

Diet and physical activity may affect one's risk of developing kidney stones

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Even small amounts of physical activity may decrease the risk of developing kidney stones, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology (JASN)*. The study also found that consuming too many calories may increase risk.

Over the last 10 to 15 years, research has revealed that kidney stones are more of a systemic problem than previously thought. Their links with obesity, diabetes, [metabolic syndrome](#), and cardiovascular disease demonstrate that the process of stone formation involves more than just the kidneys. As the prevalence of kidney stones has increased dramatically, especially in women, efforts to decrease the risk of stone formation have become even more important.

Mathew Sorensen, MD (University of Washington School of Medicine, and the Puget Sound Department of Veterans Affairs) and his colleagues conducted a study to evaluate whether [energy intake](#) and energy expenditure relate to [kidney stone](#) formation. They studied 84,225 postmenopausal women participating in the Women's Health Initiative, which has been gathering information such as [dietary intake](#) and [physical activity](#) in women since the 1990s.

After adjusting for multiple factors including [body mass index](#), the researchers found that physical activity was associated with up to a 31% decreased risk of kidney stones. "Even small amounts of exercise may decrease the risk of kidney stones—it does not need to be marathons, as the intensity of the exercise does not seem to matter," said Dr. Sorensen. Women could get the maximum benefit by performing 10 metabolic equivalents per week, which is the equivalent of about three hours of average walking (2-3 mph), four hours of light gardening, or one hour of moderate jogging (6 mph).

The team also discovered that consuming more

than 2200 calories per day increased the risk of developing kidney stones by up to 42%. Obesity was also a risk factor for stone formation.

"Being aware of calorie intake, watching their weight, and making efforts to exercise are important factors for improving the health of our patients overall, and as it relates to kidney stones," said Dr. Sorensen.

In an accompanying editorial, John Lieske, MD (Mayo Clinic) noted that because this study only included [postmenopausal women](#), it will need to be replicated in other populations. He added that it is also possible that [women](#) who exercise regularly have other healthy habits that decrease stone risk. "Nevertheless, conservative (nonpharmacologic) counseling for patients with stones often centers almost exclusively on diet, stressing increased fluid intake, normal dietary calcium, lower sodium, moderate protein, and reduced dietary oxalate. The results of Sorensen et al. suggest that a recommendation for moderate physical activity might reasonably be added to the mix," he wrote.

More information: The article, entitled "Activity, Energy Intake, and Obesity and the Risk of Incident Kidney Stones in Postmenopausal Women," will appear online on December 12, 2013, [DOI: 10.1681/ASN.2013050548](#)

The editorial, entitled "New Insights Regarding the Interrelationship of Obesity, Diet, Physical Activity, and Kidney Stones," will appear online on December 12, 2013, [DOI: 10.1681/ASN.2013111189](#)

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