Can too much exercise be bad?

written by Dr. Ronald Hoffman | August 26, 2022

In the field of sports medicine, no question has generated more controversy. While exercise is unquestionably beneficial overall, is there a point where too much becomes detrimental?

The U.S. Health and Human Services guidelines for physical activity state that adults should get 150 to 300 minutes of moderate physical activity or 75 to 150 minutes of vigorous physical activity per week. But a new study suggests that those who exercise accrue additional dividends.

The nearly maximal benefit on mortality reduction was observed among individuals who reported ≈150 to 300 minutes per week of long-term leisure-time vigorous physical activity, 300 to 600 minutes per week of long-term leisure-time moderate physical activity, or an equivalent combination of both. That’s a lot of activity!

High-end exercisers were said to have “26% to 31% lower all-cause mortality, 28% to 38% lower [cardiovascular] mortality, and 25% to 27% lower non-[cardiovascular] mortality”.

Moreover, no adverse effects were seen even in those who exercised more than four times the recommended minimum levels of long-term leisure-time moderate and vigorous physical activity.

Exercise has been part of my life for almost 50 years. Growing up, I was never a “jock” and eschewed sports in favor of academics through high school. I started out an inveterate “egghead”.

It was not until a fateful Sunday morning while a sophomore in college that a chance event propelled me into fitness. I was shaking off the previous night’s hangover and watching a Three Stooges movie on TV while puffing on my second or third Pall Mall when one of my roommates passed my doorway. He was clad in running shorts and sneakers.

I asked where he was going and he said he was headed to nearby Central Park for a run. On an impulse, I said “Wait up!” stubbed out my cigarette, donned my shorts, and joined him.

We got to the well-trod running track around the reservoir and my roommate took off like a jackrabbit. I kept up with him for a few paces but soon fell behind and found myself completely gassed. I slowed to a walk and sheepishly headed home.

I thought to myself: “This is no way to be at 20!” I resolved to stop smoking and gradually built up my endurance. Over the years, I added strength training, cycling, and swimming to my regimen. It was not until I was 38 that I completed my first triathlon and ran the New York Marathon. Since then I’ve competed in dozens of triathlons and was happy to complete one this month—in the year I’ll turn 70.

So I was enticed to read a recent book entitled *The Midlife Cyclist: The Road Map for the 40+ Cyclist Who Wants to Train Hard, Ride Fast and Stay Healthy* by Phil Cavell

WARNING: This is not a book for the occasional bicyclist, the weekend warrior who likes to take an occasional spin of five or ten miles on a fat-tire commuter bike. The author is an admitted cycling-obsessive who has competed on the race circuit and runs a business training serious masters cyclists.

Cavell does a sober appraisal of the potential downsides of intensive exercise. The untimely death at 52 of running enthusiast Jimm Fixx, author of the bestseller *The Complete Book of Running*, highlights the risks.

It is generally acknowledged that heart problems *can* afflict ultra-distance athletes. Studies show three kinds of risks:

1. They may have higher calcium scores on heart scans, indicating the presence of atherosclerosis (my scores, however, are zero).
2. They are more likely to develop heart arrhythmias, including atrial fibrillation.
3. They can develop fibrosis of the heart muscle, evidence of episodic heart injury that occurs with maximal exertion—evidence of mini-heart attacks.

Balancing those perils are the certain benefits that come from conditioning, weight optimization and blood pressure and blood sugar control. Moreover, it’s argued that the plaque athletes sometimes develop is the kind less likely to be be sticky and inflamed, leading to heart attacks; that the small risk of arrhythmia is balanced by the enhanced pumping strength of the athletic heart; and that the increased oxygen demands of exercise generate natural “coronary bypasses” via a process called collateralization, in effect growing new blood vessels to reach underserved regions of the heart.

In Cavell’s view, fundamental to exercise’s midlife benefits is its ability to preserve and even regenerate mitochondria, whose efficiency inexorably declines with age. This yields dividends especially for energy-avid brain cells; exercise has been conclusively demonstrated to stave off cognitive decline.

He argues for a balanced exercise program for midlife cyclists: “Cycling alone isn’t enough to ensure general health, or indeed maximum performance, as we progressively age.” Cavell urges mature athletes to allow time for relaxation and recovery, and diversify with strength training, yoga, swimming, or gentle stand-up paddle boarding.

The chapter on nutrition for cycling is somewhat generic and disappointing, given the latest enormous advances in sports nutrition with supplements like magnesium, vitamin D, NAD, CoQ10, urolithin A, NTFactor®, cocoa flavanols, dietary nitrates, glucosamine/chondroitin, Omega 3, SPM, probiotics, curcumin, boswellia, CBD + PEA—all of which I leverage for performance and recovery, as do many professional competitors and savvy amateurs.

I’m continually impressed with the tenacity of the senior athletes I compete with. At my recent triathlon, there were 25 over-65s; the oldest participant was an 81-year-old woman. She completed the race, despite coming in dead last over an hour after I finished, but with fierce determination. She crossed the finish line to thunderous applause. She told me she had been competing in these events since the early 1980s, and it’s become a family tradition for her to race with her kids and (now-grown!) grandkids.

And, as I got ready to dive in for the swim segment, I found myself alongside an older gentleman whose chest bore the unmistakable scar of a previous coronary artery bypass. He told me he was 77. I was a little worried about him but he seemed OK as I saw him trudging out the final 5K on the run course.

There’s an Icarus-like quality to these super seniors—you know the guy of Greek mythology who flew too close to the sun and his wings, fashioned of wax, melted and sent him plunging into the Aegean. The endless quest for performance in the face of the inexorable process of aging has its perils, and seems at times like the ultimate form of denial of mortality.

Going forward, I’ll keep exercising because of its undoubted benefits, but it’ll be increasingly important to listen to my body’s feedback and keep it fun and healthful.

As Cavell puts it:

“Our expectation around ageing is shifting. We’re fully aware of our evolutionary irrelevance and in no denial at all about the process of senescence, but we’re also capable and willing to use the stimulus effects of exercise to mitigate the effects of ageing where we can. This isn’t some

Peter Pan syndrome – it's level-headed intrinsic enjoyment of hard exercise for its own sake, while at the same time increasing long-term mental and physical function."