

EMORY UROLOGY NEWS

A Newsletter from the Department of Urology, Emory University School of Medicine

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Accolades and events

■ On the evening of September 15, 2005, Emory Urology will host its annual Prostate Cancer Awareness Dinner at Atlanta's Cherokee Town Club in Buckhead to promote prostate cancer education and raise funds for prostate cancer research. September is National Prostate Cancer Awareness Month. For information about attending or sponsoring this event, please call Ed Shires at 404-778-5429 or e-mail ed.shires@emory.org.

■ Urologist Muta Issa was recently selected by the National Ethnic Coalition of Organizations as a recipient of the 2005 *Ellis Island Medal of Honor*, which recognizes Americans of diverse origins for their outstanding personal and professional contributions. Recipients are listed in the Congressional Record. Issa is an associate professor in the Emory School of Medicine and chief of urology at the Atlanta Veterans Affairs Medical Center.

A native of Iraq, Issa moved to Ireland at age 15 to attend high school and later medical school. He came to the United States in 1987 and obtained his urology residency training at Johns Hopkins University Hospital and Stanford University Medical Center. Issa pioneered radiofrequency thermal therapy of the prostate and, in 1994, was the first urologist in the U.S. to perform the procedure.

"Dr. Issa has made innovative contributions to the field of urology," says Fray Marshall, chair of the Department of Urology, "and has been invaluable in directing the urology service at the Atlanta VA hospital. We are proud to work with him."

■ Leland Chung, director of research for Emory Urology, was named this year's recipient of the *Distinguished Preceptor Award* from the American Foundation for Urologic Disease

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DNA mutations may accelerate growth of prostate tumors

The January 2005 issue of the journal *Science* highlighted Emory research concerning mutations in the mitochondrial DNA found in prostate tumors. Emory urologist John Petros, in collaboration with other Emory researchers, has discovered that mitochondrial DNA mutations occur in prostate cancer and appear to be responsible for aggressive tumor growth.

The mitochondria are the tiny "powerhouses" of the cell, producing the energy that runs all of the cell's machinery. They are the only location outside the nucleus of the cell where DNA can be found, with mitochondrial DNA (mtDNA) containing the code for several of the proteins essential to energy production. When mutations occur in the mtDNA, energy production is compromised, and toxic by-products, in the form of reactive oxygen species (ROS), are increased. One of the most common ROS is hydrogen peroxide, which can serve as a potent signal to the cancer cell, increasing the growth rate of tumors.

Treating just tumors saves kidneys

An estimated 36,160 new cases of kidney cancer and 12,660 deaths from the disease are expected to occur in the United States in 2005. However, doctors increasingly are able to diagnose and treat small, localized renal tumors because of improvements and availability in imaging, including CT scans.

While the gold standard treatment for kidney cancer entails removal of the entire tumor-bearing kidney (radical nephrectomy), in cases of small tumors many doctors now remove only the tumor, sparing the remaining normal kidney (partial nephrectomy). Ten-year recurrence rates and cancer-specific survival have been shown to be equivalent for both procedures.

To further minimize the potential adverse effects of surgery, renal tumor ablation has become increasingly used over the past several years. Tumor ablation involves destruction of tumors with various forms of energy that kill cancer cells and negate the need to remove them from the body.

The two most common technologies for renal tumor ablation are radiofrequency ablation (RFA) and cryoablation (CA). RFA utilizes heat energy of more than 60°C to destroy the tumor, while CA causes cellular destruction with rapid freeze/thaw cycles involving freezing the tumor cells to below -20°C.

These procedures can be performed laparoscopically (with a special probe placed through the skin). Hospital stays

are short (1-2 days), with rapid return to work and normal activities. Most important, tumor ablation therapies pose minimum risk and are viable alternatives for patients who are not good candidates for surgery.

Emory Urology is one of only a few centers routinely performing both ablative treatments and is currently comparing results from the two procedures to determine which is most effective. Future research efforts will concentrate on improved targeting of renal tumors and additional agents to further improve overall treatment.

Emory urologists Kenneth Ogan and John Pattaras perform laparoscopic RFA and CA, respectively. In partnership with the Department of Radiology, Ogan and Pattaras also perform percutaneous RFA under CT guidance. That procedure is done through the skin with a probe no larger than an IV catheter. As there are no incisions, patients stay in the hospital less than 24 hours.

Ogan and Pattaras have also been closely involved in developing better ways of imaging RFA during treatment in an effort to improve results. The two have reported results on the use of infrared thermography (using cameras that can detect heat) and bubble contrast enhanced sonography (ultrasound using intravenous contrast composed of tiny micro-bubbles). They are currently studying the use of magnetic resonance imaging (MRI) in tumor ablation.

(AFUD) and American Urological Association Education and Research (AUAER). Chung has been instrumental in the career development of a number of urologic researchers by serving as their preceptor during research they conducted for the AFUD/AUAER Research Scholar Program.

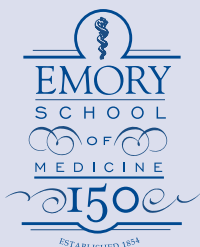
■ Emory Urology took a leadership role at the American Urological Association annual meeting in San Antonio in May. Dr. Fray Marshall, chair of the department, served as a presenter. Marshall also moderated a session at the meeting. John Petros and Jeff Carney also took active roles as presenters and moderators. In addition, Emory Urology had more than 10 presentations, with topics ranging from depression in prostate cancer patients to radiofrequency (heat) destruction of kidney cancers to molecular characterization of prostate and kidney cancers.

■ Emory, along with other distinguished academic medical centers in the United States including Johns Hopkins Medical Center and the University of Texas Southwestern Medical Center, recently served as a host university for the European Urologist Association Exchange Program. Four urologists from Hungary, Italy, France, and Russia visited Emory Urology in May. The group learned about how urology is practiced in the United States, observed surgical techniques, attended grand rounds, and shared information about treatment of urologic disease in their countries.

Make a gift, make a difference

Many opportunities exist for you personally to help others through your support of Emory Urology's research, teaching, and patient care. Among the most helpful gifts we receive are unrestricted ones to the Emory Urology Excellence Fund. The fund enables us to meet challenges as they arise and grasp unexpected opportunities as they present themselves.

If you are interested in making a gift or if you would like to know more, please contact Ed Shires, director of development, at 404-778-5429 or ed.shires@emory.org.



Emory Urology continues to lead the way in training

Pelvic Floor Reconstruction Master Class to be offered again

The 2006 Surgical Master Class in Pelvic Floor Reconstruction, a conference presented by the Emory Continence Center and Department of Urology, will be offered again next spring. The 2005 conference drew nearly 100 participants, including 84 physicians from as far away as South Dakota and Montana. Updates on current methods of assessment and management of incontinence and vaginal prolapse were provided. The conference also featured a master class in which experienced pelvic surgeons presented the latest techniques for surgical repairs and a fresh tissue demonstration. They also discussed ways to individualize these surgeries to fit specific problems encountered by women of diverse cultures and ages.

Advances in Urology 2005 scheduled for December

Emory Urology's annual continuing education conference, *Advances in Urology*, is scheduled for December 2-3 at Atlanta's new Intercontinental Hotel in Buckhead. The conference is an opportunity for practicing urologists and others working in the field to learn of the latest developments in urology, urologic surgery, and research from nationally and internally renowned academic and scientific faculty.

The 2004 conference attracted 112 registrants from 12 states, including the entire Southeast as well as Illinois, West Virginia, Oklahoma, and Maryland. Among those present were a number of Emory Urology alumni, as well as 26 sponsors and exhibitors.

The Emory University School of Medicine, the Atlanta VA Medical Center, and Grady Memorial Hospital help sponsor the annual event.

Removing the stones from the Stone Belt

Kidney stones are a common urologic disease affecting almost 5% of the U.S. population but that percentage triples in the Southeast, which is known as the "Stone Belt." Scientists suspect that the combination of hot weather, dehydration, and the southern diet plays a role in the increased incidence.

Under the direction of fellowship-trained endourologists John Pattaras and Kenneth Ogan, the Emory Urology Stone Center has a team of dedicated board certified physicians and specialized physician assistants trained to eliminate kidney stone problems and help prevent their return.

The Emory Urology Comprehensive Stone Center offers cutting-edge minimally invasive therapies for kidney stones and conducts research into their causes and prevention. Minimally invasive therapies include shock wave lithotripsy (SWL), which uses concentrated sound waves to vibrate and pulverize stones. This is the most common surgical treatment used in the center.

When stones are not amenable to SWL treatment, doctors insert small fiber optic endoscopes, either through the bladder or through small incisions in the patient's back and into the kidney. Lasers and miniaturized "jack hammers" placed through the endoscopes destroy the stone.

Once a stone has passed or is surgically eliminated, the team studies what caused it and how to prevent future stones. Dehydration and poor diet are the most common causes of stone formation. When fluids and dietary changes are not effective, the team evaluates the patient's blood chemistry, urine, and stone composition and then constructs a management plan.

In some people, stones can cause debilitation, chronic urinary infections, kidney failure, and may even be life threatening. In these individuals, discovering the cause of stone formation for treatment purposes may substantially improve quality of life.