

Routine screening for pediatric chronic kidney disease is not effective

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The routine use of a screening urine dipstick to diagnose chronic kidney disease in healthy children is not a cost-effective test, confirm Penn State College of Medicine researchers, who validated an American Academy of Pediatrics (AAP) recommendation.

"Screening urine dipsticks have routinely been performed on healthy children in primary care offices for decades," said Deepa L. Sekhar, M.D., assistant professor of pediatrics. "The AAP made the recommendation to discontinue screening urine dipsticks in healthy children to test for chronic [kidney disease](#) in 2007. However, the practice has still been in use. Early detection of chronic kidney disease in asymptomatic children is not yet proven to alter ultimate disease outcome."

Researchers used data on screening urine dipsticks from 8,954 healthy school children ages 8 to 15. Of that number, 1,264 children or 14.2 percent had abnormal results, at which time a dipstick test was repeated. Only 319 of this number had a repeat abnormality, with 11 of the 8,954 children, or about 0.1 percent, ultimately having some form of chronic kidney disease. The findings were published in the journal *Pediatrics*.

The cost of a dipstick was estimated taking into account supply costs and labor to administer by a licensed practical nurse. Assuming three minutes to complete the test, and excluding administrative and overhead costs, the cost of a test came to \$3.05. Including patients requiring retests, the price rose to \$3.47 per patient. With a rate of one case of

diagnosed chronic kidney disease per 800 screenings, the cost was \$2997.50 per case diagnosed.

"A screening test should be inexpensive and widely available, and a positive result should prompt timely evaluation," Sekhar said. "Most important, early detection should lead to an intervention that prevents [morbidity](#) and/or mortality. Screening urine dipstick meets the first three requirements, but fails to satisfy the last. It remains unproven that early detection significantly alters the course of a child who is destined to progress from chronic kidney disease to end-stage renal disease. As early intervention treatments are developed for [chronic kidney disease](#), reexamination of screening dipstick urinalyses and perhaps targeted screening for high-risk populations may be warranted."

Provided by Pennsylvania State University

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