

# Exercise and rest reduce cancer risk

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Exercise is good for more than just your waistline. A recent study presented at the American Association for Cancer Research's Seventh Annual International Conference on Frontiers in Cancer Prevention Research suggests that regular physical activity can lower a woman's overall risk of cancer – but only if she gets a good night's sleep. Otherwise, lack of sleep can undermine exercise's cancer prevention benefits.

"Greater participation in physical activity has consistently been associated with reduced risk of cancer incidence at several sites, including breast and colon cancers," said James McClain, Ph.D., cancer prevention fellow at the National Cancer Institute and lead author of the study. "Short duration sleep appears to have opposing effects of physical activity on several key hormonal and metabolic parameters, which is why we looked at how it affected the exercise/cancer risk relationship."

Even though the exact mechanism of how exercise reduces cancer risk isn't known, researchers believe that physical activity's effects on factors including hormone levels, immune function, and body weight may play an important role. The study examined the link between exercise and cancer risk, paying special attention to whether or not getting adequate sleep further affected a women's cancer risk.

Researchers assessed the association between physical activity energy expenditure (PAEE), sleep duration and incidence of overall, breast, and colon cancer in 5,968 women at least 18 years old with no previous cancer diagnoses. The women completed an initial survey in 1998 and

were then tracked through the Washington County Cancer Registry and Maryland State Cancer Registry for nearly 10 years.

The results pointed to a sleep-exercise link. "Current findings suggest that sleep duration modifies the relationship between physical activity and all-site cancer risk among young and middle-aged women," he said.

Out of those 5,968 women, 604 experienced a first incidence of cancer, including 186 breast cancer cases. Women in the upper 50 percent of PAEE showed significantly reduced risk of overall cancer and breast cancer. Among women 65 or younger when surveyed and in the upper half of PAEE, sleeping less than seven hours a day increased overall cancer risk, negating much of the protective effects of physical activity on cancer risk for this group.

The next step, says McClain, would be to confirm current findings and investigate potential mechanisms underlying the interaction between sleep and exercise in order to better understand their roles in cancer prevention.

Research is expanding rapidly on the effect of insufficient and prolonged sleep duration on many health outcomes although few studies have examined the association of sleep duration with cancer risk. This novel study examining the interaction of sleep and physical activity suggests another future focus of research on health behaviors and cancer outcomes.

Source: American Association for Cancer Research

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