As we age we're all going to slowly, but surely, deteriorate. Our bodies and functions required to remain healthy will wither. And it'll be an annoying, drawn-out and pain-ridden process that we simply must endure.

It's inevitable. Right?

Well, given the findings of a new study conducted by researchers from two British institutions, not necessarily.

But, they point out, if you want to avoid becoming one who simply succumbs to old age and its related ills, it will take some work on your part. A lot of it. (Or it might be enjoyable, depending on your perspective.) Life's late stages don't have to be progressively difficult and depressing. In fact, these researchers say, with the right approach those years can be physically rewarding and uplifting.

In a study released today focusing on the activity of cyclists, researchers from the University of Birmingham and King's College London found that adults who regularly exercise – not just several times a week, but also year in, year out, for decades – fuel their bodies to remain healthy and function as if they were much younger than their actual ages.

"The study showed that loss of muscle mass and strength did not occur in those who exercise regularly. The cyclists also did not increase their body fat or cholesterol levels with age and the men's testosterone levels also remained high, suggesting that they may have avoided most of the
male menopause," according to a statement announcing the findings. "More surprisingly, the study also revealed that the benefits of exercise extend beyond muscle as the cyclists also had an immune system that did not seem to have aged either."

The study, published today in the journal *Aging Cell*, involved 125 healthy cyclists of both genders, between the ages of 55 and 79. They underwent physical testing to obtain a range of health data, whose results were then compared to those from two other healthy groups – aged 20 to 36, and 57 to 80, totaling 130 people in all – who were not physically active. Those in poor health, or adults who drank heavily, smoked or had high blood pressure, were kept from participating.

Specifically, the scientists focused on the cyclists' thigh muscle, or VL for *vastus lateralis*, since it figures most prominently in this physical activity. "Fibre type composition, fibre sizes, capillary density and mitochondrial protein characteristics were examined in relation to age. Our hypothesis was that in these individuals who showed similar high levels of physical activity," they wrote in their paper (using British spelling), and any age-related factors "could be ascribed to an inherent aging process not confounded by inactivity."

What they found was that bodily processes were positively affected by remaining active. "With the exception of capillary density in males, no association between age and any other property of the VL was observed in either males or females," the paper’s conclusion stated. "Overall, these data show no age-related deterioration in selected properties of the VL muscle which are relevant to aerobic function or explosive muscle power, but are more closely related to an individual's level of function irrespective of their age. The data support the view that high levels of exercise training are able to maintain many of the properties of muscle which are negatively affected by aging when it is accompanied by sedentary behaviour."
The results are surely welcomed, because they provide added support to the established thinking that staying active provides ample benefits. While we would have liked to see more subjects in the study, perhaps follow-up research with a larger group of adults participating will reinforce these findings. And while cycling and the VL were the focal points, it’s fair to ask whether these results will hold up when other activities and parts of the body are studied.

That said, for the time being, the message is abundantly clear: As long as you can remain active, keep moving.

"Find an exercise that you enjoy in whatever environment that suits you and make a habit of physical activity," said corresponding author, Dr. Ross Pollock, from King College's Centre of Human and Aerospace Physiological Sciences. "You will reap the rewards in later life by enjoying an independent and productive old age."

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