Whole-patient evaluation can prevent kidney stones

Whether you’re experiencing your first kidney stone or you’ve been through treatment time and again, physicians at the Emory Urology Stone Center want to make sure you don’t have to come back.

“I’m amazed at how many people have had stones for 20 or 30 years and no one has ever found the underlying cause,” says urologist Kenneth Ogan, who co-directs the center with John Pattaras. “That’s what sets Emory’s Stone Center apart. We do a metabolic workup of each patient’s stone disease, not only to treat their stones in the best way, but also to find out why they are forming the stones. Then we take aggressive preventive measures to keep new stones from forming.”

Depending on the size and severity of the stone, physicians can suggest a number of treatment options. For small stones, patients typically are given pain medication, told to drink lots of water, and observed in hopes that the stone will pass. For patients whose stones don’t pass or who have complex stones, the center offers several minimally invasive surgical therapies.

The most common is shock wave lithotripsy (SWL), an outpatient procedure using concentrated sound waves to pulverize stones into sand, which can be passed through urine. The clinic’s new SWL machine boasts a success rate of about 80%.

For patients whose stones are not treatable with SWL, doctors can insert a small fiberoptic telescope through the opening of the urethra, a needle-puncture in the skin, or a small incision in the back. Stones are removed, or they are broken into tiny pieces with a laser, ultrasound probe, or a miniature “jackhammer.”

Emory physicians also are researching stone disease and treatment in hopes of reducing incidence in the “stone belt”—the Southeastern and mid-Atlantic United States. Stones are more common in hot climates, with most occurring in September and October, two to three months after the hottest time of year. Researchers believe poor diet, high temperatures, and dehydration play a role.

“Tell me your patients that if there are 10 reasons that they are forming stones, the first nine are that they are not drinking enough fluids,” Ogan says. “If they are drinking one to two liters of fluid in the winter, they need to double or triple that in the summer. It is almost easier to get people to stop smoking than to get them to drink more fluids.”

Several Emory studies are examining potential treatments for and underlying causes of kidney stones.

In one study, patients treated with SWL also are receiving Flomax—a medication used for benign prostate enlargement—to see if the medication can help patients pass the stone fragments left by lithotripsy.

Other Emory studies will look at a possible link between rapid weight loss through bariatric surgery and incidence of kidney stones; the difference in stone risk factor for people with high cola consumption versus high water consumption; and the possible use of electromagnetic chair therapy—currently a treatment for female incontinence—to induce spontaneous passage of certain types of small stones.

**Stone facts**

- Kidney stones are among the most common urinary tract disorders.
- Some 500,000 stones are reported in the United States each year.
- Kidney stones affect about 12% of men and 5% of women by age 70.
- The peak age for a stone is between 20 and 40 years.
You can help

Nourish research seeds
A $5,000 gift of “seed money” can help develop a novel idea—for example, why and how prostate cancer develops—to the point where the NIH or other agencies may fund the work with $5 million or more.

Our chairs don’t sit still
Your support can help us attract world-class physicians and researchers. What makes a $2 million gift to sponsor an endowed chair such a powerful recruitment and retention tool is the chair’s status—usually named for the donor—and the program or laboratory support and protected research time the chair provides.

An endowed chair will advance the work of researchers like Leland Chung, who spearheads urology’s prostate cancer program. Chung is using nanotechnology to seek out prostate tumors in mice and then deliver the drug cyclopamine directly to the tumor. Cyclopamine can block a specific prostate growth-enhancing gene. This study and others like it are revolutionizing the diagnosis and treatment of prostate cancer.

Your commitment on this level will provide perpetual benefits. An endowed gift provides interest income to cover salary and other needed resources for a senior faculty position, with the remainder of the interest returned to the fund to grow over time, ensuring a vibrant future for urologic research at Emory and a healthier future for our patients.

If you are interested in making a gift or would like to know more, please contact Kristin Boggs, director of development, at 404.778.5429 or kboggs@emory.edu.

Patients with enlarged prostates may have a safer, easier option than prostate removal.

Emory urologists perform Prostiva transurethral needle ablation to treat benign prostatic hyperplasia (BPH), the noncancerous enlargement of the prostate gland. The outpatient procedure causes fewer complications than prostatectomy and can free some patients from ongoing medication use.

During the procedure, a physician inserts a fine laser-fiber needle through the urethra and into the prostate to deliver slow heat energy into the enlarged tissue. The treatment, which uses radio frequency ablation as an energy source, takes about 30 minutes. The procedure is best for patients with small to medium-sized prostates who want to avoid taking medication.

Common in men older than 50, BPH usually causes minor symptoms including frequent urination, typically treated by modifying fluid intake, particularly in the evening. However, some patients experience significant urinary problems, which may lead to bladder and kidney damage.

“This treatment is not for every patient, but it is one of many options our patients have,” explains Chad Ritenour, director of Emory Urology Men’s Health Center.

Urology clinic streamlines operations
With the recent opening of its expanded clinic space, Emory Urology provides a comfortable environment and streamlined operations to provide patients with the best and most efficient care.

- Men’s Health diagnoses and treats a range of conditions including non-cancerous prostate enlargement, high PSA, erectile dysfunction, infertility, and cancer.
- Continence Center and Female Urology treats bladder and urinary tract conditions unique to women through both nonsurgical and surgical measures.
- Urological Oncology treats patients for a variety of cancers including prostate, bladder, kidney, adrenal, and testis cancer.
- Emory Urology Stone Center evaluates and treats patients both medically and surgically to eliminate kidney stones and help prevent their return.

Learn more at www.emoryhealthcare.org/departments/urology.

Correll gift creates urology professorship
When Pete Correll had kidney problems a couple of years ago, he researched where he could receive the highest quality care and discovered that Emory Urology is one of the best in the United States.

Emory doctors detected an early stage cancer in Correll and removed one kidney.

Longtime benefactors of Emory, Correll and his wife, Ada Lee, are supporting the ongoing work of the department by funding the Ada Lee and Pete Correll Professorship in Urology, a five-year teaching professorship, with a $450,000 gift to Emory Urology.

Emory Urology has made significant progress in diagnosing and treating small, localized tumors because of imaging improvements and availability. Emory Urology is one of only a few centers routinely performing two minimally invasive procedures to destroy tumors and is comparing results to determine which procedure is most effective. Future research efforts will concentrate on improved targeting of tumors and new ways to improve treatment.

“Private support is critical to growing research and improving technology,” says Kristin Boggs, development director for Emory Urology.

Funding from the National Institutes of Health covers basic research and partial salaries, but philanthropy helps provide other basics from liquid nitrogen supplies to preserve tissues to new equipment for DNA analysis that will someday help predict disease.

Urology facts
- Emory Urology ranks #11 in the United States among urology departments for National Institutes of Health-sponsored research, having received $3 million in funds from the organization.
- Three of every four new urologists in Georgia train at Emory.
- 90% of the population will suffer from a urological disorder in their lifetime.