

## Obesity -- mild or severe -- raises kidney stone risk

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Obesity in general nearly doubles the risk of developing kidney stones, but the degree of obesity doesn't appear to increase or decrease the risk one way or the other, a new study from Johns Hopkins shows.

"The common thinking was that as weight rises, kidney stone risk rises as well, but our study refutes that," says study leader Brian R. Matlaga, assistant professor of urology at the Johns Hopkins University School of Medicine and director of stone diseases and ambulatory care at Hopkins' James Buchanan Brady Urological Institute. "Whether someone is mildly obese or morbidly obese, the risk for getting kidney stones is the same."

The findings are published in the February *Journal of Urology*.

Over the last decade, several epidemiological studies have shown a strong connection between [obesity](#) and kidney stone disease. However, as obesity continues to rise worldwide, Matlaga and his colleagues wondered whether different subcategories of obesity, ranging from mildly to morbidly obese, presented different risks.

To answer the question, the researchers used a national insurance claims database to identify 95,598 people who had completed a "health risk assessment" form with information about their [body mass index](#) (BMI), a measure of body fat calculated by dividing weight by height, and a general indicator of underweight, healthy weight, or overweight. The database, which spanned over a five-year period from 2002 to 2006, also had encoded information indicating whether these individuals had been

diagnosed with kidney stone disease.

Using a definition of obesity as having a BMI greater than 30 kg/m<sup>2</sup> (which, in English measurements, corresponds to a 5 foot tall person who weighs 153 pounds, or a 6 foot tall person who weighs 221 pounds), the researchers calculated the incidence of kidney stones in people who were non-obese and in those who were obese. Among the non-obese individuals, 2.6 percent were diagnosed during the study period with kidney stones, compared to 4.9 percent of the obese individuals. When the investigators arranged those in the obese group by their BMIs, ranging from above 30 kg/m<sup>2</sup> to more than 50 kg/m<sup>2</sup>, they found that the increased risk remained constant, regardless of how heavy the individuals were.

Matlaga says that he and his colleagues aren't sure why obese people are more at risk for [kidney stones](#), though metabolic or endocrine factors unique to obesity are likely reasons, along with dietary factors such as a high-salt diet. The researchers plan to study these potential risk factors in subsequent studies.

Provided by Johns Hopkins Medical Institutions

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