

UT News

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****Kidney stone risk kit available
to help sufferers

DALLAS--A medical test kit is now available to aid the nation's estimated half million chronic kidney stone sufferers assess their risks of forming new stones.

Called the "StoneRisk Patient Profile," the new diagnostic kit was developed at The University of Texas Health Science Center at Dallas by a research group led by kidney stone expert Dr. Charles Y.C. Pak, chief of mineral metabolism, and Dr. Jean Harvey, assistant professor of internal medicine.

The multi-test kit is intended to assist physicians in diagnosing the cause of kidney stone formation. In so doing, it could help determine the most appropriate form of medical treatment for individual patients. The kit also can be used to monitor a patient's response to drug treatment, says Pak.

"It is now known that kidney stones form from a variety of metabolic and environmental disturbances that occur in urine," Pak says. "These disturbances, which are responsible for or contribute to kidney stone formation, are referred to as risk factors. Using the stone risk kit, much of this important information can now be obtained from one 24-hour urine collection test."

Pak, who also developed two FDA-approved drugs for kidney stone prevention, is director of the National Institutes of Health-supported General Clinical Research Center at the health science center.

The test kit includes a large urine collection bottle with a preservative-treated sponge inside, two small urine sample vials, a patient data card and a pre-addressed mail-back box.

Patients collect a 24-hour urine sample in the large container and then mail the two vials with small quantities of urine to a central laboratory for analysis. Laboratory results come back to the physician in the form of a computerized graph showing whether or not a patient has an increased risk for various kidney stone-forming disorders.

The kit overcomes problems of multiple urine collections for laboratory analysis since, typically, different tests require several specimens obtained with different preservation methods. With the StoneRisk Patient Profile, the various tests can be performed from a single specimen without refrigeration.

Also, use of the test kit substantially reduces the cost of testing for levels of certain urinary chemicals compared to testing for each chemical individually, Pak says.

The graphic display of stone-forming risks permits easy identification of metabolic disturbances, such as an increased urinary calcium level and a decreased level of citrate, a substance that inhibits kidney stone formation. In addition, environmental influences that may cause kidney stones can be detected, such as too little fluid intake and/or increased amounts of sodium, sulfate or purines in the diet. The test also identifies the category of kidney stones that the patient has a tendency toward--such as stones composed of calcium oxalate, calcium phosphate, uric acid and struvite.

(more)

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"The StoneRisk Patient Profile is not meant to provide a definite diagnosis of kidney stone disease," says Harvey, "but it is designed to test risk factors for future stone development that could aid physicians in assessing stone disease."

Pak has identified many different causes of kidney stone formation and has formulated a different treatment for each. Using this "selective" treatment approach, his group has shown that stone formation can be prevented in the majority of patients. However, some practicing physicians have had difficulty in adopting this approach because of problems in obtaining reliable tests for stone-forming factors in urine.

"Now, however, with these improvements in urine testing methods, practicing physicians can more easily obtain a diagnosis and provide kidney stone treatment," says Pak.

The multi-test kit is marketed by Mission Pharmacal Co. of San Antonio, Texas.

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NOTE: The University of Texas Health Science Center at Dallas comprises Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences and the School of Allied Health Sciences.

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