

## "Exercise" should not run down your immune system. The saying "That which doesn't kill you makes you stronger" is almost true.

It is surprising how many people believe that hard exercise is going to put them at a higher risk for getting a cold or virus. Today I saw a post in a local racing club's e-list that linked to an article that kinda sorta said exercise was good for you, but really didn't say why. Or give a good example of when too much is too much. [Here's the link to the article-](#) What's missing is anything referencing really pushing yourself to your limits, and makes the usual recommendations to not go too far. In fact, pushing yourself really hard and long can have substantial benefits. Below is my reply-

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A superficial piece that ignores the research that's been done lately on the remarkable role played by a type of Cytokine that's released only in response to a combination of extreme & endurance exercise that goes far beyond the usual recommendation of making sure you walk the dog around the block each day.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2269132/>

<https://www.ncbi.nlm.nih.gov/pubmed/31454519>

There is also a similarly-remarkable ignorance of how well the body can adapt to deficiencies, if pushed. On the baseline 25/75% lung function test (how much CO<sub>2</sub> can you expel during the meat of the exhalation process), I score 28%. That's a few points off a clinical definition of COPD. But my V<sub>O2</sub> max is 140% of normal for my age (64). Anyone riding up a hill with me knows what that sounds like. Basically my lungs have been trained to work at 3x normal expiration. I breathe far more often once I get past idle. If I didn't push myself so hard, I'd never get close to covering breathing requirements under a taxing circumstance. Were I (or should it be when I?) to get Covid-19, the respiratory part of it would have easily put me in severe distress (and of course that could still happen; it could happen to anybody, but I've at least got a fighting chance.

I have the unfortunate advantage of having an extremely personal take on all this, having both the lung issue as well as a chronic mild bone marrow cancer (Essential Thrombocythemia). It's put me in touch with blood values in a way that I can very easily relate to what went on during the worst of the doping era (not saying it doesn't continue). I keep track of my blood values like a hawk and, working with my oncologist, make adjustments based upon a number of parameters that include not just white & red blood cell counts but also relationships to FTP, heart rate and more. Essentially I have turned my Oncologist into a doping doctor. He is learning a LOT that he didn't know previously, in terms of how the body reacts to both exercise and changes in medication and resultant blood values.

Not everyone can push their limits on a regular basis. There could be medical reasons why it's not a good idea (and how many of us know someone who dropped dead for no good reason, because they had an undiagnosed heart issue? Best to get a full workup if any question, including cardio-pulmonary function and stress test). But mostly I think there's an incorrect assumption that you're going to get sick if you work out too hard, which I guess is what the article is trying to refute.

By the way, this morning I sent a note to my Oncologist letting him know I'd rather put off this month's blood test until hospitals are out of Covid-19 crisis mode.

Mike Jacoubowsky