

Increasing selenium intake may decrease bladder cancer risk

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A common mineral may provide protection against bladder cancer.

According to results of a study published in the September issue of *Cancer Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research, selenium intake is associated with decreased risk of [bladder cancer](#).

"The lower the levels of selenium, the higher the risk of developing bladder cancer," said lead researcher Núria Malats, M.D., Ph.D., leader of the Genetic and Molecular Epidemiology Group, Human Cancer Genetics Program, Spanish National Cancer Research Center.

Selenium is an essential micronutrient that is incorporated into about 25 proteins, called selenoproteins. Most of these selenoproteins are enzymes with antioxidant properties that prevent cellular damage caused by the by-products of oxygen metabolism, according to Malats.

The main dietary sources of this micronutrient are plant foods grown in selenium-rich soils, animals who graze on these soils and selenium-enriched products.

Using data from seven previously published studies, Malats and colleagues conducted a meta-analysis to evaluate selenium levels measured in serum and toenails and the risk of developing bladder cancer. The data included individuals mostly from the United States, but also from Belgium, Finland and the Netherlands.

The researchers noted a significant protective effect of selenium, mainly among women, which they believe may result from gender-specific differences in the mineral's accumulation and excretion in women.

"Although our results suggest a beneficial effect of

high selenium intake for bladder cancer risk, more studies are needed to confirm these findings before an enforcement of high selenium intake is recommended," Malats said.

[Cancer Epidemiology, Biomarkers & Prevention](#) Editorial Board Member Elizabeth A. Platz, Sc.D., M.P.H., said, "these findings provide a valuable lead for what to do next to understand if there is a role for selenium supplementation in bladder cancer prevention."

The next research step is to address the dose-response relationship. Addressing this relationship is of public health importance for setting recommended daily intakes for selenium and for targeting subsets of the population for [selenium](#) supplementation, added Platz, who is a professor in the department of epidemiology at Johns Hopkins Bloomberg School of Public Health.

Provided by American Association for Cancer Research

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