Stents vs. Surgery for Stroke Prevention Study

The UA Department of Surgery has been selected as a site for a multi-center National Institutes of Health study comparing carotid artery stenting, a minimally invasive procedure recently approved by the U.S. Food and Drug Administration, to carotid endarterectomy, an operation that is the current standard of care to prevent stroke. The Carotid Revascularization Endarterectomy vs. Stenting Trial (CREST) is supported by the NIH’s National Institute of Neurological Disorders and Stroke.

The UA is one of 70 medical centers across the United States and Canada that are enrolling a total of 2,500 participants over the next three to four years, says CREST local principal investigator Joseph Mills, MD, professor of surgery and chief of Vascular Surgery.

The study involves half the patients receiving a carotid stent and half having carotid endarterectomy, says Dr. Mills. Guidant Corporation is providing the device, which was approved by the FDA last August for only patients at high risk of complications from surgery. Researchers now are looking at the use of stents for all patients at risk for stroke.

Every 45 seconds someone in the United States has a stroke, according to the American Stroke Association (ASA). Arteries that supply blood to the brain can become clogged from a buildup of arteriosclerosis or plaque. Stroke can occur when carotid arteries become narrowed and when particles of atherosclerotic plaque are dislodged from the carotid artery wall. As these particles travel through the bloodstream they can block the vessels in the brain.

Stroke prevention is possible. Arteries can be unclogged by performing a carotid endarterectomy, an invasive surgical procedure in which doctors clean out and repair the carotid artery, the main artery supplying blood to the brain.

Carotid artery stenting is a procedure in which a metal device called a stent is placed in a narrowed part of the carotid artery to cover the plaque and hold the vessel open. Stents have been implanted for years in blood vessels of the heart, kidney and legs. They require a tiny incision and can be inserted without anesthesia.

The stenting procedures and carotid surgeries in CREST are performed by Dr. Mills and the carotid surgeries are performed by both Dr. Mills and John Hughes, MD, associate professor of surgery. UA neurologists also participating in the clinical trial are Bruce Coull, MD, and Rod Anderson, MD.

To qualify for the trial, participants must have at least a 70 percent narrowing of at least one of their carotid arteries or also have had a small stroke or a temporary stroke called a transient ischemic attack. All participants receive medical management to reduce their risk factors for stroke. Risk factors include high blood pressure, obesity, diabetes and smoking.

Since the late 1950s, endarterectomy has been performed in patients with or without symptoms of stroke or impending stroke, says Dr. Mills. According to statistics from the American Heart Association and the ASA, approximately 140,000 of these surgical procedures are performed each year.
Chairman’s Message

It has been almost six months since my appointment as interim department head of the UA Department of Surgery. As interim head, I have been charged with expanding clinical faculty, orchestrating the arrangement of services at University Physicians Healthcare Hospital at Kino Campus, ensuring that the educational mission of the residency program and surgical clerkship remains a top priority, and maintaining a solid financial basis for the Department’s activities.

I would like to highlight for you just a few of the many exciting new endeavors taking place in the UA Department of Surgery.

SW Arizona’s Only Level 1 Trauma Center Anniversary

The Department and University Medical Center have managed successfully its first year as Southern Arizona’s sole trauma center. We cared for 4,414 trauma patients this year, a 47 percent increase over the same period a year ago. UMC plans to enlarge its emergency department by the end of 2005.

New Teletrauma Program

Dr. Rifat Latifi from the Section of Trauma and Critical Care, in collaboration with the Arizona Telemedicine Program and University Medical Center, created the Southern Arizona Teletrauma and Telepresence (SATT) Program to assist trauma patients in rural communities. The program is currently activated in Douglas, Ariz., and was recently credited for saving a child’s life.

University Physicians Healthcare (UPH) Hospital at Kino Campus Expansion

We have expanded surgical services to UPH Hospital, formerly Kino Community Hospital. General surgery and urology have begun treating patients in the newly renovated operating rooms, which include state-of-the-art minimally invasive equipment. Drs. Amy Waer and Jennifer Tittensor have provided quality and timely care in the areas of general surgery. Dr. Peter Colegrove has also done an excellent job in urology. We anticipate performing 700 surgical interventions this year. The Intensive Care Unit opened Dec. 1 and currently has four beds.

Recruitment

Additional recruiting has been done in the sections of vascular, urology, cardiothoracic and neurosurgery. A total of 10 and possibly 11 new faculty will be in place starting July 2005.

Department Head Search

A department head search committee has been formed and is headed by Dr. Harvey Meislin, head of the Department of Emergency Medicine. The committee is currently accepting applications. Dr. Meislin has done a superb job advertising and recruiting for the position. He has involved Dr. Frank Lewis, the executive director for the American Board of Surgery, and his insight has been quite valuable to the committee. Review of the candidates began Jan. 31. The goal is to bring the candidates out to visit this spring.

Tuba City

The General Surgery Residency rural rotation in Tuba City is going extremely well. Our residents are having an excellent surgical and endoscopic experience. We greatly appreciate their faculty driving the 15-hour round trip to Tucson to help us interview general surgery resident applicants on Saturday mornings.

We are looking forward to an exciting and challenging New Year. Slowly and surely we are achieving a critical faculty mass. Thank you for all your efforts and support.

Sincerely,

Hugo V. Villar, MD
Professor and Interim Head,
Department of Surgery

Cutting-Edge Research

CardioWest™ Wins FDA Advance of 2004 by American Heart Association

The CardioWest™ Temporary Total Artificial Heart received approval last fall by the U.S. Food and Drug Administration. The only device of its kind to be approved by the FDA, the CardioWest™ TAH also was named the top advance of 2004 by the American Heart Association.

The FDA approval takes the CardioWest™ TAH off the Medicare “experimental list,” says Chief of the Section of Cardiovascular and Thoracic Surgery Jack G. Copeland, MD, who led the study of the device. “It’s a huge relief to know that 19 years of work with the device has been officially recognized and that a technology that we believed in has now been released for use by others.”

Quality Patient Care

New Clinic Opens for High-Risk Breast and Ovarian Cancer

The Arizona Cancer Center’s new High-Risk Breast and Ovarian Cancer Clinic offers women unique opportunities for screening, prevention, treatment and participation in clinical trials through an exclusive multidisciplinary approach.

“We’re offering something to women that they haven’t had before,” says Christina Kim, MD, assistant professor of surgery, Section of Surgical Oncology, one of the people responsible for the clinic’s development.

“Up until now, the clinical focus has been on treating diagnosed breast cancer patients. Here, we can focus on finding cancer very early by screening women at a younger age in a multidisciplinary environment. Our target is women in their 30s or early 40s, but we can evaluate and work with any at-risk woman older than 18.”

The multidisciplinary staff includes a breast surgeon, a gynecologic oncologist, medical oncologists, a genetic counselor, a nutritionist and nurse coordinators – all working together collaboratively to offer...
new levels of supportive services and care for women at high risk.

Multidisciplinary services are only one way the clinic is setting new marks for ovarian and breast cancer prevention and treatment. The clinic also uses the most advanced techniques and equipment available to give clients every possible advantage.

For example, Dr. Kim explains, “Mammograms have been the procedure of choice for diagnosing women for breast cancer. It’s a choice that has sometimes been too little, too late. Mammograms typically find cancers that are 5 mm in size or larger, and it can take up to 10 years for a lesion to reach that size. The emerging techniques we use allow much earlier diagnosis.”

One such technique is called breast endoscopy. This technology gives a doctor’s trained eye a look inside the tiny milk ducts of a breast, where most cancers start. The procedure identifies even very small abnormalities, cutting years off the time ordinary detection techniques would require to diagnose cancer and begin treatment.

The combined focus on breast and ovarian cancers also makes the High-Risk Clinic unique and potentially more effective than other approaches to diagnosis and treatment.

The clinic also aggressively is pursuing and developing new technologies to arrive at better diagnosis and treatment options. Thus, women who use the clinic’s services often are offered opportunities to take part in wide-ranging clinical and preclinical trials. High-risk patients also may be eligible for intervention with new treatments.

“Much of our research is focused on identifying new and earlier markers for pre-cancerous conditions,” explains Dr. Kim. “We’re ready to assess, serve and support any woman who perceives she is at an elevated risk, or who doesn’t know her level of risk.”
Audiology Clinic Offers Breakthrough ‘Ringing-in-Ears’ Treatment

University Physicians Healthcare audiologists in the Department of Surgery are offering a new clinical approach for tinnitus, commonly referred to as a constant ringing in the ears. The clinic is one of the first in Tucson to offer the therapy.

Tinnitus Retraining Therapy (TRT) is a new therapeutic management technique that uses a combination of low-level, broadband noise and counseling to achieve the habituation of tinnitus, in which the patient no longer is aware of their tinnitus. TRT does not have the potential side effects and other risks associated with alternative treatments, such as medication and surgery. Although there is no cure for tinnitus, studies have shown TRT to be more than 80 percent effective.

Tinnitus generally refers to any sound being heard by a patient that is not related to an actual sound in his or her environment. Most frequently, tinnitus is described by patients as a ringing, hissing, buzzing or chirping sound. According to the American Tinnitus Association, an estimated 50 million Americans experience tinnitus. Of these, at least 2 million experience it so severely that it interferes with their daily activities. People with severe cases of tinnitus may find it difficult to hear, work or even sleep.

The most common cause of tinnitus is exposure to a very loud noise. Other known causes of tinnitus include head injury, underactive thyroid, neck or jaw disorders, sensitivity to drugs, cardiovascular disease and the aging process. Although the cause cannot always be identified, TRT works regardless of the source.

TRT consists of two parts. First the patient is educated about tinnitus and the auditory system. The purpose of this is to eliminate negative associations with the tinnitus. The second part of the treatment is to have the patient wear ear-level sound generators that emit a low-level broadband noise about eight hours a day. These devices help retrain the auditory pathway so that it is shutting out the signal of the tinnitus.

“The idea is that the patient will habituate to the tinnitus sound. We habituate to sound every day; for example, we do not hear the sound of our refrigerator motor when we are watching television,” says Christine L. Maré, AuD, audiology supervisor. “Patients who have undergone successful treatment with TRT often report that they can only hear their tinnitus if they concentrate on hearing it, and if they do hear their tinnitus they are not bothered by it. The tinnitus is then treated as a ‘neutral’ signal.”

“Tinnitus Retraining Therapy offers many patients afflicted with severe tinnitus the opportunity for a better quality of life,” Dr. Maré says.

Surgery Adds Ultrasound to Clerkship Curriculum

Third-year medical students rotating on the surgery clerkship now will be able to participate in a hands-on course that focuses on performing and interpreting ultrasound with the help of a UA College of Medicine special recognition grant for Inovation in Medical Education. Michael Demeure, MD, professor of surgery, chief of the Section of General Surgery, and surgery clerkship director, along with William Adamas-Rappaport, MD, associate professor of surgery, and Susan Ellis, EdS, general surgery residency program coordinator, have developed an ultrasound “mini-curriculum” based on a course taught by the American College of Surgeons (ACS) National Ultrasound Faculty.

“Office-based ultrasound procedures performed by non-radiologists are increasingly relied upon for patient evaluation and care,” says Dr. Demeure, a member of the ACS National Ultrasound Faculty. “For example, my colleagues here at the Arizona Cancer Center routinely perform ultrasound examinations on patients with breast masses.” In recognition of the increasing role of ultrasound, University Medical Center recently ordered a new ultrasound machine for the Arizona Cancer Center Clinic.

At present, training in the use of ultrasound at the UA College of Medicine is accomplished largely through ad hoc observation. This lack of training led Dr. Demeure to begin teaching an informal “Introductory to Ultrasound” lecture to students this past year. Feedback from students confirmed the need for a structured curriculum in the use and interpretation of ultrasound.

In the new three-hour session, starting July 2005, students will learn how to operate the ultrasound equipment, identify and measure masses in the breast and thyroid, and identify abdominal organs and abnormalities. The course also will be accompanied by a one-hour lecture given by Dr. Demeure. “Ultimately the Surgery Clerkship’s goal is for all students to develop competency with basic ultrasound skills,” says Dr. Demeure.
Surgery Researcher Cultivates Learning in the Laboratory

Judith Ulreich, PhD, research associate professor of surgery and director of the Department of Surgery’s Transplant Research Labs. Students working in her lab have gained valuable experience conducting experiments, writing abstracts and papers and presenting at national and even international scientific meetings.

Funding for many of Dr. Ulreich’s students has come from the Undergraduate Biology Research Program (UBRP), the Medical Student Research Program (MSRP) and the Western Alliance to Expand Student Opportunities (WAESO). Currently UBRP, with funding from the Howard Hughes Medical Institute (HHMI), sponsors two undergraduate students in Dr. Ulreich’s lab, Mike French and Amanda Valles.

Mike, a senior majoring in molecular and cellular biology, has spent the past three years working with Dr. Ulreich on tissue engineering and developing bioactive resorbable scaffolds for tissue repair. Mike presented his research at the Seventh World Biomaterials Congress in Australia and the Society of Toxicology meeting in Baltimore. He will present his research, based on his senior thesis on biomaterials, at the Society for Biomaterials meeting in Memphis this spring.

A junior majoring in biochemistry, Amanda is funded by WAESO in addition to UBRP/HHMI, and has worked with Dr. Ulreich for nearly two years. Amanda’s most recent project is testing the protective effects of herbal remedies on liver inflammation, using herbs (milk thistle and schizandra) suggested for liver problems on Dr. Andrew Weil’s website. Amanda presented her research at the Society of Toxicology meeting in Baltimore as well.

Mike and Amanda also were involved in translational research on a National Institutes of Health (NIH) grant, “Type I Collagen Matrix Reference Material for Tissue Engineering,” with Dr. Ulreich, assessing interactions of seven different cell types with resorbable collagen scaffolds.

Under Dr. Ulreich’s direction, many of the students, including Mike and Amanda, have had the opportunity to collaborate on research projects with other Department of Surgery faculty, including Michael Demeure, MD, general surgery; Allan Hamilton, MD, neurosurgery; Karsten Fryburg, MD, neurosurgery; and Sanjay Ramakumar, MD, urology. Outreach from these faculty members has been key in the development of her students’ interest in research, Dr. Ulreich says.

Dr. Ulreich says she enjoys being a mentor to so many students. “It’s great to see my students become excited about surgical research. They learn to be organized and develop skills working as a team and independently,” she says. Numerous students she has mentored over the years have gone on to medical school, 13 at the UA College of Medicine.
Dr. Hugo Villar Leads ASCO’s First Cancer Management Course

The first American Society of Clinical Oncology (ASCO) Multidisciplinary Cancer Management Course (MCMC) was presented Dec. 3-4, 2004 in Santo Domingo, the capital of the Dominican Republic. The course was led by MCMC Working Group member Hugo V. Villar, MD, interim Department of Surgery head, and chief of the Section of Surgical Oncology.

The MCMC Working Group is charged with creating the curriculum for ASCO’s new education initiative geared toward training physicians in developing countries on a multidisciplinary approach to cancer care. The MCMC provides a core set of lectures and disease-specific curricula in clinical oncology to physicians in countries such as Africa, Asia, Latin America and Eastern Europe. Core course elements include: the biology of cancer, integrating the cancer care team, surgical oncology, medical oncology, radiation oncology, clinical trials and symptom management. Each course is tailored by the local faculty to address educational needs specific to the geographic area and is presented with local oncology societies or medical societies.

The program in Santo Domingo focused on gynecologic cancers, as well as the core curriculum components recommended by the MCMC Working Group. More than 100 attendees from various disciplines throughout the Dominican Republic participated in the course, including surgical oncologists, medical oncologists, radiation oncologists, gynecologic oncologists, gynecologists, general physicians and surgeons.

The development of the course is ASCO’s response to the pressing global need for uniform training in cancer management and for improving cancer care worldwide.

Cecil Family to Co-Chair Trauma’s Golf Tournament

NFL coach for the Tennessee Titans Chuck Cecil, and his wife, Carrie Gerlach Cecil, will help to promote the next Golden Hour Golf Tournament, now named The Cecil Family Golden Hour Golf Classic, to benefit the UMC Trauma Program. The fundraising event will be held Friday, June 3, at the Ventana Canyon Golf Club.

On July 1, 2003, UMC became the only Level I Trauma Center in Southern Arizona, which resulted in a dramatic increase in trauma volumes and associated costs. The goal of the Cecil’s UMC Steering Committee in 2005 is to raise a minimum of $74,000, the one-day operating cost of the trauma center.

“The Tucson community has always kept its arms and hearts open to me and to my family,” says Chuck Cecil. “We hope by enlisting our fellow University of Arizona Alumni, family, friends and players in both the sports and entertainment communities in this philanthropic effort, we will be able to form an A-list team and really help the trauma center.” Carrie Cecil adds: “This is an amazing opportunity for us to give a little back to our community and a foundation in dire need of awareness and funds.”

The funds raised by the tournament will be designated specifically for special equipment needed in the trauma center, says UMC Trauma Center Director John Porter, MD, professor of surgery and chief, Section of Trauma and Critical Care.

Sponsorships and foursomes are available. For more information, call Clint Brown, (520) 795-2170.

Surgeon Awarded $600,000 for Research

More than 180,000 men in the United States will be diagnosed with prostate cancer this year, and more than 40,000 will die of the disease. When the cancer is confined to the prostate, survival is excellent after surgical removal of the prostate. The prognosis is much poorer for prostate cancer that has spread.

Jonathan Walker, MD, assistant professor, Section of Urology, hopes to change the prognosis. Dr. Walker received a five-year, $600,000 Physician Research Training Award from the Department of Defense Prostate Cancer Research Program to study “Molecular Targeting of the PI3K/Akt Pathway to Prevent the Development of Hormone Resistant Prostate Cancer.”

The goal of his research is to reduce cancer incidence and deaths and improve survival for those with the disease.

Mark Your Calendar!

VISITING PROFESSOR SERIES
1501 N. Campbell Avenue, Room 5403

April 13 • 8:00 am
Keith Oldham, MD
Professor and Chief, Division of Pediatric Surgery, Children’s Hospital of Wisconsin, Medical College of Wisconsin
“Partial Splenectomy for Childhood Hemolytic Anemia”

April 17 • 8:00 am
Hugo V. Villar, MD
Professor of Surgery, University of California, San Francisco
“New insights into the treatment of Prostate Cancer”

April 27 • 8:00 am
Mark Your Calendar!
Jonathan Walker, MD
Assistant Professor of Surgery, University of Washington, Seattle, WA
“Future of Surgery and Science”

May 4 • 8:00 am
Richard M. Satava, MD, FACS
Professor of Surgery, University of Washington, Seattle, WA
“Paradigm Shift of Treatment for Primary Melanoma and Breast Cancer in the Sentinel Lymph Node Era”

ARIZONA UROLOGIC SOCIETY ANNUAL MEETING
April 15-17
JW Marriott Starr Pass Resort, Tucson
Local Chair: Sanjay Ramakumar, MD, Assistant Professor of Surgery

FIRST ANNUAL CECIL FAMILY GOLDEN HOUR GOLF CLASSIC
Friday, June 3
Ventana Canyon Golf Club
Proceeds benefit the UMC Level One Trauma Program and the Southern Arizona Trauma Network (SATNET)
Surgery Alumni Reception at ACS

The UA Department of Surgery hosted its second residency alumni reception during the Clinical Congress of the American College of Surgeons in New Orleans. Cosponsored by Kindred Hospital, the reception was held at the New Orleans Marriott on Oct. 11. In attendance were many of the Department’s former residents and faculty, as well as other very distinguished guests. More photos can be seen at http://ahsc.arizona.edu/opa/surgery/acs04/

Dr. and Mrs. Robert Merchant and Dr. Joseph Mills

Dr. Hugo Villar and Tucson news anchor Martha Vasquez

Dr. Henry Flores and Colleen Flores

Dr. James Warneke and Robert Berger

Drs. Ana Grau and Rina Shinn

Awards & Recognition

Heart Surgery, Neurosurgery, ENT Ranked Best in U.S. News and World Report

The surgical specialties of Heart Surgery, Neurosurgery, and Ear Nose and Throat at University Medical Center were ranked among the nation’s best, according to U.S. News and World Report’s 15th annual guide to “America’s Best Hospitals.”

Craig Comiter, MD, associate professor and chief, Section of Urology, received the WARMER Foundation Grant for the study “The Role of Angiotensin II in Stress Urinary Incontinence - A Rat Model.”

Ronald Heimark, PhD, associate professor and chief, Section of Surgical Research, received a BIO5 research grant to study “Nanotechnology and Microdevices for the Capture of Circulating Metastatic Cancer Cells,” with collaborators Yitshak Zohar, PhD, UA Department of Aerospace & Mechanical Engineering, and James C. Baygents, UA Department of Chemical & Environmental Engineering. Dr. Heimark also received an adjunct faculty appointment from ASU Harrington Department of Bioengineering.

Robert Krouse, MD, associate professor, Section of Surgical Oncology, received funding from the NCI through an R13 meeting grant to host an “International Conference on Malignant Bowel Obstruction” held Nov. 12 and 13, 2004, in Pasadena, Calif. Dr. Krouse was initiated as a Fellow of the American College of Surgeons in a convocation ceremony at the ACS Clinical Congress in New Orleans.

Paul McDonagh, PhD, professor, Section of Cardiovascular and Thoracic Surgery, had his NIH grant “Ischemia-Reperfusion Injury in the Diabetic Heart” recently renewed.

Charles Putnam, MD, PhD, professor, Section of General Surgery, received a doctorate from the University of Arizona in December in Molecular and Cellular Biology.

Judith Ulreich, PhD, research associate professor, Section of Transplantation, was elected to the Nominations and Awards Committee of the Society for Biomaterials at the 2004 meeting in Sydney, Australia. She received two grants (Fall ’04, Spring ’05) from the NSF funded WAESO (Western Alliance to Expand Student Opportunities) for “Determination of Potential Hepatoprotective Effects of Milk Thistle and Schizandra in a Rat Model of Inflammatory Liver Disease.”

Presentations

Michael Demeure, MD, professor and chief, Section of General Surgery, presented, “Islet Cell Tumors,” to the American College of Surgeons 90th Annual Clinical Congress Endocrine Surgery Session in New Orleans. A member of the National Ultrasound Faculty, Dr. Demeure also served as an instructor for the Head and Neck Ultrasound Course at the ACS meeting.

CONTINUED ON PAGE 8
Robert Krouse, MD, presented at the 90th Annual ACS Clinical Congress in New Orleans “America’s Melting Pot: Do Expectations Differ?” which was part of the session “Outcomes Beyond Survival in Surgical Care: What the Patient Wants and What the Surgeon Should Know.” Dr. Krouse was part of an expert panel that convened in Los Angeles to develop quality indicators for assessing elderly surgical care. The panel is part of a project funded by the American Geriatrics Society, the Robert Wood Johnson Foundation, and the UniHealth Foundation.

Joseph Mills, MD, professor and chief, Section of Vascular Surgery, served as the program chair and moderator for the Postgraduate Course on Vascular Surgery: “Vascular Surgery: Controversies in Vascular and Endovascular Surgery” held at the 90th Annual Clinical Congress of the American College of Surgeons in New Orleans.

Sanjay Ramakumar, MD, assistant professor, Section of Urology, traveled to India in October to present “Surgical Robotics and Minimally Invasive Surgery/Endourology,” Sagar Apollo Hospital International Surgical Lecture (guest lecturer) in Bangalore, and “Minimally Invasive Surgery for Kidney Transplant” Kovai Medical Center and Hospital Grand Rounds (guest lecturer) in Coimbatore.

Judith Ulreich, PhD, and members of the Transplantation Laboratory presented at the Seventh World Biomaterials Congress in Sydney three collaborative research projects involving several other Department of Surgery faculty. The presentations were:

- “A New Collagen Dura Substitute for Use as an Onlay or a Suturable Graft.”
- “In vitro Biocompatibility Testing of Matrices for Tissue Engineering: Cell Viability vs. Proliferation.”
- “Lack of Immunogenicity of PEG-Based Hydrogel Used as a Tissue Sealant in Laparoscopic Porcine Partial Nephrectomy.”


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