Conference participants stretch their necks, left, and their arms, above, under the direction of exercise physiologist Lawton Snyder.

The conference speakers: Gordon A. Ewy, MD, Lorraine Mackstaller, MD, Lawton Snyder, MS, MBA, and Andrew Meyer, MD – with Debbie Stahl, CFRE, executive director of the Foundation of YRMC (front right).

HEART NEWS FOR YOU

The Deadly Quartet

The New Cardiovascular Risk Factor

By Gordon A. Ewy, MD
UA Sarver Heart Center Director

A couple of decades ago, half of Americans died of cardiovascular disease, a quarter from cancer and a quarter from all other causes combined. Although we have made progress, heart disease and stroke continue to be America's No. 1 killer, and a major health issue. The latest statistics reveal that 40 percent of Americans die of cardiovascular disease, 23 percent from cancer and the remainder from all other causes combined. However, I am afraid that this improvement is in jeopardy. One reason for this concern is the epidemic of obesity in the United States. Obesity predisposes one to conditions that markedly increase the risk of cardiovascular disease.

Obesity not only predisposes one to a prediabetic syndrome called "The Metabolic Syndrome," but also to frank diabetes. And while 40 percent of Americans will die of cardiovascular disease, 75 percent of diabetics die of cardiovascular disease! Physicians now are convinced that diabetes is a cardiovascular disease.

What is the Metabolic Syndrome? It is a recently recognized set of minor elevations in cardiovascular risk factors that, when grouped together, markedly increases one's risk for cardiovascular disease, which includes heart disease, peripheral vascular disease and stroke. This syndrome initially was of concern only to endocrinologists, and over the years has been referred to by a variety of names, including the Dysmetabolic Syndrome, the Insulin Resistance Syndrome, Metabolic Syndrome X and the Deadly Quartet. The syndrome consists of abdominal obesity, hypertension, insulin resistance and lipid abnormalities. Recently, an increased tendency to clot was found to be another aspect of this syndrome.

Abdominal obesity is when the circumference of the abdomen is greater than the circumference of the hips — the so-called "apple" shape rather than the so-called "pear" shape. This condition is suspect in men with an abdominal circumference greater than 40 inches and in women with an abdominal circumference greater than 36 inches. One cannot go by the patient's belt size, as these individuals frequently wear their belt at an angle, making their belt size actually smaller than their abdominal girth. Marked angulation of the belt downward from the horizontal plane is a clue to the diagnosis.

Hypertension is a blood pressure greater than 140/90 mm Hg in the doctor's office or greater than 130/85 mm Hg at home. The JNC VI (the Joint National Committee on treatment of hypertension) suggests that the BP of a diabetic should be 130/85 mm Hg in the doctor's office and a diabetic with protein in the urine, 125/85 mm Hg.

Insulin resistance is diagnosed by an elevated fasting blood "sugar" (glucose) level greater than 110 mg/dL. (Once the fasting glucose is 126 mg/dL or higher on two separate occasions, one probably has

diabetes – this then is confirmed by another test called glycosolated hemoglobin or Hemoglobin A1c). When one gains weight, the number of fat cells in the body does not increase significantly, but the fat cells we are born with get bigger, stretching the cell membranes, and making them resistant to insulin, meaning it's harder to get glucose into the cells. Since one function of insulin is to get glucose into the cell, this condition also is referred to as "insulin resistance." As a result, both glucose and insulin levels increase.

Abnormalities of the blood lipids compose the fourth aspect of the Deadly Quartet. The blood lipid abnormalities consist of elevated triglycerides and low HDL (good cholesterol). Our triglycerides should be below 150 mg/dL. In men, HDL cholesterol should be above 45 mg/dL and in women above 55 mg/dL. These lipid abnormalities – elevated triglycerides and low HDL cholesterol – are commonly associated with the small (sometimes called small-dense) LDL or bad cholesterol particles. Small-dense LDL cholesterol is more likely to cause atherosclerosis.

How are the four aspects of the Metabolic Syndrome related? As noted above, "fat" or full fat cells are insulin resistant. "Fat" or full fat cells also stimulate the release of adrenalin (which raises blood pressure) and rennin, which causes the production of angiotensin II, a peptide that not only raises blood pressure but also causes a number of other changes that predispose one to atherosclerosis. Because full fat cells are insulin resistant, the blood glucose increases. Blood glucose alters cholesterol to make it more atherogenic (more likely to cause arterial blockage). Meanwhile, fat cells release signals (cytokines) that tell the liver to produce C-reactive protein (a marker of inflammation). And abdominal fat is more atherogenic since it has a more direct access to the liver than fat in other parts of the body.

It's a complex web, and medical scientists are continuing, but struggling, to uncover the mechanisms of the Metabolic Syndrome.

In contrast, it does not take very sophisticated equipment to diagnose the Metabolic Syndrome: a scale, a tape measure, a blood pressure cuff and a simple blood test for fasting blood sugar and lipids. This so-called Metabolic Syndrome is so common, there are simply not enough endocrinologists to manage all of these patients. So like diabetes, another cardiovascular disease, the Metabolic Syndrome is becoming the purview of the cardiologist, the internist, the nurse practitioner and the primary care provider interested in preventing heart disease, vascular disease and stroke.

The Deadly Quartet
Abdominal Obesity
Hypertension
Insulin Resistance
Blood Lipid Abnormalities

If you suspect that you have the Metabolic Syndrome, you should consult your physician, as the high blood pressure, high blood sugar and high triglycerides can be treated with drug therapy. But the entire syndrome can be prevented and often cured by exercise and weight loss! In some cases, your medicines could be decreased or even discontinued.

Prevention is easier than a cure. So when the scale and your belt size begin to send you the wrong message, it could be more serious than an issue of vanity – it could mean the beginning of the Deadly Quartet! ♥

In Memory of Shawne McNally

Shawne McNally was blessed with an unwavering spirit of optimism and the ability to greet everything in life with open arms. She will be remembered for that spirit, and for many other reasons, including her long-time support of the University of Arizona's education and research missions. Shawne was affiliated with the University for more than 15 years, including work in the College of Engineering, the Arizona Poison and Drug Information Center, the Arizona Arthritis Center, and the UA Foundation's Office of Planned Giving.

The Shawn McNally Memorial Fund, established at the Sarver Heart Center, provides educational materials for patients and families undergoing evaluation and treatment of cardiopulmonary disease. It is the hope of Shawne's family and friends that a greater understanding of this disease will help future patients and their families work through the challenges they will face.

Shawne traveled extensively throughout her life, living in California, Utah, Illinois, Oregon and Florida, but ultimately calling Arizona her home. She cherished the serenity of the desert's natural beauty. As long as her health permitted, she enjoyed camping, scuba diving, four-wheel excursions on the backroads, and climbing. She especially treasured sharing her outdoor adventures with close friends and family.

At home in any environment and at peace in any situation, Shawne inspired others with her outlook. Despite cardiomyopathy and pulmonary hypertension, she devoted herself to living. Shawne loved music, cooking, crafts and photography. She had a relentless passion for reading. She took pleasure from the company of many friends and was in return considered a "best friend" by many. A loving mother, wife, sister and daughter, she enjoyed time at the family cabin, trips to the beaches of Mexico, long lunches with friends, and slow sunset cruises on Parker Canyon Lake.

Shawne died on April 11, 2002, at the age of 49. An advocate for, and participant in, clinical research, she hoped that future developments in diagnosis and treatment would benefit affected members of her family, as well as all others with cardiopulmonary disease. Even as she struggled with the challenges of her disease, her focus remained on helping others. Shawne's cheerful resolve to encourage and inform patients who face cardiopulmonary disease endeared her to all those around her. Her courage and determination forged a brighter path for those who must face cardiopulmonary disease. ♥

Memorial Fund Helps Pave Way to Major Grant

Lynn Ballard Stoppelman wasn't trying to make a monumental difference or a set a remarkable example when she set up a memorial fund in honor of the teen-age son she lost to a rare heart condition.

She didn't know that the fund would steadily grow, that interest in the condition would be piqued, that the small gesture she made to help her through the tragedy would be the first drop in a bucket that eventually would overflow.

She was just trying to make things better.

"I think people have a tremendous flow of energy when there's a tragedy," Stoppelman says. "That energy can be very defeatist or it can be very optimistic and positive."

When her son, Andy, died from arrhythmogenic right ventricular dysplasia in 1993, friends and family naturally asked her what they could do. Her answer: "Make a donation in his memory."

Stoppelman, who lives in Reston, Va., set up and administered the Andy Stoppelman Memorial Fund for Research in Right Ventricular Dysplasia, earmarking the money for the research of Frank I. Marcus, MD. Dr. Marcus, who founded the UA cardiology program in 1969, became one of the few physicians in the world investigating the condition, which mostly affects people between the ages of 20 and 40.

In ARVD – which accounts for 3 percent to 4 percent of deaths in young athletes and up to 5 percent of sudden unexplained deaths in the general population under the age of 65 – parts of the right heart muscle degenerate and are replaced by fatty tissue. Its first symptoms are palpitations, rapid abnormal heart rhythm or sudden death.

Stoppelman had never met Dr. Marcus. She only knew of him because he had been one of the experts consulted when a chest X-ray taken a few years before Andy's death revealed that his heart was enlarged.

After Andy died, Stoppelman turned again to Dr. Marcus. "I wanted to know the money would go to a person who would actually use it."

As the fund steadily grew – in part with donations from Andy's classmates in amounts as small as $25 – Stoppelman set up a website that helped spread information about the condition and united families affected by it.

Other significant support followed, including gifts from Harold and Joanna Wilmerding of New Jersey and John Bogle of Pennsylvania.

The goal all along was to raise enough money to establish a registry of people with ARVD with the hope that data from multiple cases could elucidate the condition.

The goal was reached when the National Institutes of Health awarded almost $7.5 million to a research group headed by Dr. Marcus. The five-year, multi-center, multi-national study – now in its second year – aims to improve the methods of diagnosing ARVD, to determine the abnormal gene or genes responsible for the disease and to learn how best to treat the condition, in part through the creation of a national registry.

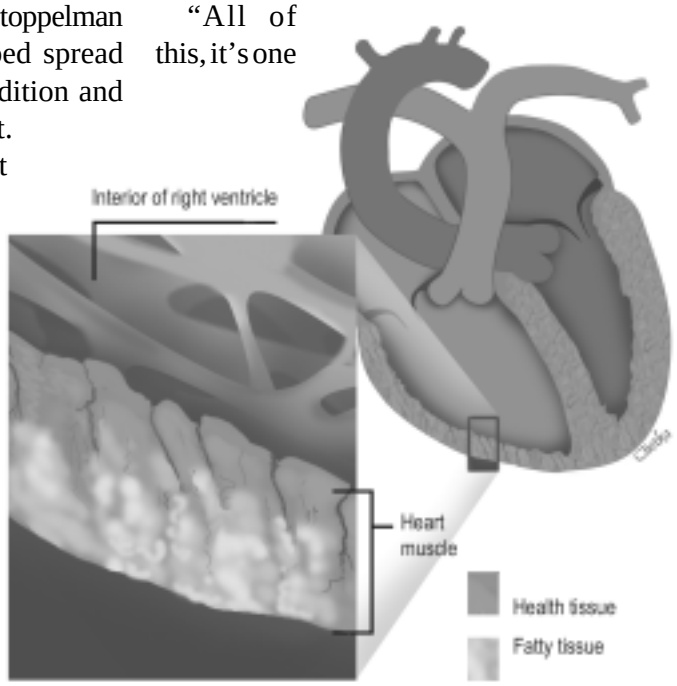
"I truly don't think we'd be where we are without her," says Kathy Gear, RN, a research nurse who works on the ARVD project with Dr. Marcus.

Likewise, Stoppelman wouldn't be where she is without the work she did to raise awareness and support for ARVD research.

After the years she spent speaking with other families affected by ARVD, "I realized there was so much to learn about the way such things impact families."

And so Stoppelman left her marketing career and enrolled in a master's degree program in marriage and family therapy at Virginia Polytechnic Institute and State University.

"All of this, it's one big story," she says. "First, it affected me. Then I gave something back. And that affected my life in a new way, leading me in a new direction."



Helping Dr. Marcus to learn more about the condition that took her son has been her honor, Stoppelman says.

"The most important part of donating to research is you know that your tragedy will not be the same for people who come after you. You will have softened the blow, you will have helped get doctors informed, you will have helped get new techniques developed.

"Once you give that, what more can a person do with their life?" ♥

For more information about ARVD, please contact Kathy Gear at (520) 626-6262 or kgear@u.arizona.edu.

Tony Marnell: A Big Heart

Nedra Marnell remembers Jack G. Copeland, MD, coming out to the waiting room following her husband's heart transplant in 1989.

"We got him a nice big heart, Nedra," Dr. Copeland told her.

"Is that good?" she asked.

"Well, it's like putting a Ferrari engine in a Volkswagen," responded Dr. Copeland, who knew that her husband, a slight man, drove that high-powered sports car.

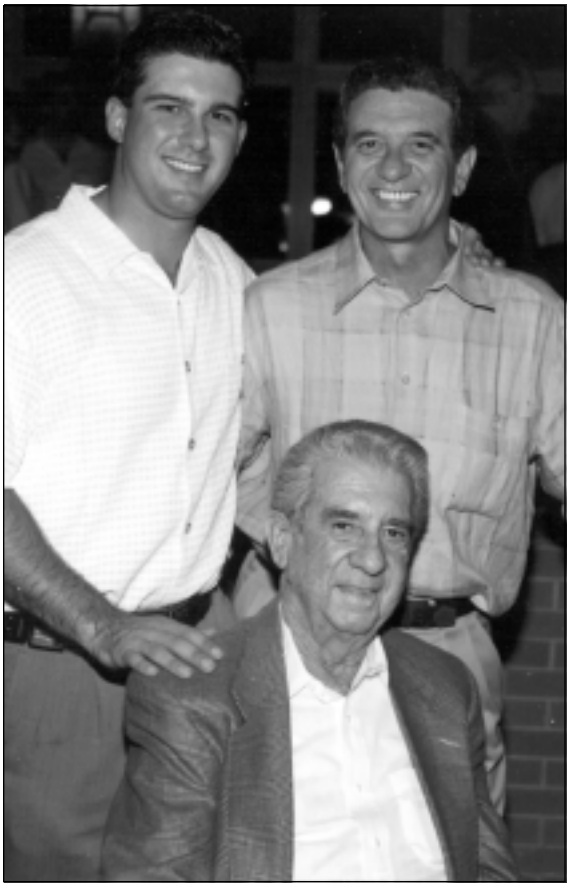
And thus began 12 more meaningful years of life for Anthony Austin Marnell Sr. Two weeks later, he was revving that new engine on the golf course, engaging in his favorite pastime.

Anthony A. Marnell is a moniker shared by his son and his grandson. Tony Marnell II is chairman of Marnell Corrao Construction Company, which builds major Las Vegas resorts. His company is one of the top architectural and construction companies in the nation. Tony Marnell III is establishing himself as the founder of a leading software manufacturing firm, also located in Las Vegas.

Tony Sr.'s second son, George, purchased the family construction business from his father in the late '80s. Founded in the late 1950s, the company did brickwork on nearly every hotel on the strip, most schools in Clark County, numerous churches and hundreds of homes. George acknowledges that it was personally satisfying for his father to build schools – his own formal education ended at the ninth grade when he went to work to help support his family during the Depression. His father, carpenter Augustino Marnell, died when Tony was only 5 years old.

"His sons were his pride and joy," says Nedra. "The added time he had after his transplant meant he got to witness the further successes of his sons and grandchildren and it meant he got to meet his great-grandchildren."

Known at that time as Marinelli, the family arrived at Ellis Island from Italy in 1905. Tony was born in Pittston, Penn., in 1925 as the third of four children. In the mid-1940s, he moved west to Riverside, Calif., and then to Las Vegas, where he lived until his death on Nov. 23, 2001.



Anthony A. Marnell Sr., seated, with Anthony A. Marnell III, left, and Anthony A. Marnell II.

"Many people may believe heart transplantation just happens as a benevolent service for all of us," said his son, Tony II. "My dad knew better. He understood that it took an enormous amount of money and talent to develop and hone this procedure. And that it was not a right, but a privilege. That no matter how much you paid for the surgery that it would not ever truly cover the long-term costs of research and development to make this process successful. His gifts were an acknowledgement of that."

His father and Nedra also came to understand in the process that they were not only part of the gift, but they were part of the responsibility, Tony II said.

"He knew in the beginning and in the end that he was a research subject in which the doctors would see problems and learn how to solve them. He took that seriously; he had a strong will to live and he was diligent in caring for himself and his donated heart."

His father appreciated the complexity of the procedure, he added.

"After all, this is not like having your appendix out. It is a very unique procedure with distinct mental and physical challenges. Thirteen years ago it was more miracle than science. It became apparent to all of us that Dr. Copeland's program was as contemporary, progressive and advanced as possible. From the pre-surgical preparation to the surgery and follow-up care, his team was there with the information, technology, staffing and emotional support."

Nedra recalls another occasion just a few years ago when Tony came home one day to say he had met with his lawyer and changed the terms of his trust. He was beaming when he told her, "I have been so fortunate to have been given all these years and I want to give something back. I'm leaving each of the grandkids a gift and the rest is going to the Heart Center."

Tony Marnell's bequest will exceed $1 million and is more evidence that the high-powered Ferrari-sized heart that he received matched the big heart with which he lived his life. ♥

Leo and Kathy Corbet
Dec. 29, 2001

Richard Leiberman, MD, and Carol Vaughn
Sept. 21, 2002

Something Old, Something New

Two couples recently chose a novel way to celebrate their marriages and express gratitude to their cardiothoracic surgeon, Jack Copeland, MD, and the transplant and artificial heart teams at the Sarver Heart Center.

Seven-term former state Sen. Leo Corbet healed from his heart transplant in time to marry his new wife, Kathy, on Dec. 29, 2001. The following March they held a reception at Bud Brown's barn in Phoenix and asked all their guests to help them celebrate with a gift to The Jack G. Copeland, MD, Endowed Chair of Cardiothoracic Surgery at the UA Foundation. Corbet says without Dr. Copeland and the artificial heart team he would not have survived to marry Kathy and meet his new grandchildren.

Unaware of the Corbets' tribute, emergency room physician Richard Leiberman, MD, and his fiancee, Carol Vaughn, felt that they had no need for more salt and pepper shakers or fondue pots. They enclosed gift envelopes in the invitations to family and friends for their Sept. 21 ceremony in Santa Fe, inviting gifts to the Copeland chair. Richard credits Dr. Copeland with the life-saving repair of an aortic aneurysm.

Lisa Fahey, Executive Director of Development for the Arizona Health Sciences Center and a long-time friend of the Corbets, cannot remember ever hearing of others who have created wedding tributes like these two couples. "We receive many memorial gifts on sad occasions, but it is so nice to receive gifts to mark such joyous occasions as well."

Dr. Goldman Recognized for Teaching

Steven Goldman, MD, chief of cardiology at the Tucson VA, Southern Arizona Veterans Affairs Health Care System, has been recognized for excellence in graduate medical education teaching.

Dr. Goldman, a professor of surgery and medicine at the UA College of Medicine and a member of the Sarver Heart Center, recently was presented with the award at the Vernon & Virginia Furrow award ceremonies held at the Arizona Health Sciences Center.

The Vernon & Virginia Furrow Awards recognize faculty for their teaching performance and contributions to the educational mission of the College of Medicine.

"Dr. Goldman is one of those rare individuals in academic medicine who is a true 'triple threat' excelling in all aspects of medicine – research, patient care and education," said Gordon A. Ewy, MD, director of the Sarver Heart Center.

Kenneth J. Ryan, MD, (left) interim dean of the College of Medicine, gives the award to Steven Goldman, MD.

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70	6.5
75	7.5
80	8.5
85	9.5
90	10.5

* Annuity rates for two people are slightly lower

To learn more about how you can support cardiovascular research and receive reliable income (partially tax exempt) and a charitable tax deduction, contact the Office of Development at:

(800) 665-2328
(520) 626-4146
heart@u.arizona.edu

Feinberg Conference Marks Sixth Year

The UA Department of Neurology and the UA Sarver Heart Center held the sixth annual William M. Feinberg Memorial Cerebrovascular Conference on Oct. 25.

Topics and speakers for the free conference included: Carotid Endarterectomy – Henry J.M. Barnett, MD, Professor Emeritus, The John P. Robarts Research Institute, Ontario, Canada; Interventional Approaches of Stroke Prevention and Management – Camilo R. Gomez, MD, Professor of Neurology, University of Alabama at Birmingham; Modern Imaging Applications for Stroke Management – Jeffrey L. Saver, MD, Associate Professor of Neurology, UCLA School of Medicine; and Issues of Inflammation and Hemostasis in Stroke Prevention – Karen L. Furie, MD, Assistant in Neurology, Massachusetts General Hospital (Harvard).

The program is named for the late William Feinberg, MD, who was a UA neurology professor and one of the world's leaders in stroke research. His contributions included greater understanding of stroke mechanisms, clinical treatment and stroke prevention. He also founded the UA College of Medicine's first comprehensive stroke program, which fostered basic science research and gave patients access to the latest treatments for stroke. Dr. Feinberg died in 1997 at the age of 45.

Heart Workout
(From left) Cardiothoracic surgeon Jack G. Copeland, MD, heart transplant recipient Bill Wohl and cardiologist Marvin Slepian, MD, are shown after the Nov. 23 El Tour de Tucson bicycle race.

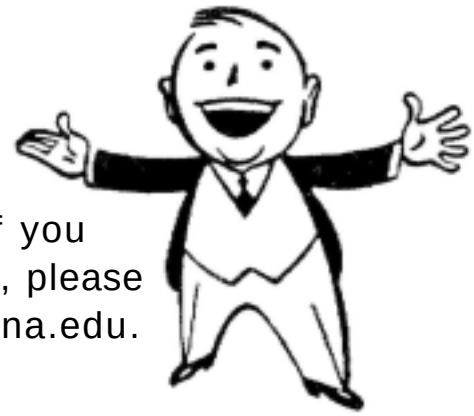
Clarification

In the review of diet books in Issue 35, the information listed for "Habits Not Diets" should have been:

Potential Benefits: Emphasis on how and why you eat versus what you eat. Self-reward program included. Encourages exercise.

Potential Pitfalls: Requires time and attention to detail. May not improve the healthfulness of food choices.

We'd Like to Hear From You!



We would like to know what you're thinking! Please look over this form and let us know your thoughts. If you have a question or concern that is not addressed here, please attach a note to this form or contact us at heart@u.arizona.edu.

Please send me ...

[] A brief one-page summary of the top 10 ways to prevent heart disease and stroke.

[] The "To Prevent Heart Disease & Stroke ... I Need to Know My Numbers" wallet card with information about my goals for cholesterol, blood pressure, etc.

[] A packet of eight complimentary memorial and honor cards that will allow us to remember family and friends and contribute to research at the same time.

About This Newsletter

Please list topics you'd like to see featured in future newsletters: _____

_____

How much of the Sarver Heart Center Newsletter do you typically read?
[] All [] Most [] Some [] Little

How would you compare this newsletter with other health-related news you receive?
[] Excellent [] Good [] Average [] Below average

Do you share this newsletter with friends, family or others?
[] Often [] Sometimes [] Rarely [] Never

Supporting the Sarver Heart Center

[] I/We would like more information about planning a gift through a charitable gift annuity, a charitable trust or through my/our estate or bequest.

[] Please send more information about endowed funds and how I/we might establish an endowed fund in support of cardiovascular research.

[] I/We wish to be acknowledged on the wall of recognition in the Sarver Heart Center building. Please send information about the levels of giving and how to be listed.

Contact

The following family/friends have an interest in your work. Please send them your newsletter.

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[] I/We prefer that you not solicit contributions from us by mail.

[] I/We do not wish to receive progress reports or newsletters. Please remove me/us from your mailing list.

[] Please add me to your e-mail list: _____

Please return this form to:
UA Sarver Heart Center, PO Box 245046, Tucson, AZ, 85724-5046,
or send it by fax: (520) 626-2666.

FROM THE DIRECTOR

No priority is as important to the development efforts of the Sarver Heart Center as our continued efforts to fund endowments.

These endowments support the current and future scientists who not only will assure excellence in our research, education and patient care activities, but who will help in our vision of a future free of heart disease and stroke.

It is with pride that we introduce in this issue Dr. Vincent Sorrell, The Allan C. Hudson and Helen Lovaas Endowed Professor of Cardiovascular Imaging. Dr. Sorrell brings a unique combination of talents to the Sarver Heart Center faculty. He is not only an expert in echocardiography and one of the few in the nation involved in three-dimensional echocardiography, but also is a certified cardiac nuclear cardiologist and a trained magnetic resonance imaging (NMR) cardiologist. He could well be the only cardiologist in the country with all three of these areas of expertise – a combination that will be a powerful force in the research and application of cardiovascular imaging. Under Dr. Sorrell's leadership, cardiovascular imaging, not in one or two, but in three modalities will become an integral part of research, education and patient care at University Medical Center and the Sarver Heart Center.

The recruitment of talented individuals such as Dr. Sorrell would be impossible without endowments. This is one of four made possible by the generosity and compassion for humanity of Dr. Lee and Helen Lovaas. God bless them and all of you who use your resources to benefit others.

Sincerely,

Gordon A. Ewy, MD
Director, UA Sarver Heart Center

The *UA Sarver Heart Center Newsletter* is published regularly. News reporters are welcome to quote from newsletter articles and are kindly asked to provide credit. Correspondence or inquiries should be addressed to: UA Sarver Heart Center, Public Affairs, PO Box 245046, Tucson, AZ, 85724-5046.

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