The Exercise Mistake Proven to Damage Your Heart

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Not long ago, researchers studied the heart health of a group of very fit older athletes -- men who had been part of a national or Olympic team in distance running or rowing, and runners who had completed at least a hundred marathons. The results were unsettling -- half of these lifelong athletes showed evidence of heart muscle scarring.

The affected men were invariably the ones who had gone through the longest, hardest training. And now a new study, this time in laboratory rats, provides solid evidence of a direct link between certain kinds of prolonged exercise and heart damage -- scarring and structural changes, similar to those seen in the human endurance athletes.

The research effectively shows that years of strenuous cardiovascular exercise can damage your heart.

According to the *New York Times*:

> "*Unfortunately, it remains impossible, at the moment, to predict just what that threshold is for any given person, and which athletes might be most vulnerable to heart problems as a result of excessive exercise".*

Dr. Mercola's Comments:

Before I discuss this study I believe it is important to review my personal history with exercise so you can understand where I am coming from.

I started running in 1968 and ran for over 40 years before I stopped. During medical school I was a member of the University of Chicago Track Club and ran a 2:50 marathon. I was competitive on a local level and won a few races, so I have some experience with intense aerobic training.

I am excited about these studies as they really are groundbreaking for their scientific documentation of what many of us have been warning you about for some time now on exercise. The vast majority of those who exercise are choosing to do some form or aerobic or cardio activity. This research now supports the notion that this choice is likely not your best one over the long run.

By focusing on extreme examples we can tease out some of the truth when it comes to exercise. These studies help explain why well-trained professional athletes can suddenly die from heart failure. For example, four years ago, one of the best American marathon runners ever, Alberto Salazer, nearly died from a heart attack at the age of 49.

I remember when Alberto won the New York City Marathon in 1981 and apparently broke the world record at the time with a 2:08:13. Unfortunately the course was later found to be short by 147 yards and the record was taken away. However he was still one of the fastest distance runners in the world and you simply don't get much more aerobically fit than he was.

This is a powerful lesson to anyone who engages in large amounts of cardio exercise, because as it turns out, conventional cardio may actually be counterproductive... So, although most people who read this are not exercising nearly enough, it's still important to understand that it is indeed possible to *over*-exercise—especially if your primary focus is on traditional cardio.

Research emerging over the past several years has now given us a whole new understanding of what your body requires in terms of exercise, and many of our past notions have been turned upside-down.

Study Finds that Focusing Exclusively on Lifelong Cardio May Damage Your Heart

In the first study mentioned above, published in the *Journal of Applied Physiology* in February, researchers recruited a group of extremely fit older men. All of them were members of the 100 Marathon club, meaning athletes who had completed a minimum of 100 marathons. Their ages ranged from 26 to 67, and all of them had trained vigorously throughout adulthood.

The control group consisted of 20 healthy men over 50, but none of them were endurance athletes.

The *New York Times* reported that:

> "*The different groups underwent a new type of magnetic resonance imaging of their hearts that identifies very early signs of fibrosis, or scarring, within the heart muscle. Fibrosis, if it becomes severe, can lead to stiffening or thickening of portions of the heart, which can contribute to irregular heart function and, eventually, heart failure.*
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> *The results, published online… in The Journal of Applied Physiology, were rather disquieting.*
>
> *None of the younger athletes or the older nonathletes had fibrosis in their hearts. But half of the older lifelong athletes showed some heart muscle scarring. The affected men were, in each case, those who'd trained the longest and hardest. Spending more years exercising strenuously or completing more marathon or ultramarathon races was, in this study, associated with a greater likelihood of heart damage."*

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Direct Link Between Elite Cardio Training and Heart Scarring Found

Still, there were questions about whether the extreme training itself had caused the heart damage. Additional answers were found in another study, this one done on rats, which, according to the *New York Times* "provides the first solid evidence of a direct link between certain kinds of prolonged exercise and subtle heart damage."

Recently published in the journal *Circulation*, the study was designed to mimic the strenuous daily exercise load of serious marathoners over the course of 10 years. All the rats had normal, healthy hearts at the outset of the study.

At the end, most of them had developed "diffuse scarring and some structural changes, similar to the changes seen in the human endurance athletes."

The point is, too much of something that is normally good for you can have the reverse effect. This is a profound concept; so much so that one researcher even wrote a book about it, called *The Reverse Effect*. It is a fascinating book that is absolutely counterintuitive, yet makes more sense today in light of more recent discoveries within the field.

So, what does all of this mean for you?

Again, unless you're engaged in high-level or elite endurance training, this information may be of little value—you certainly shouldn't use it to further avoid exercising at all! Exercise is absolutely necessary for high-level wellness, but reducing your risk of heart disease is usually not the main reason you exercise.

You exercise because it makes you feel better, and for most, it helps keep your weight at an optimal level. It's also one of the best treatments for insomnia and reducing insulin resistance, as well as being a wonderful aid in the treatment of depression. So the reasons to exercise are many. If you start slow, and most importantly, **listen to your body**, you shouldn't run into the problem of exerting yourself excessively.

If you're a serious athlete, however, you may want to reconsider *how* you train.

As I've discussed before, research has shown that replacing those long cardio sessions with shorter, high-intensity burst-type exercises, such as Sprint 8, actually produces GREATER results in far less time!

Updated Guidelines on Optimal Exercise

Four years ago, the American College of Sports Medicine issued new guidelines on exercise, stating it must be "tough" in order for you to reap physiological benefits. This may seem confusing to some of you, so let's reiterate a couple of key points you should always keep in mind, namely **moderation**, and **individualization**.

That said, their updated guidelines falls in line with other research showing the superior health benefits of *high-intensity* exercise. In essence, it's the intensity, not the duration, that is critical for producing optimal results. But again, the optimal intensity will vary from person to person.

As described in my Peak Fitness program, after a three minute warm up, you want to *raise your heart rate up to your anaerobic threshold* for 20 to 30 seconds, followed by a 90 second recovery period. Then repeat that cycle for a total of eight repetitions.

To perform the sprint portion properly, you will want to get very close to, if not exceed, your maximum heart rate by the last interval. Your maximum heart rate is calculated as 220 minus your age. (Keep in mind you'll need a heart rate monitor to measure this as it is nearly impossible to accurately measure your heart rate manually when it is above 150.)

These cycles are preceded by a three minute warm up and two minute cool down so the total time investment is about 20 minutes, but the actual sprinting totals only four minutes!

But how is it possible to get better results with *less* exercise?

The "Magic" Factor of High-Intensity Exercise

The reason for this is because high-intensity exercises engage a certain group of muscle fibers that you cannot engage through aerobic cardio, and these engaging these muscle fibers cause a cascade of positive health benefits.

First, you need to understand that you have three different types of muscle fibers:

1. Slow
2. Fast
3. Super-fast

We now know that in order to naturally increase your body's production of human growth hormone (HGH), you must engage your *super-fast* muscle fibers.

HGH is a vital hormone that is KEY for physical strength, health and longevity.

Neither traditionally performed aerobic cardio nor conventional strength training will work anything but your slow muscle fibers, and hence has no impact on production of HGH. On the contrary, it has the unfortunate effect of actually causing the super fast fibers to decrease or atrophy, further impeding natural HGH production.

Power training, or plyometrics burst types of exercises will engage your fast muscle fibers, but only *high-intensity burst cardio*, such as Sprint 8 exercises, will engage your super fast fibers and promote HGH, and *that* is the "magic" factor that explains why it's so much more beneficial for you than traditional aerobic cardio.

Benefits of Peak Fitness Exercises

Once you regularly participate in these 20 minute exercises about twice a week, most people notice that it:

- Lowers your body fat
- Dramatically improves muscle tone
- Firms your skin and reduces wrinkles
- Boosts your energy and sexual desire
- Improves athletic speed and performance
- Allows you to achieve your fitness goals much faster