

Study finds taller people more likely to get certain cancers due to cell numbers

October 24 2018, by Bob Yirka



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A researcher at the University of California's Department of Evolution, Ecology and Organismal Biology has found evidence that taller people are more prone to getting cancer due to their larger number of cells. In his paper published in *Proceedings of the Royal Society B*, Leonard

Nunney describes his study, involving comparing height with cancer risk and factoring in the total number of cells in the body.

Prior research has suggested that taller people might be more prone to getting cancer—a finding that has also been seen in other animals such as dogs. In this new effort, Nunney and assistants at UoC gathered statistics on known cancer risks while factoring in height. They used data from studies that gathered such information in Norway, Korea, Austria and Sweden. He and his team then built models to factor in the total number of [cells](#) in a person's body.

Nunney reports that he found a 13 percent increase in [cancer risk](#) for women for each 10 cm of increased height. For men, the number was 11 percent. He reports further that 23 types of cancers were included in the study and that increased height was a risk factor in 18 of them. One type of cancer that did not show any risk associated with height was cervical cancer, which, Nunney notes, has been associated with HPV infections. Skin cancer, on the other hand, showed the highest risk increase. Nunney suggests this could be due to an increase in growth hormones that can cause an increase in cell division rates, leading to the kinds of larger mutations seen in skin cancers.

Overall, Nunney found that cancers of the skin, thyroid, colon, lymphoma, biliary tract and the central nervous system were more closely tied to added [height](#) risk in men. In women, they were skin, thyroid, colon, womb, breast, lymphoma and ovaries.

Nunney suggests his model offers a simple explanation for the increased risk of cancer as people grow taller—they have more cells in their bodies. He points out that as cells divide, mutations occur and sometimes those mutations become cancerous. More cells mean more mutations, which increases the odds of getting [cancer](#).

More information: Leonard Nunney. Size matters: height, cell number and a person's risk of cancer, *Proceedings of the Royal Society B: Biological Sciences* (2018). [DOI: 10.1098/rspb.2018.1743](https://doi.org/10.1098/rspb.2018.1743)

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Citation: Study finds taller people more likely to get certain cancers due to cell numbers (2018, October 24) retrieved 2 May 2024 from <https://medicalxpress.com/news/2018-10-taller-people-cancers-due-cell.html>

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