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# News

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New kidney stone research  
center established at UT  
Southwestern.

DALLAS--The pain suffered by those with kidney stones can be worse than the pain of childbirth, says Dr. Charles Pak, director of the new kidney stone research center here at The University of Texas Southwestern Medical School. The \$1 million Dallas center is one of five recently set up across the country by the National Institutes of Health (NIH).

Although rarely life-threatening, kidney stone disease is an important health problem in the United States, resulting in many lost work days and more than \$50 million annually in hospitalization costs, according to NIH.

"Stones obstructing the urinary tract and kidneys cause a lot of pain and discomfort and frequently must be removed surgically," adds Dr. Pak, a professor of internal medicine at UT Southwestern. "Each year more than 200,000 Americans are admitted to hospitals because of kidney stones."

Until recently, doctors were unable to determine the cause of kidney stones about 80 percent of the time. But now, using new techniques, Dr. Pak says he can do so in about 95 percent of his patients.

"The main thing to remember is that there are many different causes of kidney stones--it is not a single disease," he says. "And therefore it demands many different modes of treatment."

Dr. Pak has identified a dozen of these different causes and has formulated an "optimum" drug therapy for each. He hopes this will replace the "shotgun" therapy commonly used in the past, when drugs were prescribed in a hit or miss fashion.

Because they are caused by a number of different metabolic disorders, kidney stones are formed from several different substances. Dr. Pak's multidisciplinary team of researchers is concentrating on stones containing calcium, which comprise more than 80 percent of all kidney stones. Dr. John Fordtran, professor of internal medicine and chief of gastroenterology at UT Southwestern, is studying intestinal absorption of stone-forming substances, including calcium. And Dr. Joseph Zerwekh, an instructor in internal medicine, is considering the role of vitamin D in stone formation.

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first add kidney stones

"Vitamin D regulates calcium absorption and bone metabolism," explains Dr. Pak. "There is evidence that disturbances in vitamin D metabolism may be related to calcium stone formation."

The Dallas team also is studying the roles of "inhibitors" and "promoters" in kidney stone formation:

"Some persons with kidney stones may lack substances in the urine called 'inhibitors,' which apparently inhibit precipitation of calcium salts." Dr. Pak says. "There is also evidence that an excessive amount of 'promoters' may facilitate precipitation of stone salts in urine."

The ultimate goal of the five-year program is to develop techniques for the diagnosis and treatment of kidney stone disease which could be adapted for use in the office of a practicing physician. Dr. Paul Peters, professor and chairman of urology at Southwestern, will be a key member of the team in this part of the program. He also will be involved in the long-term clinical trials that must be done to prove that a certain drug therapy is effective.

The clinical trials will be conducted in collaboration with the General Clinical Research Center, another NIH-funded program directed by Dr. Pak.

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