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Live younger longer: why everything you know about ageing could be wrong



Save 73



Exercise can reduce stress, stimulate brain growth, lower the risk of diabetes and heart attacks, all helping to improve life expectancy. CREDIT: TIM FLATT/GETTY IMAGES CONTRIBUTOR

Follow **By Dr Duncan Carmichael**
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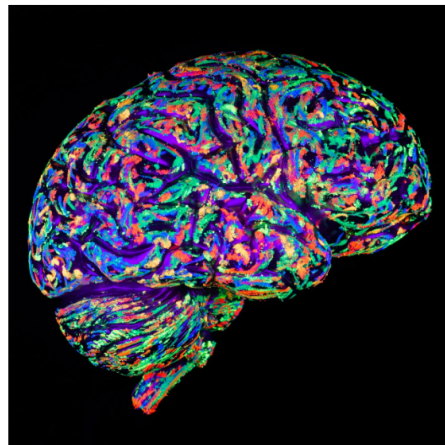
Until recently, our knowledge about ageing well appeared straightforward: low-fat foods – with a good portion of carbohydrates and smaller helpings of proteins and fats – would help us stay healthy. We could further help ourselves by making sure we were getting enough antioxidants, from fruits, vegetables and supplements.

It seemed to work: the average age in wealthy nations has climbed gently for decades, with people now likely to reach their late 70s or early 80s, and each generation living longer than the last. Clearly, we have been doing something right. Wrong.

In 2015, for the first time since the early Nineties, life expectancy in the United States declined. It has continued to drop, with more people dying from diseases such as Alzheimer's and diabetes, according to the Centers for Disease Control and Prevention. And it's not just the US – something similar is happening in other rich countries. Granted, flu and pneumonia remain major culprits, but so too are the ailments of ageing: cancer, Alzheimer's and cardiovascular issues. The obesity epidemic is at least partly responsible.

It wasn't meant to be like this. For decades, many people followed the so-called 'heart-healthy' diet, cutting out saturated fats and eating cereals and whole grains.

But last year, the groundbreaking Prospective Urban and Rural Epidemiological (PURE) study - designed to examine the effects of lifestyle behaviours on the health of 135,000 people in 18 countries, over a decade - turned everything upside down. Researchers found that those who ate butter and eggs had fewer strokes and lived longer, while those who ate their cornflakes died younger.



In 2015, life expectancy in the United States dropped with Alzheimer's being named as one of the culprits. CREDIT: DON FARRALL /ISTORE SUB

When I started practicing medicine, 25 years ago, I truly believed that butter was bad and margarine was good. But, over the course of my career, I've learned that, every five years, we need to unlearn half of what we thought was true. Medicine evolves at a breathtaking pace.

I have also learned that patients generally get much more benefit from making the lifestyle changes that prevent disease, rather than taking a tablet to treat it. To stay relevant, I realised, I needed to know more than just how to tackle illness. The book *Younger for Longer* is a culmination of that 25-year journey and shares the secrets I have

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learned about how to maximise your health.

As with so much, it's out with the old and in with the new. Two important "facts" about ageing - what we thought caused it, and how we can slow it down - have been proven wrong. And, if we heed both these things, we can switch on our longevity genes and potentially live longer.

Firstly, it is sugar and refined carbohydrates, not saturated fat, that are public enemy number one - strongly linked to obesity.

Secondly, **antioxidants** are not the health-hit we once hoped. Many of us have spent years consuming them, in the form of vitamin C pills or vitamin E. But it now seems this can harm us more than it helps.

In the Sixties, Dr Denham Harman explained that our cells are damaged by free radicals, and that antioxidants attack those free radicals and, in so doing, protect us. He was right, but there was a problem, because it turns out that our cells have their own powerful antioxidant system called SOD (superoxide dismutase). Taking lots of antioxidants seems to make our own SOD system lazy, which means it doesn't do its job as well. It turns out that a better solution is to exercise every day, because that wakes up our powerful SOD system, which is a far stronger antioxidant than any supplement we could swallow.

Tips to help you live longer

Sleep

This is the most important factor for our health. Most people need a good eight hours a night. If we don't get our sleep right then it is very difficult to get anything else right.

Brain activities

The brain is best seen as a muscle: if we don't use it, we lose it. Stress, lack of sleep and ageing all break brain tissue down. However, the brain is elastic and every time we practice something, we rebuild that part of it. We should do as many activities a day as possible to stimulate our grey matter: reading, crosswords, balancing, kicking a ball, dancing, swimming, singing, drawing, speaking another language. The older we are, the more we should make this a daily habit.

Exercise

Twenty minutes of intense exercise that combines weights, balance and endurance is optimal and will help stave off heart attacks, and diabetes. It will also stimulate brain development, boost the immune system, reduce stress and anxiety, and clear toxins.

Nutrition

Processed foods and sugars are bad for us: margarines, canned vegetables, canned tuna, ketchup, mayonnaise and soda drinks. For many years we had a blind spot for sugar, but the world has woken up to this toxin and governments are slowly putting pressure on industry to remove it.

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We now know that exercise reduces stress, stimulates brain growth, cuts **our risk of diabetes** and heart attack, and maintains healthy muscles and nerves - all of which are essential for longevity. In fact, you could argue that exercise (short and intense is the latest advice) is the single most beneficial thing we could do to stay younger for longer.

Unfortunately, though, none of this new knowledge will stave off death... or might it?

For millennia, we have known our allotted time is about threescore years and ten. But many other animals we share this planet with, do things differently.

The Turretopsis dohrmii jellyfish, for instance, just five millimetres tall, never dies unless eaten. Its other name is the 'immortal jellyfish'. While the **bowhead whale** - one of the largest mammals on Earth - can live to 200. Its sheer size ought to make it more prone to cancer, but it manages to dodge the disease thanks to specific genes that control its cell-division cycle and guard against it.

You might ask what relevance this has to us. The point is that we *assume* we will only live 70-odd years, but if we look at nature there are mechanisms that allow animals to survive far longer. Scientists hope this knowledge can one day be transferred to helping humans.

Academics have also started to look at the growing numbers of people who live to 100. They have found that many centenarians have special longevity genes, called gerontogenes.

These are not common. Scientists hope, in the future, to be able to transfer healthy gerontogenes from the lucky few to the rest of us - although to do so raises serious ethical questions about the genetic modification of humans and there's no knowing what other effects meddling with our DNA could have on future health. It will likely be a few years before we find CRISPR capsules in our local pharmacy.

So how can you and I can go about acquiring some longevity genes right now?

In fact, many of us will already have them. The human body contains about 20,000 genes, most of which - unless needed - lie dormant.

Switching on whatever longevity genes we already have, is merely a case of living healthily. If we exercise today, and cut out sugar and starch, then we will activate them. If we lie on the sofa all day tomorrow, and eat pizza and chips, then we will likely turn them off. So if we want to consistently fire up our longevity genes then healthy living needs to be a daily way of life.

My grandfather grew up in Edinburgh, survived two world wars and made it healthily into his 90s. He taught me a lot, but probably his biggest lesson was not to take anything too seriously. Stress can switch off our healthy genes and his jovial approach to life probably kept many of his switched on. This may have been why, at the age of 91 he was still a menacing bowler in our back garden cricket matches.

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In Britain today, one baby in three will reach their 100th birthday. Encouraging though that is, living longer is not a given for everyone, and populations could continue to die younger if governments and people fail to embrace what research is teaching us about health and ageing.

But there are things we can each do on a personal level to die “young” as late as possible; to reach 100 in good health. The good news is that living younger for longer is easier than many of us think.

Younger for Longer: How You Can Slow the Ageing Process and Stay Healthy for Life by Dr Duncan Carmichael published by Little, Brown Book Group (RRP £13.99). Buy now for £11.99 at books.telegraph.co.uk or call 0844 871 1514

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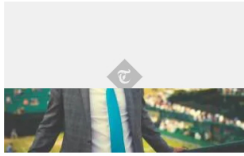
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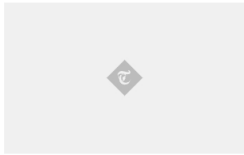
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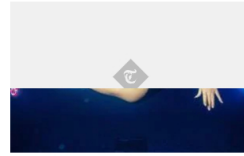
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