

Podcast: Medical scans boost your cancer risk? Recent research raises troubling questions

Geneticist Kat Arney speaks with [Professor Phil Jones](#) and his team at the [Wellcome Sanger Institute](#) in Cambridge, UK, about his recent results showing that low levels of radiation can have a [potent effect on the growth of potentially cancerous cells](#).

Large-scale nuclear reactor accidents and nuclear weapons release large amounts of X-ray radiation. First responders and people living nearby get a high dose of radiation, which we know can increase the risk of cancer by damaging DNA inside cells. So it's understandable that the field of radiation safety focuses on reducing the risk of exposure to high levels of X-rays.

But many more people are exposed to much lower X-ray doses, either in the environment or through standard medical procedures such as CT scans, which don't seem to have a noticeably damaging effect on DNA on cells growing in the lab. However, Professor Jones' latest results show that even low doses of radiation can trigger excess cell growth in living animals, with some big implications for our understanding of how cancer starts and grows.

<https://geneticliteracyproject.org/wp-content/uploads/2019/09/022-Big-Questions-about-the-Big-C-Genetics-Unzipped.mp3>

When we talk about cancer, we often think of it as just one disease—the Big C. But it's becoming increasingly clear that cancers can be very different depending on where in the body they start. Some are much more common – such as breast, bowel, lung and prostate cancers – while others, like cancer of the heart muscle, are vanishingly rare. The chances of successful treatment and survival also vary hugely, from 98% of men surviving testicular cancer for at least ten years to less than 1% surviving pancreatic cancer for a decade after diagnosis.

To find out why, Arney talks to [Professor Steve Elledge from Harvard Medical School](#) about his work aiming to understand [why cancer arises in different parts of the body](#), and how this knowledge could be used to treat it more effectively.

[Full transcript, credits and show notes are available here.](#)

Genetics Unzipped is presented by award-winning science communicator and biologist [Kat Arney](#) and produced by [First Create the Media](#) for the UK [Genetics Society](#). Follow Kat on Twitter [@Kat_Arney](#) and Genetics Unzipped [@geneticsunzip](#)

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