UA Surgeons Perform Islet Cell Autotransplants at UMC: A First for Arizona and the Southwest

Surgeons at The University of Arizona College of Medicine are the first in the Southwest to perform successful islet cell autotransplants in patients with severe chronic pancreatitis.

The dual procedure, which involves removing the pancreas and then putting the patient’s insulin-producing pancreatic islet cells back into the body, was performed in August at University Medical Center. The innovative procedure, performed on two women in their mid-40s, alleviates the pain from pancreatitis, while avoiding surgically induced diabetes.

One woman, from Tucson, underwent the procedure Aug. 6; the other patient, who traveled to Tucson from Cincinnati, Ohio, had the surgery performed Aug. 13. For both patients, the pancreas was removed by the UA Department of Surgery transplant team, led by Rainer Gruessner, MD, professor and surgery department chairman, and Tun Jie, MD, assistant professor of surgery.

The pancreas is located in the middle of the abdomen, surrounded by most of the abdominal organs, such as the liver, spleen, and stomach. The organ produces enzymes (exocrine pancreas) essential for digestion and secretes insulin (endocrine pancreas) that controls blood-sugar levels.

Chronic pancreatitis is an inflammation of the exocrine pancreas that causes irreversible scarring and eventually the destruction of islets. The condition can be caused by many things, including hereditary disorders, autoimmune conditions, cystic fibrosis, trauma to the pancreas, or heavy alcohol use.

“Chronic pancreatitis can be extremely painful,” said Horacio Rilo, MD, professor and director of Cellular Transplantation at the UA.

“Although a pancreatectomy (removing the pancreas) usually is effective in relieving the debilitating pain in patients when all other treatments fail, it induces permanent diabetes, requiring patients to take insulin shots or use an insulin pump for the rest of their lives,” Dr. Rilo said.

In an islet auto- or self-transplant after a total pancreatectomy, the patient’s own insulin-producing beta cells contained in clusters called “islets” are isolated immediately from the removed pancreas. They are then placed back in the patient’s liver where they lodge in small blood vessels and release insulin.

During both operations, the organ was removed by Dr. Gruessner and his team and rushed to a specially designed laboratory “clean room,” where Dr. Rilo and his team at the UA Cellular Transplantation Institute harvested the islet cells.

Then the cells were brought back to the operating room, where Dr. Gruessner infused the cells into the patient’s liver through the portal vein. There they graft and mimic the endocrine function of the removed pancreas.

Telemedicine technology was used to provide constant communication between the operating room and the laboratory.

“The procedure uses the patient’s own islet cells, which eliminates any threat of rejection and avoids the risk of the immune system attacking the donor tissue,” said Tun Jie, assistant professor of surgery.

“Because the patients’ own cells were used, there was no risk of rejection, and the islet cells could be stored in the patients’ livers for days while they were transported to the operating room.”

Islet cells lodge in tiny vessels of the portal vein in the liver and begin insulin production.
Chairman’s Message

Over the last two years, the Department of Surgery has seen unprecedented growth. In July 2007, we had 25 clinical faculty members. At the end of July 2009, we had more than doubled in size to 52 clinical faculty members. By the end of 2010, we predict that we will have more than 60 clinical faculty members. The number of operating room cases also has risen dramatically, from 583 in July 2007, to 661 in July 2008 and to 873 in July 2009.

In addition to increasing the number of faculty, the expansion of our department has resulted in new milestones:

The first successful islet cell autotransplants in the Southwest were performed this past summer on two patients with chronic pancreatitis. Dr. Horacio Rilo, with the support of the College of Medicine, has built an FDA-approved Class 10,000 clean room that makes such procedures possible.

We performed the Southwest’s first living donor intestine transplant in April and first deceased donor intestine transplant in September. Our liver transplant program recently received certification by the U.S. Centers for Medicare and Medicaid Services (CMS). This certification greatly expands access to life-saving liver transplants.

Our cardiothoracic transplant program reached a milestone last February – our 1,000th cardiothoracic transplant. And this past May, the 100th double-lung transplant was performed at UMC.

New multidisciplinary programs combine the perspective and expertise of leaders from many specialties to apply the newest procedures and technologies, all with an emphasis on quality and patient safety. By working together, we are able to treat patients with the most challenging, most complex health problems and diseases:

Our HepatoPancreaticoBiliary (HPB) Center features an interdisciplinary approach to the treatment of patients with diseases of the liver, pancreas and biliary system.

By combining vascular and podiatric surgery, the Southern Arizona Limb Salvage Alliance (SALSA), an advanced clinic for extremity wound care, is dedicated to amputation prevention for patients with diabetes.

Our trauma program at UMC boasts brand new facilities and now has the critical mass of surgeons needed to extend the highest level of surgical care to trauma patients in southern Arizona. In July the program received confirmation of its Level I status by the American College of Surgeons through 2011.

Ensuring outstanding education programs for our students and residents remains a primary focus. Basic and advanced skills training in open and laparoscopic surgery is now available in our new large animal training operating rooms.

We recently launched a new five-year vascular surgery residency program, one of only 19 in the country. In addition, we took the lead in the development of the Medical Sciences Graduate Program, which enables academic physicians to earn a graduate degree during their residency years, integrating their clinical training with translational research projects. Two surgery residents are now spending this next year in the laboratory with faculty mentors to earn either an MS or PhD degree in medical sciences.

To accommodate our burgeoning research initiatives, we have renovated and added more than 15,000 square feet of state-of-the-art laboratory space.

Philanthropy is yet another priority in our department. The need for endowments is greater than ever. We hired our first director of development to guide us in our fundraising efforts.

The Department of Surgery will continue to grow and be a leader in cutting-edge technology. We are proud of the progress that we have made collectively and remain committed to excellence in patient care, education and research.

Sincerely,

Rainer W.G. Gruessner, MD  
Professor and Chairman,  
UA Department of Surgery

Islet Cell Transplants cont. from page 1

substantially reduces or averts the risk of the patient developing diabetes,” Dr. Gruessner explained.

“Had the islet cells not been infused, the patients would likely suffer from a very severe form of diabetes that is particularly difficult to manage and prone to secondary complications of diabetes, such as heart disease, stroke, blindness, and vascular diseases.”

Dr. Rilo, a leading expert on islet cell transplantation, recently opened a state-of-the-art “Class 10,000” clean room at the UA for isolating the insulin-producing cells of the pancreas. A Class 10,000 clean room facility maintains a positive-pressure environment to ensure that when entering the laboratory, air flows out of the clean room facility, limiting the possibility of contaminants entering the room. (See page 7)

Transplant surgeon Dr. Jie said: “An islet autotransplant is an effective treatment for chronic pancreatitis, but is offered only at a handful of medical centers worldwide. With so few centers offering this procedure, we will be able to help patients not only from Arizona, but also from all over the U.S.”

Dr. Gruessner added: “In the future, we will expand the program to treat children with rare familial chronic pancreatitis and type 1 diabetes.”

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Gutsy Move – Sister Donates Part of Her Intestine in Another Arizona First

Leslie Richter, a 44-year-old woman from Rio Rico, Ariz., became ill last year when she developed a potentially fatal condition that twisted her intestine, completely blocking the blood flow and destroying the organ. Except for 5 inches, almost all of her intestine had to be surgically removed.

Richter survived the surgery, but her quality of life and long-term survival looked bleak. She no longer could eat or drink by mouth.

The small intestine is a tube between the stomach and the large intestine that helps the body digest and absorb the fluids and nutrients in food. When the small intestine is shortened substantially, people suffer from severe dehydration and malnourishment and require total parenteral nutrition, or TPN, receiving all nutrients through an intravenous line. People on long-term TPN are at risk of developing liver failure and infections, complications that are life-threatening.

Her only alternative was an intestine transplant.

Told that a healthy person can live comfortably with only one-fourth to one-third of the normal length of small intestine — provided that the large intestine remains intact — Richter’s sister, Michelle Teran, volunteered to give a portion of hers. Their blood cell and tissue types were a good match, reducing the probability that the graft would be rejected.

On April 30, surgeons at The University of Arizona Department of Surgery performed Arizona’s first intestine (bowel) transplant on Richter in a successful nine-hour procedure at University Medical Center. The procedure also was the first intestine transplant using a living donor in the entire Southwest.

An intestine transplant replaces a patient’s surgically removed or diseased small intestine with one from either a living or deceased donor. Such transplants are life-saving, yet rare; they are available at only a handful of U.S. medical centers. Even more rare are living donor intestine transplants, whose benefits for the recipient include no waiting list time, better human leukocyte antigen matching, the ability to plan for surgery under optimal circumstances, and a potentially longer graft survival time. Studies of living donor kidney transplants have shown that living donor organs seem to last twice as long as deceased donor organs.

“Mrs. Richter underwent this life-saving bowel transplant before her liver dysfunction progressed to end-stage liver failure — in which case she would have required a combined intestine and liver transplant,” said Rainer Gruessner, MD, the intestine transplant surgical team leader. “However, many patients never get transplanted because of the scarcity of deceased donor livers.”

“We encourage patients on TPN to contact us before they develop liver failure so that they can undergo an intestine-only transplant,” said Dr. Gruessner. “We now have the infrastructure in place at UMC to offer highly complex, life-saving organ transplants, such as intestine transplants,” said Dr. Gruessner. “UMC offers the most comprehensive transplant program in the state. We regularly perform kidney, pancreas, liver, lung, and heart transplants, including living donor transplants, and now offer islet cell transplants.”

Another key member of the team is Khalid Khan, MBChB, MRCP, a UA associate professor of surgery and a nationally renowned pediatric gastroenterologist specializing in liver and intestine transplantation.

“Intestine transplants have gone from a procedure many considered improbable in the 1990s to one today that offers patients greatly improved chances of long-term survival and a better quality of life,” Dr. Khan said. “Having the transplant means that Mrs. Richter will be able to eventually eat food normally again. The transplant should give her her life back.”

According to the national Scientific Registry of Transplant Recipients, 55 intestine-only transplants were performed in the United States last year, and 234 people in the United States currently are waiting for an intestine-only transplant.

“We are thrilled to bring this important life-saving procedure to our area,” said professor of surgery John Renz, MD, a member of the transplant team and vice chief of Abdominal Transplantation. “A strong transplant program ensures that patients in the Southwest in need of a transplant receive world-class care. The commitment to saving lives through donation and transplantation is unparalleled; we are proud to be able to help patients like Mrs. Richter.”

More Transplant News: Arizona Man Breathe Easier Following UMC’s 100th Double-Lung Transplant

A 64-year-old man from Surprise, Ariz., was the 100th patient to receive a double-lung transplant at University Medical Center in May.

William M. Moncrieff suffered from years of asthma, emphysema, and chronic obstructive pulmonary disease (COPD). He had been hospitalized twice in Phoenix in the past several years after minor
respiratory problems turned serious.

“I knew I needed a transplant when my doctors told me I was one cold away from death,” he said. “I was living on borrowed time.”

He sought out UMC’s lung transplantation program, the oldest and most experienced in the state, and was placed on the waiting list for an organ in January 2009.

“I got the call at home that there was a potential match, and eight hours later I was in surgery at UMC for my new lungs,” Moncrieff said.

Moncrieff received two lungs from a deceased organ donor in a six-hour operation performed by Michael Moulton, MD, associate professor in the Section of Cardiothoracic Surgery in the Department of Surgery.

UA cardiothoracic chief and professor of surgery Jack Copeland, MD, performed the hospital’s first double-lung transplant in 1993; that patient’s lungs functioned for more than 10 years.

Moncrieff said he noticed an improvement the moment he awoke from surgery. His first breaths felt cold and fresh after years of breathing oxygen through a nasal cannula. He is looking forward to playing golf and doing other physical activities that were impossible for him for years.

In addition to the 100th double-lung transplant, department cardiovascular and thoracic surgeons have performed 55 heart-lung transplants and 51 single-lung transplants.

Liver Transplant Program Receives CMS Certification

UMC’s liver transplant program, directed by Drs. Guressner, Renz, and Khan, and Thomas D. Boyer, MD, professor of medicine and director of the Arizona Liver Research Institute, recently received certification by the U.S. Centers for Medicare and Medicaid Services (CMS). This certification greatly expands access to life-saving liver transplants for the citizens of Tucson and Arizona. Of the 23 liver recipients at UMC in 2008, 12 were pediatric patients (seven younger than 1 year).

SALSA – A Recipe for Amputation Prevention

Diabetes increases the risks of serious problems such as heart, vascular, and kidney disease. But the No. 1 reason patients with diabetes visit a hospital and emergency room is for foot infections, said David G. Armstrong, DPM, PhD, professor of surgery, Division of Vascular and Endovascular Surgery.

More prevalent in elderly, Hispanic, and Native American populations, diabetes is a major health issue in Arizona and the entire Southwest. To better address this growing health problem, Dr. Joseph Mills and Dr. David Armstrong serve as co-directors of SALSA.

People with diabetes are far more likely to have a foot or leg amputated than other groups of patients.

The disease typically reduces blood flow to the feet and causes nerve damage—patients lose their ability to feel pain. Such problems make it all too easy for patients to develop foot ulcers and infections that go unchecked, often leading to amputation.

In addition to vascular and pediatric surgery, the SALSA program has combined the expertise of researchers and specialists in areas such as infectious disease, plastic surgery, physical therapy, stem cell research, wound treatment, psychology, and psychiatry. Ultimately, their goal is prevention of the foot problems.

Toe and flow approach

“We carefully evaluate the blood flow and also the type and extent of the infection,” Dr. Armstrong explained. “Thanks to the expertise of our team and the technology we have on hand, we can do that here within a matter of a few minutes versus the days that most other places take to figure these things out.”

It can be especially difficult to assess infection and inflammation in people with diabetes since they typically cannot feel pain themselves. “They can wear a hole in their foot and never know it,” Dr. Armstrong said. But wounds tend to “heat up” before the skin breaks down. Among the tools the team uses is thermal imaging, which detects this heat before a foot ulcer develops. “Once we identify the affected area, we can target it for interventional surgery and improve the patients’ blood flow through angioplasty or vascular bypass surgery. This is one of the few places in the world that can handle such complex procedures.”

With blood flow restored, the patient’s ability to heal is enhanced. The team will debride the wound and do needed reconstructive surgery. “But the best surgery is sometimes the one that never has to be done in the first place,” Dr. Armstrong said. “This is especially true for people with diabetes.”

Through patient awareness, education, and prompt medical attention to infection, Dr. Armstrong said he is confident that 90 percent of patients can be saved from amputation.
Experts Join Forces to Treat Challenging Liver, Pancreas, and Gallbladder Diseases

HepatoPancreatobiliary (HPB) diseases are among the most complex, challenging problems in health care today. The newly formed HPB Center – a joint venture of the UA Department of Surgery, University Medical Center, University Physicians Healthcare, and the Arizona Cancer Center – offers patients a comprehensive, interdisciplinary approach to the diagnosis and treatment of malignant and non-malignant diseases of the liver, pancreas, and biliary system.

“The center was created to serve as a resource to the community, to take on the treatment of the most difficult cases,” explained Rainer Grussner, MD, professor and chairman, Department of Surgery. “Not many medical centers are willing or equipped to do this.

“This is an extremely sophisticated program,” he said. “We are fortunate to have so many highly skilled specialists in the field. Our strength comes from the multidisciplinary approach we take to diseases of the liver, pancreas and gallbladder.”

The center’s nationally recognized surgeons and physicians represent a broad range of clinical expertise in cancerous and non-cancerous diseases. These include specialists in medical oncology, radiology, gastroenterology, hepatology, pathology, anesthesiology, endoscopy, and pediatrics. Team members are available to treat patients 24 hours a day, seven days a week. They meet weekly to review each patient’s condition and plan for treatment.

Pancreatic & liver cancers

Cancers of the pancreas and liver are among the deadliest forms of cancer. Though not the most common, both types are growing in number, in part because of improved diagnostic tools. These include endoscopic ultrasound and endoscopic retrograde cholangiopancreatography, which gathers precise images to detect tumors.

Still, these cancers remain especially difficult to detect. They cause few if any symptoms until the disease is in its late stage and has advanced and spread to other organs. Because of the challenges of early diagnosis, expert and specialized treatment is crucial for patients with these cancers.

“Our fellowship-trained surgeons can offer patients state-of-the-art diagnostic and treatment techniques, including liver resection, intra-operative ultrasound, and radiofrequency microwave ablation,” Dr. Grussner said.

In addition to cancer treatment, the HPB Center is well equipped to treat benign diseases of these organs, including simultaneous organ transplants in patients with chronic pancreatitis.

Trauma Center Expands at UMC, Receives ACS Level I Verification

University Medical Center has opened a vastly expanded Trauma Center and Emergency Department after three years of construction. The acre-size facility roughly doubles the size of the hospital’s previous Emergency Department and Trauma Center.

The new Trauma Center boasts seven resuscitation suites – up from previous four – and a new rooftop helipad to accept injured patients from as far away as Yuma, New Mexico, and northern Mexico, said Peter Rhee, MD, professor and chief of the Section of Trauma, Critical Care, and Emergency Surgery in the Department of Surgery, and medical director of UMC’s trauma program.

The new helipad had just opened in June when two mass-casualty incidents involving separate van rollovers brought more than 24 patients to the trauma center. “We had 11 helicopter landings in 60 minutes,” Dr. Rhee said. “Everything went like clockwork.”

UMC’s trauma program ranks among the top university trauma centers nationwide in highest survival rates, in lowest costs, and in shortest hospital stays. In May, a blue-ribbon committee assembled by Tucson Mayor Bob Walkup to assess the city’s needs for trauma services concluded that UMC’s enhanced Trauma Center and expanded trauma team should be able to accommodate Tucson’s projected growth through at least 2020.

ACS Level I Accreditation

Already designated a Level I Trauma Center by the Arizona Department of Health Services, the Department of
Trauma Center  CONT. FROM PAGE 5

Surgery received word last July that its Level I status has been confirmed by the American College of Surgeons Verification Review Committee through November 2011.

A team of physicians from the national verification committee reviewed UMC’s trauma program in site visits in November and in June. They verified that UMC meets the essential criteria that ensure trauma care capability and institutional performance, as outlined by the ACS Committee on Trauma’s Resources for Optimal Care of the Injured Patient manual.

“We continue to hit milestones to improve trauma service to the community of Tucson and Southern Arizona. We are proud that our patients have some of the best outcome results compared to national and regional benchmarks. Our survival rates are well above the national standards and recently ranked in the top 10,” said Dr. Rhee.

A Level I Trauma Center must demonstrate that it provides not only the hospital resources necessary to treat injured patients, but also the entire spectrum of trauma care, from the prehospital phase through the rehabilitation process.

A Level I Trauma Center provides the highest level of surgical care to trauma patients. It must have surgeons and anesthesiologists on duty 24 hours a day at the hospital and prompt availability of specialists in orthopaedic surgery, neurosurgery, plastic surgery, emergency medicine, radiology, internal medicine, oral and maxillofacial surgery, and critical care. Level I Trauma Centers also must have a research program, be a leader in trauma education and injury prevention, and serve as a referral source for communities in nearby regions.

UMC is the only Level I trauma center in Southern Arizona and treats approximately 5,000 injured patients annually, making it the busiest trauma center in the state.

Outside the OR – Surgeon-Scientist Searches for Clues to a Cure for Breast Cancer

Researchers in the laboratory of Julie E. Lang, MD, assistant professor of surgery in the Section of Surgical Oncology and the BIO5 Institute, are using basic science techniques to test human tissues to learn more about the biology of cancer. Their focus is on breast cancer circulating tumor cells, cancer stem cells, and inflammatory breast cancer. Their goal is to identify potential targets for treatment to achieve a cure.

Capturing tumor cells to predict prognosis

Increasing evidence suggests that circulating tumor cells (CTCs) in the blood of breast cancer patients may be responsible for disease recurrence, even 20 years after an initial diagnosis. Thanks to a blood test developed by Dr. Lang and her colleagues, these microscopic cancer cells in blood and bone marrow can be captured and their gene expression profiled. In the journal BMC Genomics, Dr. Lang recently published an assessment of techniques for profiling the RNA of a small number (picograms) of cells.

Dr. Lang believes that understanding the biology of CTCs may provide new information on predicting prognosis and targeting treatments. “Metastasis, or the spread of cancer beyond the original site, is the main cause of death in breast cancer patients,” said Dr. Lang. “If we can molecularly characterize CTCs in patients with operable breast cancer, we may be able to more effectively target therapy in an effort to eradicate the CTCs.”

Stem cells may be key to prevention

“Abundant data suggest that cancer stem cells exist and may represent an important population for new drug therapies.

Pregnancy leads to a differentiation in breast tissue; however, it is unknown what impact pregnancy may have on the roughly 5 percent of normal breast cells that are stem cells, the potential progenitor cells of future breast tumors. Improved understanding of the protective effects of pregnancy could greatly affect the development of future prevention strategies in breast cancer,” said Dr. Lang.

Dr. Lang’s research, “Effect of Pregnancy History on the Presence of Tumor-Initiating Cells,” recently was awarded a grant from the Arizona Cancer Center’s Better than Ever Program and from The University of Arizona Vice President for Research (VPR) Award program.

Improving IBC outcomes

Inflammatory breast cancer (IBC) is the most aggressive form of breast cancer. Significant improvements in treatments have been made for patients with non-inflammatory breast cancer, but not for IBC patients. “Research on the biology and potential treatments of IBC is urgently needed to improve patient outcomes,” said Dr. Lang.

Dr. Lang is completing studies that suggest an IBC cell line may be sensitive to the drug interferon-alpha, but has found no evidence of any definite viral cause...
Cutting-Edge Research for Clues to a Cure for Breast Cancer

Outside the OR – Surgeon-Scientist Searches for Dr. Conley.

Dr. Lang has teamed up with UA pathologist Lauren Grasso LeBeau, MD, and engineer/inventor Emre Toker, president of Surgical Tools in Tucson, to work on a series of related studies aimed at improving margin assessment in breast-conserving surgery (lumpectomy). Scott Conley, MD, is studying the use of an oral fluorescent drug to see whether it could decrease the re-excision rates for patients with close or positive margins. Nationally, the re-excision rates range from 21 percent to 70 percent; negative margin status is critical, since preventing four breast cancer recurrences will save one life. Surgical Tools has awarded Dr. Lang a grant and is co-sponsoring a post-doctoral fellowship for Dr. Conley.

Stellar Discoveries Goal of Growing Surgical Research

Stellar discoveries, large and small, that improve surgical results and patient care are the overarching goal of the expanding research endeavors in the Department of Surgery, said Ronald Heimark, PhD, professor and chief of surgical research. To accomplish this, the Department of Surgery has added 16,000 square feet of state-of-the-art laboratory space so that new research and sophisticated treatments can be brought more quickly to the bedside.

High-tech clean room

The largest laboratory is home to the Department of Surgery Center for Cellular Transplantation directed by Horacio Rilo, MD, professor of surgery, co-director of the Arizona Diabetes Center, and a member of the BIOS Institute. His laboratory houses the Department of Surgery’s brand-new Class 10,000 clean room (a nearly contamination-free environment whose air quality must meet rigorous federal standards), outfitted with the latest research equipment. The facility is a virtually dust-free environment that minimizes the risk of contamination when separating islet cells from the digestive enzyme-producing cells of the pancreas, making it possible for surgeons to offer transplants of islets (the cells that produce insulin) for patients with diabetes or the debilitating pain of chronic pancreatitis. (See page 1)

In addition to islet transplants, other therapies in the research-and-development pipeline at the center over the next two years include a vaccine for patients with pancreatic cancer, use of retinal pigment epithelial cells for patients with Parkinson’s disease, use of mesenchymal stem cells to help patients’ wounds heal, use of adult-derived stem cells for patients with diabetes, and use of hepatocyte transplants for patients with liver failure.

The center is a designated UA “core” that will support clinical trials for partners throughout the University and industry who are interested in taking their research from the bench to the bedside. Trained and experienced professionals at the center can provide technical assistance in experimental design, protocol development, and regulatory filings; in recruitment and follow-up of study participants; in data analysis; and in development of funding plans for long-term sustainability.

Completed in July 2009, the laboratory is based in the new UA Medical Research Building. Dr. Rilo, who moved to Tucson in July 2008, said, “Our newly constructed laboratories, which are high-tech facilities designed to conduct early-stage clinical trials, are where research becomes reality as quickly and as safely as possible, in a fight to cure life-threatening illnesses.”

A place for research collaboration

As part of phase one renovations, a research laboratory was built on the fifth floor of the College of Medicine in an open design to encourage collaboration. The space has six lab benches and computer desk space. In addition, the lab has a large tissue culture room and a room for autoclaves, freezers, and centrifuges.

Investigators in the lab are Julie Lang, MD, Jiaqi Shi, MD, PhD, Shari Meyerson, MD, and Ronald Heimark, PhD, bringing together research expertise in breast, lung, pancreatic, and prostate cancer and diseases.
The Division of Vascular Surgery in The University of Arizona Department of Surgery is among the first 19 sites in the nation to receive full accreditation from the Accreditation Council for Graduate Medical Education (ACGME) for a primary five-year vascular surgery residency program.

The University of Arizona and Stanford University are the only two ACGME-accredited programs west of the Mississippi, and the UA is the only accredited site for vascular and endovascular surgery training in the entire Southwest.

Since 1982, the American Board of Surgery (ABS) has offered a certificate in vascular surgery that required initial completion of a five-year residency in general surgery followed by two years of focused training in vascular surgery (5-2 pathway). The UA has had a highly successful two-year vascular surgery fellowship program since 1983, and was one of the first such programs in the nation to receive accreditation.

In 2005, the vascular surgery specialty received recognition from the American Board of Medical Specialties (ABMS) as a primary specialty, rather than a subspecialty. This ABMS approval recognized the maturation of vascular surgery as a distinct specialty over the last 40 years and permitted development of vascular surgery residency training paradigms that did not require preliminary training and certification in general surgery.

“This exciting new paradigm allows us to accept candidates for training directly out of medical school. This change was essential to meet the growing need for vascular surgeons anticipated during the next 20 years,” explained Joseph L. Mills Sr., MD, UA professor of surgery and vascular surgery chief. He said vascular surgeons will be needed, not only to cope with today’s level of vascular disease, but also to deal with an increase in vascular disease as a result of the aging baby-boomer population, the continuing epidemic of obesity and the increasing incidence of diabetes.

“Approximately 100 vascular surgeons are currently trained and certified yearly; projections indicate this number will need to nearly double to meet societal needs,” he said. “The 0-5 vascular residency pathway is designed to shorten the overall duration of training and to allow trainees to focus their learning on the rapidly evolving minimally invasive techniques within vascular surgery,” added Dr. Mills, who is president of the Association of Program Directors in Vascular Surgery (APDVS), and a director of the American Board of Surgery. He will begin a three-year term as the head of the Vascular Surgery Board (VSB) of the ABS in 2010.

“Vascular surgery is the only specialty that offers comprehensive care for patients with peripheral vascular disease – care that includes non-invasive diagnosis, medical management, minimally invasive endovascular therapy, and open surgical reconstruction,” he said.

The five-year program participates in the National Residency Matching Program. Janice Thai, MD, a distinguished 2009 graduate of Stony Brook University School of Medicine, New York, became the first 0-5 resident in the UA program on July 1. The program will continue to accept one resident per year. The UA Vascular Program also will continue to train 5-2 pathway trainees, but most trainees are expected eventually to participate in the vascular-only 0-5 pathway.

Four other ACGME-accredited residency programs are offered in...
COMING SOON!

New Surgery Residency Program at UPH Hospital

The Department of Surgery has applied to the ACGME for a General Surgery Residency Program at University Physicians Healthcare Hospital. The program will start July 1, 2010, with two resident positions per year. John Kettelle, MD, is the program director. The expansion of the department’s General Surgery Residency Program will help address Arizona’s shortage of surgeons and increase the state’s retention of new surgeons.

MIS Surgeons Train Here

Six residents in the UA Department of Surgery were the first to complete the week-long Intensive Laparoscopic Training Course held Aug. 17-21. First-through fourth-year surgical residents practiced minimally invasive surgery on simulators, and animate and inanimate models in operating rooms equipped with the latest surgical technology, thanks to grants and equipment donations from industry partners Covidien, Karl Storz, and Berchtold.

Developed and directed by Rifat Latifi, MD, professor of surgery, the course focuses on laparoscopic procedures, such as Nissen fundoplication, anastomoses, and bowel and liver resections. Residents dedicate all five days in the labs. The aim of the course, which will be held every other month, is to provide the highest quality advanced training in minimally invasive procedures, resulting in fewer surgical errors and faster healing for patients.
Department Welcomes New Faculty

July 2008 - July 2009

Abdominal Transplantation

Horacio L. Rilo, MD, an international pioneer in islet cell transplantation for the treatment of diabetes, has been appointed professor of surgery and director of Cellular Transplantation. Dr. Rilo joined the UA Department of Surgery and University Medical Transplantation. Dr. Rilo received his medical degree from the University of Buenos Aires School of Medicine in Argentina, and completed his residency in general surgery at Buenos Aires Hospital. After his residency, Dr. Rilo completed a fellowship in liver transplantation in São Paulo, Brazil. He moved to the United States in 1990, where he completed a fellowship and worked as an assistant professor in transplantation at the distinguished University of Pittsburgh Transplantation Institute. In 1996, Dr. Rilo was recruited by the University of Chicago, where he worked as an associate professor and the director of Cellular Transplantation until he moved to Cincinnati in 1999.

He has published 120 articles and book chapters and serves on the editorial review boards of eight journals. His research focuses primarily on the advancement of islet cell transplantation for the treatment of type 1 diabetes and chronic pancreatitis.

Khalid Khan, MBChB, MRCP, a renowned gastroenterologist specializing in intestinal transplantation, has been appointed associate professor of surgery and pediatrics and director of the Pediatric Liver and Intestinal Transplantation Program. Dr. Khan comes to the UA from the University of Minnesota, where he was a member of the pediatric GI (gastrointestinal) section, specializing in the pre- and post-operative care of children with end-stage liver and intestinal disease. In addition, Dr. Khan specializes in advanced endoscopic therapy for childhood gastrointestinal intestinal disorders.

Dr. Khan received his medical degree from the University of Leicester, School of Medicine, in the United Kingdom and completed residency training in pediatrics at the Hospital for Sick Children, Great Ormond St, London; he also completed a pediatric gastroenterology, hepatology, and nutrition fellowship at the University of Minnesota. His other research interests include bone disease, osteoporosis, and esophageal atresia.

Cardiothoracic Surgery

Jonathan Daniel, MD, assistant professor of surgery, specializes in benign and cancerous diseases of the lung and esophagus, using the latest minimally invasive treatment options. He also treats hyperhidrosis (excessive sweating) and acid reflux disease. Dr. Daniel received his medical degree from Michigan State University. He completed residency training in general surgery at Baylor College of Medicine and in cardiothoracic surgery at Brigham and Women’s Hospital at Harvard Medical School. He also completed a fellowship in thoracic surgery at M.D. Anderson Cancer Center. Dr. Daniel will practice at UMC, Tucson Medical Center, and St. Joseph Hospital.

General and Minimally Invasive Surgery

James H. McClenathan, MD, has been named associate professor of clinical surgery in the Section of General Surgery. Dr. McClenathan graduated from George Washington University School of Medicine. Dr. "Mac" received his surgical training at the University of Michigan and
Stanford University. He also completed a two-year fellowship at the National Heart Institute and joined the Kaiser Santa Clara staff immediately after finishing residency. Dr. McClanathan was a member of the surgical staff at Kaiser Santa Clara for more than 25 years.

**Plastic and Reconstructive Surgery**

**Craig A. Hurst, MD, MSc**, assistant professor of surgery, is a graduate of Dalhousie University in Halifax, Nova Scotia, where he obtained both a medical degree and a master’s degree in science. He completed residency in general surgery at the University of Ottawa and complemented this with a plastic surgery residency at the University of Utah. Dr. Hurst went to Indiana University as the vonDeilen-Curtis fellow in craniofacial and pediatric plastic surgery. For the past two years, Dr. Hurst has been an assistant professor of plastic and reconstructive surgery with the Dalhousie University Faculty of Medicine. Dr. Hurst specializes in congenital conditions affecting the craniofacial skeleton of children and adults, cleft lip and palate surgery, and the treatment of facial trauma. He also performs the full range of cosmetic procedures.

**Surgical Oncology**

**Alfred M. Cohen, MD**, renowned colorectal cancer surgeon, has been appointed clinical professor of surgery. Dr. Cohen comes to the UA from the Lucille P. Markey Cancer Center at the University of Kentucky, where he served as director and chief executive officer. For 15 years

he directed the colorectal cancer program in New York City at the Memorial Sloan-Kettering Cancer Center. Previous to that, he was on the faculty at Harvard Medical School and the Massachusetts General Hospital.

Dr. Cohen is best known for his pioneering work in enhancing the quality of life for patients with rectal cancer. He perfected surgical techniques to minimize the need for colostomy bags, and to preserve nerves to prevent postoperative sexual and urinary problems. He also improved internal pouch techniques to improve bowel function. A graduate of the Johns Hopkins School of Medicine, Dr. Cohen trained in surgery and cancer surgery at the Massachusetts General Hospital and the National Cancer Institute. He has published almost 300 articles, is the author of a major textbook in the field, was president of the Society of Surgical Oncology, and has chaired the Commission on Cancer at the American College of Surgeons.

**Marlon A. Guerrero, MD**, an expert in endocrine surgery and research, has been appointed assistant professor of surgery. He will direct the department’s new Endocrine Surgery Center at UMC, a multidisciplinary program specializing in treating patients with benign and malignant diseases of the thyroid gland, parathyroid glands, adrenal glands, and neuroendocrine pancreas. Dr. Guerrero’s research includes the study of thyroid carcinogenesis, advanced thyroid cancers, and adrenocortical carcinoma. He also is interested in studying the systemic effects of the hypercalcemia seen in primary hyperparathyroidism. Dr. Guerrero has 20 publications in peer-reviewed journals.

Dr. Guerrero received his medical degree from Meharry Medical College, Nashville. He completed his residency training at Baylor Medical College, Houston, and a fellowship in endocrine surgery at the University of California, San Francisco.

**Evan S. Ong, MD, MS**, assistant professor of surgery, completed a fellowship at the Roswell Park Cancer Institute in Buffalo, N.Y. Dr. Ong graduated from Albert Einstein College of Medicine in 1999 and completed his general surgery residency at the University of Illinois at Chicago (UIC). During his surgical residency, Dr. Ong spent an additional two years as a postdoctoral research fellow in the Department of Pharmacology at UIC, studying the molecular and cellular mechanisms of inflammation.

Dr. Ong brings specialized surgical expertise on the latest technology to better treat patients with cancer. His clinical practice primarily focuses on gastrointestinal, pancreatic and hepatic cancers, with particular interest in treatment options for regional and metastatic disease. His research includes studying the effect of immune modulation and aging on the development and progression of gastrointestinal cancers.

**Vassiliki L. Tsikitis, MD**, was appointed assistant professor of surgery. Dr. Tsikitis completed a fellowship in colon and rectal surgery at Mayo Clinic School of Graduate Medical Education in Rochester, Minn., and her general surgery residency training at the Warren Alpert School of Medicine, Brown University, Providence, R.I., where she was a Haftner Research Fellow and Versaci Research Scholar. She received her medical degree from Temple University School of Medicine in Philadelphia and her undergraduate degree from Tufts University. Her clinical areas of interest are treatment of colon and rectal cancer, as well as surgical treatment of inflammatory bowel disease. Her practice
also includes the benign colorectal conditions that might require surgical treatment, including diverticulitis, colonic polyps not amenable to removal by colonoscopy, perianal fistulas, fissures, and hemorrhoids. Her primary research interests are the emerging field of colon and rectal cancer genetics and optimization of the surveillance protocols for colon and rectal cancer patients.

**Trauma, Critical Care and Emergency Surgery**

**Randall S. Friese, MD**, has been appointed associate professor of surgery. He earned his medical degree from the University of Maryland School of Medicine and completed his residency training at the University of Colorado Health Sciences Center. He went on to complete a fellowship in trauma critical care and a master’s degree in clinical science at the University of Texas Southwestern Medical Center, where he was a faculty member in trauma for six years. Dr. Friese also served as a staff general surgeon in the U.S. Navy. Recently, his research efforts on the effects of sleep deprivation during recovery from critical illness and injury, which is common in the hospital setting, as well as his research on the benefits of sleep promotion during recovery, have received worldwide recognition.

**Narong Kulvatunyou, MD**, assistant professor of surgery, graduated from Berry College in Georgia and received his medical degree from the University of Alabama in Birmingham. He completed his general surgery residency at New York Methodist-Cornell Hospital. He finished a fellowship in Surgical Critical Care at the University of Massachusetts and a research fellowship at the University of Minnesota. Dr. Kulvatunyou previously was at the Oklahoma University Health Science Center in Oklahoma City. His clinical and research interests include the endpoints of resuscitation, mitochondrial and cellular energy, laparoscopy in blunt and penetrating abdominal trauma, liver injury, cervical spine injury, and vascular trauma.

**Terence O’Keeffe, MB, ChB, MSPH**, assistant professor of surgery, comes to the UA from the University of Texas Southwestern Medical Center in Dallas. Dr. O’Keeffe underwent undergraduate training at Edinburgh University, Scotland. After an internship in the Royal Infirmary of Edinburgh, he went to Oregon Health and Sciences University in Portland for his surgical residency and a fellowship in laparoscopic surgery. He completed a two-year surgical critical care and trauma fellowship at the Ryder Trauma Center at the University of Miami while studying for a master’s of science in public health degree. His research interests include injury prevention and massive transfusion practices, motorcycle trauma, and damage control surgery.

**Julie L. Wynne, MD, MPH**, was appointed assistant professor of surgery in the UA Department of Surgery Section of Trauma, Critical Care, and Emergency Surgery. Dr. Wynne completed her medical degree at the University of North Carolina at Chapel Hill. She also received a master’s of public health degree from Johns Hopkins School of Hygiene and Public Health. Following her residency training in surgery at the University of South Alabama, she completed a fellowship in surgical critical care and trauma at the R. Adams Cowley Shock Trauma Center in Baltimore. Dr. Wynne served as a trauma surgeon at Mercer University School of Medicine. Her current interests are in the areas of

**Leading Prostate Cancer Surgeon Named Chief of Urology**

**Mitchell H. Sokoloff, MD**, a nationally recognized expert in the treatment of prostate cancer, kidney cancer, and testis cancer, has been appointed chief of the Section of Urology and professor of surgery. Widely respected for developing successful translational and clinical trial research programs, Dr. Sokoloff also has been instrumental in developing innovative potency-preserving (nerve-sparing) and robotic operations for men with prostate cancer and in expanding the role of nephron-sparing surgery and laparoscopy in the management of kidney cancer.

Dr. Sokoloff comes to the UA from Oregon Health and Sciences University, where he served as chief of urologic oncology and director of the OHSU Robotic Surgery Program. Previously he served as assistant professor and co-director of urologic oncology at the University of Chicago. At each of those institutions, he was recognized as a superlative patient advocate and counselor and received multiple commendations for patient care. He also has received acclaim as an educator.

A graduate of Stanford University School of Medicine, Dr. Sokoloff completed residency training at the University of California, Los Angeles. He then completed a prestigious American Foundation for Urologic Disease fellowship in urologic oncology at the University of Virginia.
chronic wound healing, surgical critical care and volunteer work with such humanitarian organizations as “Doctors without Borders.”

Urology

Christian O. Twiss, MD, has joined the department as assistant professor of clinical surgery. Dr. Twiss completed both medical school and residency training at New York University and then a fellowship in Female Pelvic Medicine and Reconstructive Surgery (FPMRS), Female Urology, and Urodynamics at the University of California, Los Angeles, one of the few fellowships in the country accredited by both the American Board of Obstetrics and Gynecology (ABOG) and the American Board of Urology (ABU). His research interests include incontinence treatment, urodynamics, interstitial cystitis, and outcomes research in incontinence and pelvic reconstructive surgery. With Vassiliki L. Tsikitis, MD, he will help to develop a Center for Pelvic Medicine at University Medical Center.

Vascular and Endovascular Surgery

David G. Armstrong, DPM, PhD, a renowned podiatrist and researcher, joined the department as professor of surgery and director of the new Southern Arizona Limb Salvage Alliance (SALSA). Dr. Armstrong instituted a similar program at the Dr. William M. Scholl College of Podiatric Medicine at Rosalind Franklin University of Medicine and Science in Chicago that achieved international recognition in the field of diagnosis and treatment of the diabetic foot and its related diseases and complications. He has collaborated with clinicians to help create programs in amputation prevention on six continents. He and his colleagues developed classifications of risk and wounds that are used as standards worldwide.

After receiving a degree in podiatry from California College of Podiatric Medicine, Dr. Armstrong completed a diabetic foot fellowship at the University of Texas Health Science Center, San Antonio, Department of Orthopaedics. He also received a master’s degree in tissue repair and wound healing from the University of Wales College of Medicine, and a PhD from the University of Manchester College of Medicine.

Alumni Spotlight

Dr. Benjamin Paz, ’90, Named Surgery Alumnus of the Year

The UA Department of Surgery created the Surgery Distinguished Alumnus Award in 2008 to acknowledge special achievements of former residents in clinical practice, education, and research. “The award is given to some of the most extraordinary surgeons who previously trained in the Department of Surgery and who now serve as an inspiration, as well as a role model, for our current residents,” said Rainer Gruessner, MD, department chairman.

Benjamin Paz, MD, a renowned leader in surgical oncology and an expert in minimally invasive and breast cancer surgery, was named the 2009 UA Department of Surgery Distinguished Alumnus of the Year.

Dr. Paz completed his general surgery residency training at the UA Department of Surgery in 1990 after attending medical school at the University of Chile. He then completed a fellowship in surgical oncology at City of Hope.

Currently, Dr. Paz is associate professor and vice chair of surgery, and director of the Rita Cooper Finkel & J. William Finkel Women’s Health Center at City of Hope National Medical Center. A surgical oncologist with expertise in breast, gastrointestinal, and rectal cancers, as well as tumors involving the bone and soft tissues, Dr. Paz has developed one of the leading centers for minimally invasive surgery in oncology in California.

Since 1997, he has been a member of the City of Hope Medical Group Board of Directors and served as president from 1997-2003.

Dr. Paz’s research interests focus on the early diagnosis and prevention of breast cancer and the identification of high-risk patients who will benefit from new screening strategies. He is particularly interested in developing new methods for minimally invasive surgery and cancer treatment that improve function, quality of life and cancer outcome in patients with breast and gastrointestinal cancers. He is a member of the Society of Surgical Oncology, a fellow of the American College of Surgeons, and a member of the Pacific Coast Surgical Society.

Dr. Paz was this year’s keynote speaker at the Surgery Resident Graduation Scientific Research Day on June 19. The event highlighted research and case studies from 11 graduating residents and fellows in the UA Department of Surgery.
Kari Schlachtenhaufen, JD, has joined the UA Department of Surgery as its first director of development. She is responsible for designing and managing the department’s long- and short-range fundraising strategies.

“We are delighted that Kari has agreed to join the Department of Surgery,” said Rainer Gruessner, MD, chairman of the UA Department of Surgery. “Given her extensive experience and her background in law, she is highly qualified to guide the department in its fundraising efforts. She will work closely with me, our faculty, our communications director, friends and supporters in the community, and The University of Arizona and University Medical Center foundations to promote our programs and cultivate major gifts for our department.”

Schlachtenhaufen has 30 years of experience in the nonprofit sector, including higher education, health care, and social services, with an emphasis on improving society through planned giving, major gifts, and strategic grant-making. She moved to Tucson from Edina, Minn. (a suburb of Minneapolis), where she ran Foundation Board Resources, Inc., a consulting practice centered on private foundations and philanthropists. In nearby St. Paul, she also served as interim president of Northwest Area Foundation, an organization dedicated to reducing poverty in eight states.

Previously, in Minnetonka (another suburb of Minneapolis), she was vice president of corporate affairs of UnitedHealth Group’s Ovations division, which is dedicated to the health and wellbeing of people age 50 and older. At the Skillman Foundation, a $500 million private foundation committed to bettering the lives of children and youth in metropolitan Detroit, Mich., she was the first program officer before becoming president and chief executive officer. Originally from Portland, Ore., Schlachtenhaufen earned her law degree from the University of Oregon.

In 2002, Schlachtenhaufen was recog-

Peggy Barrett, a longtime benefactor of the UA College of Medicine, cut her foot on a patio chair while feeding a squirrel in her back yard. Twenty weeks later, her wounds still had not healed. She was referred to Dr. David Armstrong, director of the Southern Arizona Limb Salvage Alliance in the Department of Surgery.

Dr. Armstrong, a renowned podiatrist specializing in wound care, treated Barrett and now she says, “We got results.”

With a healed foot and a desire to recognize the SALSA physicians for the care they provide patients, Barrett gave a generous gift of a charitable gift annuity. The proceeds from the gift will help fund the clinical fellowship program in SALSA and the Section of Vascular and Endovascular Surgery.
“I was extraordinarily impressed by the knowledge and demeanor of the physicians, particularly the fellows. We need to spread the word about the wound clinic in the Department of Surgery and about the care provided there,” said Barrett.

In Memoriam: Charles F. Zukoski III, MD

A Department of Surgery founding faculty member and professor emeritus Charles F. Zukoski III, MD, died on August 26 from injuries sustained in a car accident. He was 83.

Dr. Zukoski was a renowned transplant surgeon best known for his pioneering work in immunosuppressant therapies. At the Medical College of Virginia, Dr. Zukoski trained in the laboratories of Dr. David Hume, one of the transplant pioneers in the 1950s. He performed Southern Arizona’s first kidney transplant in 1970.

Born in St. Louis, Mo., Dr. Zukoski attended Harvard Medical School and completed an internship at Roosevelt Hospital. He served as a flight surgeon in the U.S. Air Force and completed residency training at University Hospital in Birmingham. He was a fellow at the Medical College of Virginia.

Dr. Zukoski joined the UA Department of Surgery in 1969, only a few months after the official activation of the department in the two-year-old College of Medicine. Previously an associate professor of surgery at Vanderbilt University School of Medicine and the University of North Carolina, he was appointed professor of surgery at the UA to develop the Section of General Surgery.

He served as chief of General Surgery at the UA, as well as chief of the Surgical Service and the Section of Renal Transplantation at the Veterans Administration Hospital.

In 1976, he received a Macy Foundation Faculty Scholarship to research immune systems of the body and organ transplant rejection at the Australian National University in Canberra.

In 1991, six general surgery residents in the Department of Surgery created the Charles F. Zukoski Award for Outstanding Role Model in Surgery given each year at the General Surgery Residency Graduation. Dr. Zukoski retired from the department in 1995.

Dr. Zukoski leaves behind a legacy of major contributions to the department, the college, and the field of transplantation. People interested in making a donation to UA Foundation/Surgery in memory of Dr. Zukoski can contact Kari Schlachtenhaufen, UA Department of Surgery, PO Box 245066, Tucson, AZ 85724, or visit the UA Foundation website at www.UAFoundation.org.

Ways to Give

The UA Department of Surgery is committed to our three-fold mission of education, research, and patient care. Your support plays a vital role in realizing our vision of excellence in these areas. Whether for the ground-breaking research that will treat and cure disease, for teaching the next generation of surgical leaders, or for providing the most advanced care in a truly compassionate, patient-centered way, philanthropy is critical to our success.

We ask that you partner with us in our mission and consider a gift to the Department of Surgery. To find out more about the various ways to give, or about the program that is most important to you, please contact Kari S., development director, (520) 626-2222, karis@surgery.arizona.edu.

“...and identify funding opportunities.”

“The UA Department of Surgery presents an exciting opportunity to build a development program that will advance surgical treatments for diabetes, trauma, and cancer patients, among others,” said Schlachtenhaufen.

Awards & Recognition

William Adamás-Rappaport, MD, associate professor of surgery, received the “Outstanding Teacher in the Clinical Sciences Award” from the UA College of Medicine Class of 2009.

David G. Armstrong, DPM, PhD, professor of surgery, was awarded the American Podiatric Medical Association’s Award of Excellence.

Randall S. Friese, MD, associate professor of surgery, received an Arizona Biomedical Research Commission Award of $375,000 over three years. Project title: “Sleep Promotion in Critically Ill and Injured Patients Cared for in the Intensive Care Unit.”

Rainer W.G. Gruessner, MD, chairman and professor of surgery, received a “highly commended” award in the surgery category by the British Medical Association Annual Awards for his textbook Living Donor Organ Transplantation.

Allan J. Hamilton, MD, professor of surgery, and author of the book The Scalpel and the Soul, won a 2009 Nautilus Silver Award. The Nautilus Book Awards were conceived to recognize and reward “world-changing” books.

Robert S. Krouse, MD, was promoted to professor of surgery on July 1, 2009. He also was awarded an R01 Renewal Grant Award from the National Cancer Institute (CA106912 HR-QOL in Colorectal Cancer Survivors with Stomas; 5 years, $2,235,497 total award).

Rifat Latifi, MD, professor of clinical surgery, has been named international health adviser to the prime minister of Kosovo. In this capacity, Dr. Latifi will work with medical professionals and government officials in the Republic of Kosovo to identify ways to improve health care for all Kosovars.

Jiaqi Shi, PhD, assistant professor, received an NIH/NCI Specialized Program Research Excellence (SPORE) in Gastrointestinal Cancer Career Development Award of $50,000. Dr. Shi also was awarded an American Cancer Society - Institutional Research Grant for $22,500.


Diaz GC, Boyer T, Renz JF. Survival of Clos tridium perfringens sepsis in a liver transplant recipient. Liver Transplantation, in press.


Presentations


Armstrong DG. American College of Foot and Ankle Orthopaedics and Medicine, “Complicated Cases: Meet the Professor,” Orlando, Florida (via video), July, 2009.


Armstrong DG. Symposium for the Advancement of Wound Care (SAWC), “American Diabetes Association Guidelines for Foot Care” (Chair), “Team Approach to Care: How to Do What We Say We’re Already Doing,” Dallas, April 2009.

Armstrong DG. The 8th Boswick Award Lectureship, Symposium for the Advancement of Wound Care (SAWC), “Toward an International Lingua Franca,” Dallas, April 2009.


**Gruessner RWG.** EPITA Post Graduate Course: Pancreas transplantation for type 2 diabetes, European Society for Organ Transplantation 14th Congress, Paris, France, August 30, 2009.


**Gruessner RWG.** Indications, Techniques and Results of Intestinal Transplantation in Children. 74th Meeting of the German Society of Pediatric Surgery. Mannheim, Germany, Sept 4, 2009.


**Guerrero MA.** Medullary Thyroid Cancer: A Pain in the Neck! American Thyroid Assoc Meeting. Sept 26, 2009. Palm Beach, FL.

**Guerrero MA.** Pain is a predictor of extensive disease in medullary thyroid cancer. American College of Surgeons 95th Clinical Congress. Oct 11-15, Chicago.

**Knatterud, ME.** Being Truly “Present” as Medical Caregivers (or as Workers Anywhere.) Invited speaker (per peer-reviewed abstract), Conference on College Composition and Communication [4Cs, a division of the National Council of Teachers of English], 60th Annual Convention, Making Waves, San Francisco, March 13, 2009.


**Krouse RS.** Palliative Care Surgery. UCLA Palliative Care Faculty Development and Department of Surgery Grand Rounds, April 8, 2009, Los Angeles. Invited.

**McLennathan, JH.** Air in All the Wrong Places. Conference on College Composition and Communication Annual Meeting, March 5-8, 2009, Orlando, Florida. Accepted, oral presentation.


**Mills JL.** How I learned to love the foot (and the foot surgeon). Diabetic Foot Global Conference (DiCon). Los Angeles, March 19, 2009.


**Mills JL.** A rational approach to endovascular and open therapy for critical limb ischemia. Illinois Visiting Professor, May 7, 2009.


**Rhee P.** Extracorporeal Membrane Oxygenation Use for Transfusion Related Acute Lung Injury in Trauma. War Experiences in Iraq. Emergency Surgery in Patients Treated with Anticoagulants or Anti-aggregate Drugs. Trauma in Pregnancy. 10th European Congress of Trauma and Emergency Surgery. Antalya, Turkey. 13-17 May 2009.


Rhee P. New Developments in Local Hemostatics. The Trauma Journey – From Pre-hospital to Rehabilitation. Texas Health Harris Methodist Fort Worth’s 11th Annual Trauma Conference. Fort Worth, Texas. April 24, 2009.


Rhee P. Advances in Cellular Transplantation - The Next Generation in Organ Transplantation. Spring 2009 Transplant Lecture Series, University Medical Center, April 10, 2009.

Rilo HL. Advances in Cellular Transplantation - The Next Generation in Organ Transplantation. Spring 2009 Transplant Lecture Series, University Medical Center, April 10, 2009.

Rilo HL. Islet Transplantation - Frontier in Medical Research. University of Arizona College of Medicine Research Office, April 14, 2009.


