

# Men who are continually active at work may have a decreased risk of prostate cancer

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Men with jobs that require them to be physically active may be getting benefits beyond salary and health insurance - they may be at a decreased risk of developing prostate cancer, according to a study at UCLA's Jonsson Cancer Center.

Researchers studied more than 2,100 men who worked at the Rocketdyne facility in the San Fernando Valley, many of whom were exposed to radiation and chemicals that may have increased their risk for certain cancers. The research team identified 362 men who developed prostate cancer and compared them to 1,805 men of similar age and socioeconomic status who did not get prostate cancer.

The study, done in conjunction with researchers at the Olive View-UCLA Education and Research Institute and the University of Michigan, appears in the February issue of the journal *Cancer Causes Control*.

"The message from this study for today is that if you're more active, you may be able to prevent this cancer from happening," said Beate Ritz, a Jonsson Cancer Center researcher, an associate professor of epidemiology in the UCLA School of Public Health and the study's senior author. "If you have a desk job, do something physically active to counterbalance it."

The case-control study nested within a larger cohort of more than 10,000 subjects focused on men who worked at the nuclear and rocket engine testing facility from the 1950s to the early 1990s. The cases of prostate

cancer were diagnosed between January 1988 and December 1999. Researchers obtained cancer incidence data for the workers from the California Cancer Registry and seven other cancer registries in neighboring states where workers may have moved after retirement.

Data from Rocketdyne company records was used to construct a job exposure matrix that ranked job descriptions by the amount of physical activity required and any harmful exposures the workers might have experienced.

Physical activity was separated into jobs with low, moderate and high amounts of exertion. Men with low physical activity jobs were typically managers, supervisors, analysts, administrators and senior engineers. Those with moderately physically active jobs included senior mechanics and technicians, inspectors and engineers. Masons and bricklayers, metal fitters, welders, packers, painters, tool and die makers, truck drivers, lift operators and janitors were considered to have highly physically active jobs.

The study found that the men who developed prostate cancer were less likely to hold the more physically active jobs. Those that got cancer also were more likely than the control group to be highly exposed to the chemicals that were evaluated, including hydrazine, benzene, mineral oil, polycyclic aromatic hydrocarbons (PAHs) and trichloroethylene (TCE), which are known or suspected carcinogens.

The findings are supported by other studies that suggest continuous physical activity, but not intermittent activity, is required to lower the risk of prostate cancer. The biologic mechanisms by which physical activity lower prostate cancer risk have not been identified, although some experts have speculated that activity can alter hormone levels in some men.

A strength of the UCLA study was that researchers used personnel records, job description manuals, industrial hygiene review and retired worker interviews to develop their job exposure matrix, avoiding problems with study subject recall and interviewer bias. Researchers also were able to obtain cancer incidence data and did not have to rely on mortality data. Prostate cancer is largely non-fatal, so mortality rates would not have been good data to analyze, Ritz said.

The study was limited in that researchers were not able to account for other potential factors that might affect prostate cancer risk, such as recreational physical activity and diet, said Anusha Krishnadasan, an epidemiologist at Olive View-UCLA Education and Research Institute and first author of the study.

“All we can say for sure is that aerospace workers that were highly active on a regular basis for many years while working at Rocketdyne were at a decreased risk of prostate cancer,” she said.

In a subset of subjects, researchers found that the men who developed prostate cancer were more likely to have a family history of the disease, to be African American and report having participated in routine screening for prostate cancer.

Source: University of California - Los Angeles

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