

# Kidney stones linked with small increased risk of later kidney problems

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Kidney stones are associated with a small but significant increased risk of developing more serious kidney problems later in life, suggests a study published in the *British Medical Journal* today.

[Kidney stones](#) are a common and often preventable condition in the general population, but their association with end stage [renal disease](#) or ESRD (commonly known as [kidney failure](#)) and other renal problems is unclear.

So a team of researchers in Canada and the USA set out to investigate whether the presence of kidney stones increase the risk of kidney failure or other adverse outcomes such as chronic kidney disease or raised blood creatinine levels (a sign that the kidneys are not working normally).

They tracked over three million patients for an average of 11 years. Hospital records were used to identify episodes of kidney stones and subsequent development of chronic kidney disease, kidney failure or raised creatinine levels.

A total of 23,706 (0.8%) patients had at least one kidney stone during follow-up, of whom 4% developed late stage [chronic kidney disease](#), 6,581 (0.3%) experienced sustained doubling of creatinine levels and 5,333 (0.2%) developed kidney failure, compared with those without kidney stones.

In absolute terms, the rate of adverse renal outcomes associated with

stones was small: 2.48 per million person days in people with one or more episodes of stones compared with 0.52 per million person days in people without stones (a "person day" is the number of days of follow-up multiplied by the number of people in the study).

The associations remained after adjusting for several other possible [risk factors](#).

The excess risk associated with stones was greater in women than in men and among younger people than in those aged 50 years and over. However, the risks of all three adverse outcomes in those with at least one episode of stones were significantly higher than in those without stones in both sexes and age bands.

The authors suspect that the [calcification](#) process involved in the formation of kidney stones may be a possible cause of later renal damage, while obstruction leading to progressive scarring may also be a factor.

In conclusion, they say they found "a graded association between episodes of kidney stones and the risk of adverse renal outcomes, including ESRD." And they suggest that further research "should be aimed at determining the mechanisms explaining this association and assessing the optimal way to prevent kidney stones in the general population, especially young women."

Provided by British Medical Journal

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