

## How Our Cells become Cancerous

Like many of you, I studied Biology, in humans, but also in animals during my veterinary training. Very similar, with some of the same triggers in both. Bear with me if this is all familiar.

I have followed research at the cellular level, since my father contracted oesophageal and lung cancers in the late 1970s. Back then, knowledge was in its infancy compared to what is known now.

It has been fascinating and revealing to watch the progress and learn more about the dreaded C and other serious conditions.

Our cells contain our DNA, a unique code that carries instructions for everything a cell needs to work properly; they replicate themselves and their DNA to keep the body healthy (apoptosis). The average adult human loses between 50 and 70 billion cells each day. Happily, they are replaced within a very short space of time!

Unfortunately, errors known as mutations occur and build up overtime. Mutation overload directs the cell to become faulty and can lead to a normal cell becoming cancerous if it grows uncontrollably. Our cells are normally good at recognising damaged DNA and fixing the problem before it can cause harm. But there are trillions of cells in our bodies, and overtime some errors will get through .

As we age, our cells become more vulnerable to turning cancerous. It is therefore probable that more DNA errors have happened and because there are more of them, there is a greater risk that these errors will lead to cancer.

Mutations can occur by chance, but factors such as smoking, bad diet or UV rays from the sun or sun beds, can make them more likely to happen. That's why it's important to tackle the factors that can be prevented.

We can't stop the ageing process, but knowing how it increases cancer risk is an important starting point for research and awareness.

We now know that smoking, too much exposure to UV light and drinking too much alcohol can make mutations more likely to happen. These mutations can happen in molecules that provide the cell's DNA repair safety net, making it less effective, further increasing the damage.

Ageing isn't a time bomb and not everyone will get cancer. But being aware of your body, so that you're more able to notice any unusual or persistent changes, can be even more important as we age.

If you do notice something that doesn't seem right, especially if it doesn't go away, it's important to tell your doctor rather than put it down to age or different health condition. Most changes won't be cancer, but if it is, diagnosing it at an early stage means treatment is more likely to be successful.

Bear in mind, by the time you can find physical evidence, the cancer has been there for some time.

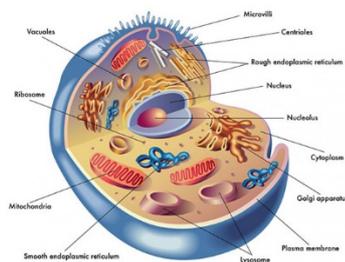
The link between age and the risk of different cancer types is one of the reasons why generally, only older people are offered to take part in NHS screening programmes for bowel, breast, and cervical cancers.

Cancer is not confined to the old! It used to be said once over 50 you are susceptible and once 60 arrives you have reached the line. But cancer doesn't have a stop-watch. It has no intention of sticking to the rules. Now, we are seeing cancers appearing in much younger people, even new-born babies.

Cancer awareness is important at any age, and everyone should look out for changes to their body that aren't usual for them. LISTEN TO YOUR BODY!

But it's just as important to remember that around 4 in 10 cases of cancer could be prevented by changing certain habits such as not smoking, keeping to a healthy weight and a healthy, colourful diet and drinking less or no alcohol .

I'm sorry but ...."Prevention is better than Cure". Corny? Maybe, but still a very legitimate statement.



This is your normal, healthy cell. Cute, isn't it? Who would have thought something so small (only just visible by a microscope). There is a lot packed in there!