

Researchers explore connection between popular pain relievers, bladder cancer

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Dartmouth researchers have found that duration of ibuprofen use was associated with a reduced risk of bladder cancer in patients in northern New England, which has a high mortality rate of this disease.

In a 2012 collaborative project with the [National Cancer Institute](#), Margaret Karagas, PhD, co-director, [Cancer Epidemiology & Chemoprevention](#) program at Norris Cotton Cancer Center, and Professor of Community and Family Medicine at the Geisel School of Medicine at Dartmouth, and Richard Waddell, D.Sc, Research Assistant Professor of Medicine at the Geisel School of Medicine, looked for connections between [ibuprofen](#) use and bladder cancer.

Bladder cancer and ibuprofen use

Karagas did an earlier study on the relationship between bladder cancer and nonsteroidal anti-inflammatory drugs (NSAIDs) usage in New Hampshire. The new study included patients in Vermont and Maine. Researchers enrolled 1,171 participants newly diagnosed with bladder cancer and 1,418 participants who did not have bladder cancer. Karagas also added a genetic component looking at thirty-nine genes related to NSAID metabolism and studied a new class of NSAIDs known as selective cyclooxygenase (COX-2) inhibitors, such as celecoxib (Celebrex). Their results were published in the *International Journal of Cancer* (June 2012).

Those with specific genetic traits appear to have reduced risk

The findings in the recent study suggest that "regular use of nonaspirin nonselective NSAIDs, particularly ibuprofen, may reduce bladder cancer risk, especially among regular users for 10 years or more." However, the study also notes that observed reduction in risk was specific to individuals carrying a specific allele (or variant of a gene) related to NSAID metabolism.

Findings suggest further study needed for newer prescription pain reliever

For Karagas one of the novel findings was a trend of an increased risk of bladder cancer for those using selective COX-2 inhibitors, especially celecoxib (Celebrex). Karagas warns against leaping to any conclusions, noting, "further investigation is needed."

Karagas also stresses that this study "does not make any recommendations. It does not, in any way, suggest that patients begin taking ibuprofen as a prophylactic measure against [bladder cancer](#), nor should patients go off any medicine prescribed by their doctor."

Provided by Dartmouth-Hitchcock Medical Center

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