Why are tall people more likely to get cancer? What we know, don't know and suspect

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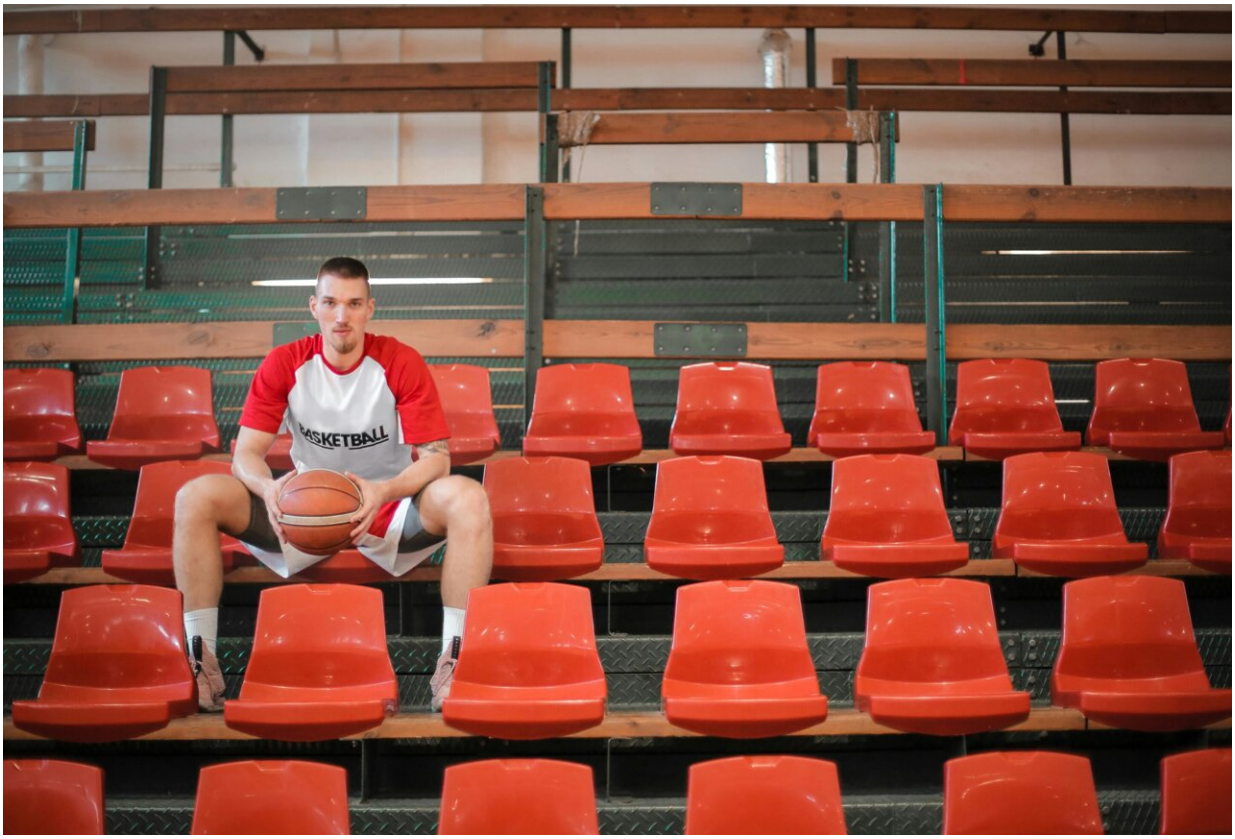

Credit: Andrea Piacquadio from Pexels

People who are taller are at greater risk of developing cancer. The World Cancer Research Fund reports there is strong evidence taller people have a higher chance of developing cancer of the:

- pancreas
- large bowel
- uterus (endometrium)
- ovary
- prostate
- kidney
- skin (melanoma) and
- breast (pre- and post-menopausal).

But why? Here's what we know, don't know and suspect.

A well established pattern

The UK Million Women Study found that for 15 of the 17 cancers they investigated, the taller you are the more likely you are to have them.

It found that overall, each 10-centimeter increase in height increased the risk of developing a cancer by about 16%. A similar increase has been found in men.

Let's put that in perspective. If about 45 in every 10,000 women of average height (about 165 centimeters) develop cancer each year, then about 52 in each 10,000 women who are 175 centimeters tall would get cancer. That's only an extra seven cancers.

So, it's actually a pretty small increase in risk.

Another study found 22 of 23 cancers occurred more commonly in taller than in shorter people.

Why?

The relationship between height and cancer risk occurs across ethnicities and income levels, as well as in studies that have looked at genes that predict height.

These results suggest there is a biological reason for the link between cancer and height.

While it is not completely clear why, there are a couple of strong theories.

The first is linked to the fact a taller person will have more cells. For example, a tall person probably has a longer large bowel with more cells and thus more entries in the large bowel cancer lottery than a shorter person.

Scientists think cancer develops through an accumulation of damage to genes that can occur in a cell when it divides to create new cells.

The more times a cell divides, the more likely it is that genetic damage will occur and be passed onto the new cells.

The more damage that accumulates, the more likely it is that a cancer will develop.

A person with more cells in their body will have more cell divisions and thus potentially more chance that a cancer will develop in one of them.

Some research supports the idea having more cells is the reason tall people develop cancer more and may explain to some extent why men are more likely to get cancer than women (because they are, on average, taller than women).

However, it's not clear height is related to the size of all organs (for

example, do taller women have bigger breasts or bigger ovaries?).

One study tried to assess this. It found that while organ mass explained the height-cancer relationship in eight of 15 cancers assessed, there were seven others where organ mass did not explain the relationship with height.

It is worth noting this study was quite limited by the amount of data they had on organ mass.

Another theory is that there is a common factor that makes people taller as well as increasing their cancer risk.

One possibility is a hormone called insulin-like growth factor 1 (IGF-1). This hormone helps children grow and then continues to have an important role in driving cell growth and cell division in adults.

This is an important function. Our bodies need to produce new cells when old ones are damaged or get old. Think of all the skin cells that come off when you use a good body scrub. Those cells need to be replaced so our skin doesn't wear out.

However, we can get too much of a good thing. Some studies have found people who have higher IGF-1 levels than average have a higher risk of developing breast or prostate cancer.

But again, this has not been a consistent finding for all cancer types.

It is likely that both explanations (more cells and more IGF-1) play a role.

But more research is needed to really understand why taller people get cancer and whether this information could be used to prevent or even

treat cancers.

I'm tall. What should I do?

If you are more LeBron James than Lionel Messi when it comes to height, what can you do?

Firstly, remember height only increases cancer risk by a very small amount.

Secondly, there are many things all of us can do to reduce our cancer risk, and those things have a much, much greater effect on cancer risk than height.

We can take a look at our lifestyle. Try to:

- eat a healthy diet
- exercise regularly
- maintain a healthy weight
- be careful in the sun
- limit alcohol consumption.

And, most importantly, don't smoke!

If we all did these things we could vastly reduce the amount of cancer.

You can also take part in cancer screening programs that help pick up cancers of the breast, cervix and bowel early so they can be treated successfully.

Finally, take heart. Research also tells us that being taller might just reduce your chance of having a heart attack or stroke.

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