

# Research raises red flags for common treatment of kidney disease

July 19 2013, by Raquel Maurier

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Credit: University of Alberta and the University of Toronto.

A common clinical practice to prescribe high doses of calcium to patients with chronic kidney disease is being called into question after a medical research review was published in the peer-reviewed journal, *The Lancet*.

The review, conducted by University of Toronto and University of Alberta medical researchers, showed that patients had less [heart damage](#) and were more apt to survive if they weren't on high doses of [calcium](#) as part of their treatment.

The research was led by principal investigator Sophie Jamal, a physician at Women's College Hospital and an associate professor of [medicine](#) at the University of Toronto, and senior author Ross Tsuyuki from the U of A's Faculty of Medicine & Dentistry. Their review showed a 22 per cent lower mortality rate and less calcification of heart arteries in [chronic kidney disease](#) patients who didn't take high doses of calcium. The research review looked at 11 randomized, controlled trials involving more than 4,600 patients, and compared people who took calcium with those who took non-calcium-based treatments such as sevelamer or lanthanum.

Calcium is prescribed to kidney disease patients because their kidneys don't function properly and can't excrete phosphate, which can be hard on the body in high levels. Calcium given in high doses finds the phosphate in the body, clings to or binds to it, then removes it from the body through urine. Sevelamer or lanthanum can also get rid of phosphate in the body, but are much more expensive, costing dollars a day as opposed to pennies a day for calcium.

"What we can say is that the risk of death is lower in those taking non-calcium-based treatments," said Tsuyuki, who works in the Division of Cardiology in the Department of Medicine and the Mazankowski Alberta Heart Institute at the U of A. "What we don't know is the exact mechanism of this finding and whether it is that calcium is bad, or that sevelamer and lanthanum are good.

"Some researchers and physicians have been saying for years that kidney disease patients need to get off calcium. Now we think our review shows there is much more solid evidence to argue for that change to clinical practice."

Jamal added, "Doctors commonly prescribe [calcium supplements](#) to prevent elevated phosphate levels, which can damage the body, but a

growing number of studies have shown calcium supplements may actually increase the risk of heart disease. Our study validates these claims and, for the first time, shows the long-term consequences of taking calcium supplements can be dangerous for patients with kidney disease."

An editorial accompanying the research article in *The Lancet* raised the question of whether these research findings could be "a game changer" when it comes to treating patients with chronic kidney disease. Heart disease is the number one killer of people with chronic [kidney disease](#).

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Provided by University of Alberta

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