



# Energy 4 Life Podcast

## The Revolutionary Impact of Exercise

00:04:00	Exercise as one of the leading preventable causes of western mortality
00:07:30	Hypothesized links between inactivity and diabetes
00:08:50	Insight on exercise and cancer from the National Cancer Institute
00:11:30	Does exercise equal greater immunity?
00:14:20	Scientific study with BDNF, animals, and exercise
00:19:10	Walking to reduce Alzheimer's by upwards of 60%
00:22:00	Activity guidelines to follow
00:27:00	The dangers of over exercising

Harry Massey: Welcome to the Supercharged Podcast, where we help you to enhance your energy, health, and purpose.

Wendy Myers: Bioenergetics is truly the future of medicine.

Harry: Imagine having a body charged with energy and a mind quick as lightning. Is that a superhero? No, that's you, supercharged. We'll be talking to experts who have studied the physics of life so that you can have energy for life.

Welcome to today's episode of Supercharged Energy 4 Life. So today, we're going to try something a little bit different, and that is that we're basically going to go into as much detail as we can within the context of a podcast on the revolutionary impact of exercise, how it affects your health and energy.

Now, this is all part of a six month initiative of which actually it's been led by Niki Gratrix, and she's basically been putting together this Energy 4 Life course which is basically this incredibly well researched, it's actually like a thousand pages long, although fortunately for everyone, she's condensed it down from that and basically created 26 shorter videos that I believe are between half and hour and an hour long per unit. So you can just watch the videos instead of read all the text.

All right, well let's just get right into it. So, in this podcast, we're basically going to be talking about why exercise is absolutely crucial to health, and of course to disease prevention.

Now, if you need motivation to get going, you will really, really want to hear this podcast because just beyond just fitness and weight loss goals, the life-threatening headline here is, drum roll. A lack of exercise is a major cause of death, and a contributing factor to a long list of chronic diseases. This is



everything from breast cancer to heart failure. And it's absolutely crucial for things like immune system response. Basically, in short, we're designed to move.

I might just say that again. It's so often when we're ill, and I've absolutely been in this boat myself when I was bedridden with chronic fatigue syndrome, you really don't want to be doing exercise, yet if you continue not doing exercise, it can become basically a major, major cause of death, and a very significant factor to making your disease more chronic or getting a chronic disease in the first place.

So, let's get a bit deeper. I'm basically going to give you a summary, a lot of the research and the scientific studies for you, but of course, you can find all the details on our online training. But so, today, what we're going to be covering is the amazing science behind exercise, we're going to look at some exercise guidelines, I've got some of the older guidelines and some of the more research backed updated guidelines. We're specifically going to look at the importance of not over exercising, and of course, not under-exercising. And you know, over exercising, again, if you're especially stressed or especially drained or fatigued, you might be more prone to over exercising, so you have to have a look at that. And because it's obviously a specialty, out of my files, we're going to give some special guidance for those who have chronic fatigue.

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So if the benefits of exercise on health could be bottled into a drug, it'd be the greatest selling drug ever. Literally. I mean, frankly, I wish I could take a pill and not do the exercise, although these days, it's fairly enjoyable. Anyway, so let's just have a look at prevention. So, the studies have concluded exercise is one of the leading preventable causes of all-cause mortality in the west. And what do we mean by that? They're basically saying, if you exercise more, when you're older, you can basically help lengthen your life. So, this is what the research shows.

Approximately two million deaths per year are attributed to physical inactivity. So that could be among the 10 leading causes of death and disability in the world. Now, 15% of the 1.6 million newly diagnosed chronic diseases each year are due to a sedentary lifestyle. So when we're looking at all these other causes of illness, 15% of the newly diagnosed chronic diseases are due to a sedentary lifestyle. I sort of think it might be larger than that, but we'll go with this number.

Exercise for 15 minutes, so this is just an antidote, if you exercise with just 15 minutes a day, you'll end up with 14% reduced risk of all-cause mortality and you end up with a three year longer life expectancy. So just by exercising 15 meager minutes a day, and I can tell you I exercise personally around three, I would say at least three hours a day, that would give you a longer life



expectancy. And each additional 15 minutes of daily exercise further reduced all-cause mortality by 4%.

So basically, for every additional 15 minutes you get another reduction of your all-cause mortality by 4%, and all cause cancer mortality by 1%. That's really interesting. So, if I calculate my own, if we are at around three hours, you've got what? 15, yeah, 15 into three hours is 12. So yeah. So, I have a reduced cancer factor of 12%. And four times, that's 48%. Yes, I should live 48% longer. That'd be good, wouldn't it? I don't know if it quite scales like that, but that's what the research paper here says, that we've got up.

Now, also, let's just look at sedentary lifestyle. So, maps across the US, they show very high levels of obesity, heart disease, and diabetes. Now, a sedentary lifestyle, it increased over the past several decades, and it increases the risk of numerous diseases and disorders, including some cancers, diabetes, hypertension coronary and cerebrovascular diseases, overweight and obesity.

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Now, with diabetes in particular, it is hypothesized that the behavior cause of insulin resistance is from not being physically active. In other words, if you are more physically active, you can basically help avoid insulin resistance. And I know a few years ago when we had some blood sugar issues and had some insulin resistance ourselves, one of the quickest ways of helping your blood glucose go down is simply go and exercise for 15, 20 minutes after your meal. And you know, I've seen my blood sugars come down from that fairly, fairly, fairly well whereas if I didn't, it would stay high, which wasn't good.

So yeah, it's just a great tip, actually. I've always liked that. After a meal, you don't necessarily feel like it, but actually if you get up and just do a 10, 15 minute walk with your dog, it will actually help. Help your digestion, help speed up your metabolism a little bit, get your muscles to take up some of that excess glucose. So it can be a good way of helping not to get diabetes, especially if you're going in that direction.

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So let's just look at cancer. So, the National Cancer Institute, they confirmed that greater levels of physical activity has a lower risk of more than 13 types of cancer. And this was looking at one point for four million adults in 2016, so yes. Pretty straightforward, in more than 13 types of cancer, that's reduced if you do more physical activity.

Now, unless there is a reversal of this sedentary lifestyle, the instance of these diseases or disorders will increase and life expectancy will decrease, and of course, medical costs, or your own medical costs including society's medical cost will continue to rise. So, we don't really want to deal with that.

Let's now have a look at autoimmune diseases. So, yes. Well, you can have a little slogan here, but get moving and manage the disease. So studies of



autoimmune diseases have shown that if you get moving, you can manage the disease. But as a general trend, autoimmune patients, they tend to be less active. So, yeah, if you think you're suffering from autoimmunity and you know you're not active, start getting active. Now, physical activity, it's safe. It doesn't matter if you've lupus, arthritis, MS, sorry, multiple sclerosis. It's basically been found to be safe.

Now, in fact, RA, MS, IBD, and psoriasis are much higher in patients that don't move, and RA and MS patients who exercise have a milder experience, i.e. improved mobility. And here's a controversial one, especially from someone like myself who had fibromyalgia, but with fibromyalgia, basically reported far less severe disease and less pain when those patients started moving more, and that has definitely been the case with myself. I found basically getting over the fatigue and just sort of exercising or moving, and we'll talk about the level of these things in a minute. But basically, just moving and not just staying on the couch feeling absolutely exhausted. Over time, every time I did it, was also part of recovery. Okay.

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So, let's just have a look at some of the specific benefits. So, physical activity, it leads to an elevation of T cells which basically means an improved immune response. Killer T cells, they could hunt down and destroy cells that are infected with germs, or that they become cancerous, and help the T cells orchestrate an immune response. It can decrease your TH1 cell production. It can decrease immunoglobulin, what a lovely word, immune system cells, which function as antibodies.

The sedentary lifestyle, it affects mental health. And there's an association between sedentary behavior and risk of anxiety. Now, finding suggest that anxiety risks, someone's a bit dyslexic, anxiety risk increases with sedentary behavior, but they also said more studies are required. Exercise for depression, well, basically exercise, it's a natural antidepressant, and the efficacy of exercise in decreasing symptoms of depression has been very well established. It helps the clinically depressed and primary care physicians are recommending to counsel patients on adopting and maintaining exercise.

Exercise for improving memory, if we go and have a look at a 2011 study. The hippocampus, thought to be the center of emotion, memory and the autonomic nervous symptom, shrinks into late adulthood, leaving to impaired memory and increased risk of dementia. Now, exercise significantly can increase the size of the hippocampus, thus improving memory. In a study with 120 people, it showed that physical activity increased the size of the hippocampus and helped spatial memory.

Exercise, it also stimulates neurogenesis, if you want to ask what that is, it's the growth and development of nervous tissue. Yeah, I'm gonna list this as an absolutely a big one. Now I found my brain has massively improved due to



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increased activity. But running increases cell proliferation and neurogenesis, the growth and development of nervous tissue. One study found running doubled, I said doubled, the number of surviving newborn cells, similar to enriched environmental conditions. So if you're wondering whether you should run, that's a pretty, pretty good reason, if you want better brain function.

Exercise stimulates the brain derived neurotrophic factor. Now, BDNF plays an important role in neuronal survival and growth. It serves as a neurotransmitter modulator, and participates in neuronal plasticity, which is basically essential for learning and memory.

Now, when BDNF is sprinkled on neurons on a Petri dish, they grow branches that connect them. One study showed exercised animals were significantly better than sedentary controls at learning and recalling. It showed that exercise increased brain-derived neurotrophic factor, a molecule that's important for brain plasticity, learning and memory. Animals who were the fastest learners and had the best recall had the highest expression of BDNF.

Now, it also increases functional plasticity. Now, basically this means that the plasticity in the intact and injured central nervous system by using neurotrophins. Now, studies showed that exercise impacts brain circuitry by promoting neuronal repair, and enhanced learning and memory, and showed that exercise may be a powerful way to counteract the harmful effects of aging. It seems pretty much the evidence is very in favor of more exercise.

So, maybe more companies should run lunchtime jogs for their employees, or in my own case, I basically do all my phone calls walking around, and sometimes you get traffic noises in the back if you talk to me, or often the dog barking. We'll also do a lot of our meetings walking as well. So, I think it's just important just to keep moving.

Now, rats who are unable to run, they produced less BDNF. Another study showed spontaneous running and stopping abruptly leads to a decreasing trophic factor in the hippocampus, which is the part of the brain thought to be the center of emotion, memory and the autonomic nervous system.

Now, exercise which produces BDNF protects neurons from degenerating, which is basically good news for anti-aging. And another study showed that there was a strong positive correlation between distance running and BDNF in RNA expression. And that exercise induced upregulation of BDNF may help increase the brain's resistance to damage and neurodegeneration that occurs with aging.

Let's have a look at some of the improvements in diseases. So walking reduces Parkinson's disease, that's pretty huge. In 2014, a study that lasted three weeks with, sorry, the exercise was three times a week with 45 minute sessions over six months, in a randomized trial of aerobic exercise and Parkinson's disease, it



basically showed that it could improve their motor function, fatigue, mood, cognition, quality of life as well as fitness.

Well, that's just huge, because you don't generally hear of people with Parkinson's getting better, yet a very, very simple way. Back to that point, if you could put exercise in a pill, we would all be taking it. But of course, it's actually free. We could spend tens of thousands of dollars on some lovely, lovely drug, or we could spend absolutely zero on exercise and help to reverse a lot of our diseases. I say, do the exercise.

Huntington's, walking delayed onset, it might, just by the equivalent of 10 years. Studies also showed exercise improves Alzheimer's, epilepsy, stroke and traumatic brain injury. I don't think I'll bother listing all of those studies, but they're there on the net if you would like to find them. They're also all listed in our course. And in terms of prevention, it's helpful against dementia and brain aging.

So a 2011 study showed better cognitive scores after 12 months of exercise compared to sedentary control groups. The brain cognitive networks showed resonance imaging displays showing improved connectivity after just six to twelve months of exercise. In the Mayr clinic, it reviewed 1603 studies and found that 29 studies showed improvements in cognitive function in adults without dementia in terms of memory retention, processing speed and ability to perform and act on plans, and yeah. And most of these benefits were found from two and a half hours of regular exercise per week in most of the studies.

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Anyway, so this is a big one. Walking reduces Alzheimer's and dementia by, have a guess, a staggering 60%. So if you have Alzheimer's and dementia and you don't go walking, you're making a very, very big mistake. And if you're really, really afraid of getting dementia and Alzheimer's, which I imagine most people are. I witnessed my dad with that, so I'm certainly going to keep well. I'm almost afraid to not move. I'm an absolutely movement freak, these days.

But anyway, cognitive and mental decline reduced by 60% if they did four to five of the following. Here we go. So, all you have to do, walk two miles or bike 10 miles, or vigorous exercise. That will be the biggest contributor. Three to four servings of fruit and veg per day. Normal weight measured by BMI, low alcohol intake and no smoking. Pretty simple stuff. You know, you just live healthily, you are 60% less likely to, well, no. Sorry, not less likely, it actually reduces the symptoms. So the walking reduces the Alzheimer's and dementia symptoms by a staggering 60%.

Mortality, i.e. dying, even a little bit works. So, pretty simple. If you want to live longer, just sit less and move more. And a tip for that is enjoy it, basically. I mean find something that gives you pleasure. If you don't have a dog, maybe get a dog and they just demand that you walk. I mean, they won't accept



anything less. That's a way. Or find a particular hobby. Whether it's yoga, in my case, hydrofoiling, although it's not particularly active, hydrofoiling. You just balance on a board all day, but it's still outside and all good.

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Anyway, so avoiding prolonged sitting has been associated with a lower mortality, and exercise has decreased long mortality. That can be hard in a work environment, we do all sit down an awful, awful lot. But I think in many cases, you can make your phone calls standing up, walking around. You can also ask for standing desks and all that type of thing. We have a standing desk outside, although I don't always use it standing up, to be honest. That's mainly because I think it's, pause. We'll start again on that bit.

All right, activity guidelines. Avoid inactivity. Now, some physical activity is absolutely better than none. At a minimum, for substantial health benefits, adults should do at least 150, which is two hours and a half a week of moderate intensity. So, that basically means walking on even terrain at three to four and a half miles per hour, or biking five to nine miles per hour. Or 75 minutes, which is an hour and 15 minutes a week of vigorous, intense aerobic activity or equivalent combination.

Aerobic activity should be performed in episodes of at least 10 minutes and preferably it should be spread throughout the week. To meet current guidelines, individuals must walk a minimum of 3000 steps in 30 minutes on five days each week. Adults also should do muscle strengthening activities, which is two days per week. And high intensity interval training provides short, high intense bursts of exercise with slow recovery phases repeated throughout one short 15 to 20 minute session. It's done at 85 to 100% of one's maximum heart rate rather than 50 to 70% in moderate endurance activity.

You have four minute workouts where you repeat cycles of 20 seconds all out work, followed by 10 seconds of rest, four days a week basically brought greater aerobic improvements than an hour's normal workout, done five days a week for six weeks. The benefits of basically high intensity training, it improves brain function and it improves cardiovascular function.

Now, tips for exercising more. One, we mentioned this. Do something you enjoy. Two, do it consistently. So doing something regularly is far, far better. Even if it means for less time than you'd like. Spread out your activity, you don't need to get all your exercise in at one time. You can do a few minutes in the morning, noon, night. It gives you much the same benefit as 30 minutes all at once. I'd actually say it gives you more benefit when you spread stuff out, because you're moving throughout the day, rather than going sedentary for long periods.

Consider exercising with a friend. It can basically help keep you on track and motivate you. When you walk, make it brisk, since that will help control weight



better than walking at a leisurely pace. You know, getting to speed up your metabolism and all the blood flow somewhat. Walk as though you're meeting someone, running a little late. Easy for me, I'm running late a lot. So move before and/or after eating. So you could hit the gym. I just ate, but I'm doing a podcast after eating. But after the podcast, I'm going to go and walk.

So you could hit the gym or go for a 20 minute walk with coworkers and have lunch afterwards. You could go for an evening walk after dinner. Try a pedometer, that might help motivate you to be active, and then you can do your 10,000 steps per day. Personally, I don't find that very motivating, looking at some little digital display on your wrist, but others do.

Exercise, you know, you can exercise while watching TV. I've never managed to do that, particularly successfully. But, I have done a lot of yoga often, in front of the TV, which is sort of, sort of exercise. I set a reminder at work to get up and walk a few minutes every hour. Sign up for a class. Personally, I find that a lot easier for yoga. I've never been so motivated for doing it at home, but if you build it into your routine by going to a class and obviously, once you're in that class, it's hard to escape so you know you're going to do an hour to an hour and a half if you do it in class. I might do it for 10 minutes at home, or even start snacking and watching the next episode on Netflix. Which, that'd be a great tip, get rid of Netflix. Top tip, but I don't do it myself, so I can't really say it.

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Plan exercise into your day, write it in your planner. Reward yourself, so set short term goals. And, yeah. Ditching the car, that's an interesting one. I do that, so our yoga studio is, what is that? I think it's like a mile and a half, or two miles down the road. I used to drive there, and I now take my bike there and back. So, I think wherever there is an opportunity to walk or bike, I would say do it.

So, let's now look at the dangers of over exercising. This is especially true if you're totally stressed out or burned out. So exercising increases cortisol levels. High cortisol can cause fat storage. It can also stress immunity, as high cortisol suppresses immunity. Over exercising is a direct cause of adrenal insufficiency. I'll put my hand up on this, I used to be, well obviously I'd still exercise actually a lot, but I used to do a ton of mountain climbing and rock climbing. This was at university where I was also burning the candle at both ends and yeah, I completely overdid it. Not good. So if you have adrenal exhaustion, along with an overactive brain and nervous system, i.e. you get sleep issues and stress, then high intensity exercise may worsen your sleep and actually in energy levels and prolong burnout, so be careful of that. And over training is well known to cause hormone balances.

It says here in female athletes, well, you know. Males have hormones too. It definitely affects both. Marathon runners, they can have higher rates of cardiac events than moderate exercisers. But obviously marathon runners are fairly extreme. And strenuous exercise increases intestinal permeability.



So I would think of rapid movement than super intense long exercise. Now, signs that you're exercising too hard for your body, it could be your weight gain, worse sleep, insomnia, delayed recovery routine. So, exhaustion, weak immune system, a loss of motivation, et cetera, et cetera, decreased performance, whatever that means. You never know, are they referencing a man, probably.

As we get older, probably 35 years and older, we don't necessarily do better pounding on the treadmill for 45 minutes, you're better really doing the other two. You've got the doing the gentle, longer exercises like walking and then you have the very intense, and then in the middle, you've got this old style of sort of aerobic exercise for 45 minutes. That's the one generally, where you're having to pump out cortisol for the whole of 45 minutes, that's the one that could lead to more fatigue and stress as you do this.

It's the really intense stuff, because you're doing it for 10 to 20 seconds, up for rest, like your whole exercise might be only two minutes. Although it'll peak cortisol and stress you out, but obviously it's not continually stressing you out, so you have plenty of time to recover, and the opposite. Well, I say and the same is true, pretty long, gentle exercise, going for a walk of an hour or two, where your cortisol stress never gets high at all. In fact, it generally lowers. So, if you're drained and fatigued, do your HIITs and do your long, gentle movement. Don't do the middle, I'd say. If you're not fatigued, I think you can start to build in more of that aerobic exercise.

It's one of my little bugbears, to be honest, is as I've basically managed to recover myself from being bedridden all those years ago, I've got the two extremes relatively down. Sometimes I struggle, I mean I struggle a bit with the middle one, and that's actually the one I want to overcome this year. So I'll let you know my progress on that.

With chronic fatigue syndrome, a study of eight randomized controlled trials of CFS and graded exercise therapy showed that 51% of CFS patients reported harm from GSES. Yes, doesn't sound good. CFS and depression, they're not the same and they should not be approached the same way with exercise. CFS patients need careful pacing, and exercise is a form of hormesis, it's a stressor on the body. Some very small amounts can trigger a healing response. It's really like the HIIT stuff, and then that can trigger a healing response, but if you do these longer aerobic things, it will not. It'll just burn you out more.

The stress is more than the body can cope with. There will likely be damage done at the cellular level in CFS. That is all part of the four bioenergetic principles and the sort of body as a battery type idea which you can also, well, I assume you'll be able to read it in the Energy 4 Life book.

Guidelines on exercise for CFS and adrenal fatigue or burnout are one, if you're doing physical activity to the point of booming and busting. When you have



energy, do physical activities to the point where you have more fatigue or delayed fatigue afterwards. That's a sign of too much activity and you need to cut back. Two, on the other hand, doing no activity is very harmful for long-term health. The less you use your physical body, the less mitochondria you'll produce, worsening fatigue and shortening your lifespan.

Physical inactivity results in the so-called disuse syndrome, which includes premature aging. Physical inactivity results in the so-called disease syndrome, which includes premature aging, obesity, cardiovascular vulnerability, musculoskeletal fragility and depression. And if you are bedbound, you need to do exercises that move your legs and arms, because not doing so much, you'll get delayed fatigue afterwards.

If you are housebound, even just walking to the end of the garden or back is important, and slowly increasing, but cutting back when you hit your limit. And yoga and stretching are incredibly important and actually can be life changing. And I wouldn't say I'm a yoga type, but I have found over the years, the more yoga I do, the better than I don't do yoga, and I really do start to stiffen up and sort of go slowly back to fibromyalgia. So, I'm very keen to keep up yoga, it keeps me more supple and with more energy for life.

And to sum it all up, just don't give up on exercise, or if you're not doing it, then take up exercise. So, thank you for listening and see you all soon.

