

Washington State Department of Health Finds No Increase in Cancer Risk Among Soccer Players Who Used Artificial Turf Fields

Alert - January 23, 2017

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Background

The Washington State Department of Health has released a [report](#) describing its investigation of cancer risk among soccer players in Washington. Exponent was not involved in conducting this research. This investigation was conducted to address a concern, raised by a women's soccer coach at the University of Washington, that cancer cases identified among soccer players might have been caused by exposure to crumb rubber in artificial turf fields. The soccer coach compiled a list of 53 current or former residents of Washington who had played soccer and developed various types of cancer as of 2016. However, this list alone could not address whether cancer risk among former soccer players was higher than that expected in the general population of Washington.

Washington State Department of Health Investigation

In light of public concerns about the possible effect of crumb rubber turf infill on cancer risk, the Washington State Department of Health and researchers from the University of Washington School of Public Health collaborated to conduct an investigation of cancer among soccer players compared with the general population, and to evaluate demographic and soccer-related risk factors among the cancer patients on the coach's list.

Comparing the number of cancer cases observed among former Washington soccer players with the number expected based on cancer rates across the state, no excess risk of cancer (including all types of cancer, leukemia, Hodgkin lymphoma, and non-Hodgkin lymphoma) was found among soccer players overall or among goalkeepers of select/premier soccer players in particular. In fact, the number of cancer cases among soccer players was lower than that expected based on statewide cancer rates. Interviews with cancer patients on the list revealed that most soccer play was on grass, and no specific soccer fields were identified as being potentially problematic in terms of conferring increased cancer risk.

Moreover, based on a review of the scientific and medical literature on cancer risk factors and the potential human health effects of crumb rubber and artificial turf, the Washington State Department of Health concluded that "the currently available research on the health effects of artificial turf does not suggest that artificial turf presents a significant public health risk," although additional information on potential toxicity and exposure is needed. Combining the results of their investigation with the published evidence, the Washington State Department of Health "recommend[ed] that people who enjoy soccer continue to play irrespective of the type of field surface."

Although limited by the likely incomplete nature of the coach's list, some nonparticipation by list members, and the absence of information on individuals' exposure to specific chemicals found in artificial turf and rubber infill, this investigation is the first epidemiological analysis to address cancer risk among athletes who played on artificial turf fields. Thus, it provides the first direct evidence of a lack of excess cancer risk among artificial turf users, augmenting the results of several exposure

analysis and risk analysis studies that also suggest no increased cancer risk due to artificial turf or crumb rubber exposure.

How Can Exponent Help?

Exponent's interdisciplinary team of scientists has a wealth of expertise to address multiple aspects of the potential health hazards of artificial turf and rubber infill. Our human health scientists include epidemiologists, toxicologists, and experts in risk assessment and exposure assessment who have investigated the potential health impact of these exposures and their component chemicals. We continuously monitor regulatory decision making on artificial turf, as well as the latest scientific and medical literature, to stay informed on current events and knowledge in this area. In addition, our polymer and material scientists and engineers are experienced in failure analysis, as well as material design, selection and development of synthetic turf products, including infill, fiber, and backing systems.

This alert is part two of a two-part series on crumb rubber.