Exercise Is Medicine

Move your body for better health, especially before, during and after cancer treatment. Do whatever you can; it all helps (just don't injure yourself!)

March 16, 2020 By Diane Mapes

I'll tell you right now I'm biased because exercise saved my life. So far, anyway.

In June of 2010, I started yet another DIY exercise program. A former gym rat, I was now in my early 50s and the scale and I had reached a tipping point. I started walking, then eventually running, and soon went full bore with my diet, too. I cut out starchy carbs and bad fats and ate a lot more veggies and a lot less C.R.A.P. (Calorie-Rich And Processed foods).

And what do you know, it worked. I dropped 50 pounds in about five months thanks to rigorous diet and exercise. And after covering scientific research at Fred Hutchinson Cancer Research Center for the last six years, believe me, I know rigorous.

My little exercise trial worked so well, I found my own breast cancer (a booby prize, if there ever was one). My mammograms had always been clear, but as the fat melted away, a weird dimple showed up on one side. I got it checked out and eventually learned there were multiple tumors in *both* breasts. Mammography hadn't found them because they were "invisible" to its X-ray vision. I had dense breasts (another surprise!) which hid the cancer within a sea of white connective tissue. My tumors were also lobular, an estrogen-driven subtype that branches out instead of clumping together, making it difficult to image.

Screening may work for some, but it didn't work for me; it was exercise — moving my body — that saved my skin. If I'd continued to put on weight, I wouldn't have seen that dimple for years, or maybe ever; the cancer would have continued to grow and spread — if it hasn't already. But that's not the lifesaving part. All that exercise before my February 2011 diagnosis meant that I was healthy as a horse — except for the cancer — with the heart rate, blood pressure, oxygen levels and blood sugar to match. I went into cancer treatment in top shape, almost as if I'd been training for it. And that worked, too.

Surgery, chemo, radiation and all of their side effects were tough but manageable, which might not have been the case had I been carrying 50 or 60 extra pounds of adipose tissue (fat), insulin and inflammation, which help drive all kinds of disease, not just cancer.

Move that body: before, during and after cancer treatment

I didn't know it at the time, but I'd been doing something called "prehab," short for pre-habilitation, the practice of proactively readying patients for surgeries and/or treatments by helping them exercise; eat better; stop smoking and make other lifestyle tweaks that will better their odds.

Patients who exercise before treatment tend to have better outcomes. But even those who've *never* been active can benefit by moving more after a diagnosis — anyway, anyhow — whether it's bowling, bocce ball, rowing, walking, yoga or, if you're so inclined, clog dancing. And **contrary to past advice, they should absolutely keep it up during treatment.**

"Exercise should be a part of the treatment plan for *all* cancer patients, no matter what stage or what diagnosis," said Julie Gralow, MD, a physician-scientist with Fred Hutch, Seattle Cancer Care Alliance and the University of Washington.

Those who exercise, she said, have improved healing and recovery after surgery; reduced pain; decreased lymphedema; higher energy levels and less depression, nausea and fatigue.

I found all of this to be true with my unofficial "N of 1" exercise study, particularly the part about reduced fatigue. I had none during 33 rounds of radiation and I know it was because I continued to bust a move during treatment. Other patients have found physical activity so beneficial they've gone on to start exercise retreats or fitness fundraisers for others dealing with cancer.

Exercise benefits everyone, and research proves it. It decreases heart disease and osteoporosis and helps to prevent weight gain, a common driver of many diseases. And biologically, it's a major cancer buster. Regular moderate physical activity reduces estrogen, fuel for ER+ cancers, and helps to repair DNA damage, another prime cancer driver.

Simply put, **exercise is medicine**.

"If we could write a prescription for exercise, if we could bottle it in a pill, we'd be prescribing it for all of you," said Gralow, citing a scientific review from 2017 and numerous other studies. "**Physical activity can reduce death** from breast cancer by about 40% in early stage patients**. It has the most powerful effect of any lifestyle factor."**

Director of Breast Medical Oncology at SCCA, Gralow said patients just finishing treatment should check out the American College of Sports Medicine's 2019 exercise guidelines for cancer survivors, which recommend 30 minutes of moderate intensity exercise three times a week.

"They can start with 90 minutes a week and slowly work up to the full 150 minutes a week," she said. "There's a lot of benefit for many post-cancer issues."

Gralow believes so strongly in exercise — particularly as a safe and effective treatment for cancer patients, **including those with metastatic disease** — that she helped launch Team Survivor Northwest, a fitness group for Puget Sound women with cancer. TSNW provides no- or low-cost

walks, hikes, crewing, exercise classes, and perhaps most importantly, camaraderie (accountability and company help to keep people on track). The group has been around 25 years and many members credit physical activity for their survival, reminiscent of the late Fred Hutch's "Sweat is your only salvation."

So why don't we 'just do it'?

Unfortunately, many of us have a hard time getting in those daily moves. A new report from the Center for Disease Control and Prevention found that 1 in 7 Americans skip their recommended daily dose of physical activity. In some parts of the country, the numbers are much higher.

Anne McTiernan, MD, PhD, a longtime Hutch epidemiologist and author who studies exercise and disease, said getting in our daily dose shouldn't take a huge amount of time or effort, "but some people work two jobs or have kids and then it's difficult to fit it in."

But **any way people can get in exercise is beneficial**, she stressed. You can do it in dribs and drabs at work by taking the stairs, having meetings on the move or going for walks with a colleague over lunch. Or you can throw together your own DIY program, like me.

"The main thing," McTiernan said, "is for people to do what they like, whether that's walking, running, or kayaking or going to the gym. The best exercise is what you like doing."

Our bodies are basically biological machines. Like cars, they don't work as well if you leave them parked in the garage — or the couch — for too long. **It's not so much about trying to be thin; it's about keeping our systems running smoothly and efficiently.**

"Our devices are forcing people into inactivity," McTiernan said, suggesting we turn off our TVs and "put the electronic thing in our pocket and let it count steps for us or use it to listen to music or a podcast" while we walk, run or work out.

Not everyone has the funds to join a gym or even buy a pair of good running shoes, though. Socioeconomic status *hugely* influences health, or rather the lack thereof. Cultural and language barriers can also keep people from exercising. That's one reason the Hutch's Office of Community Outreach and Engagement has partnered with Team Survivor Northwest.

"We're trying to understand how to make these exercise programs acceptable and accessible to underserved communities," said public health researcher Rachel Ceballos, PhD, research mentor on the project. "Going to the gym isn't feasible for a lot of communities."

Ceballos said she and her team are first going to figure out what people already like doing — in Sunnyside, Washington, where the Hutch has a cancer prevention field office, it's Zumba — then take it from there.

Exercise to reduce cancer risk

Prevention can be a loaded word when it comes to cancer. We've all heard of the marathon runner

or yoga instructor who's been diagnosed after years of exercise and clean living. A cluster of diseases driven by genetic mutations and crossed signals, cancer is maddeningly complicated and yes, it sometimes strikes people no matter what they eat or how much they hike or bike or swim.

When that happens, there's often a powerful mutation at work, some creepy string of letters and numbers (think BRCA1, BRCA2, KRAS, TP53) that may be slowed by exercise and/or good diet, but eventually rides herd over their strong mitigating effects.

Overall, though, exercise *absolutely* reduces the risk of cancer, and some studies show it may help to hip check recurrence, as well.

A new report even broke down how much cancer risk can be curbed by getting in that recommended daily dose. A half hour of brisk walking a day (or some equivalent) can lower the risk of colon cancer by 8 to 14%; cut breast cancer risk by 6 to 10%; decrease endometrial cancer risk by 10 to 18%; lower the risk of kidney cancer by 11 to 17%; reduce the risk of myeloma by 14 to 19%, non-Hodgkin lymphoma by 11 to 18% and a whopping 18 to 27% in liver cancer.

McTiernan, who just published a commentary on the report, noted the current recommended levels of exercise also "provide cancer protection in a dose-dependent manner," i.e., **the more you do, the more you benefit.**

"With breast cancer, if you get 7.5 to 15 MET hours/week [the recommended dose for U.S. adults], you reduce your risk by 6%, but if you do twice that per week, the relative risk is down 14%. You get a lower risk with more hours or intensity."

And it's not just that it helps us lose weight, she said. It's the whole biological process.

"Exercise keeps metabolic factors in line," McTiernan said. "If you exercise at recommended levels, it can reduce your level of insulin — a hormone we all need, but if too high, increases the risk of developing cancer. It can lower the amount of inflammation in the body, which also puts you at risk for cancer. And it helps lower estrogen and that's important for several cancers."

Starting in again? Go slow and avoid injury!

McTiernan recently launched a study, Acute Effects of Exercise on Breast Cancer Biomarkers, to track these metabolic processes by analyzing biomarkers and muscle tissue from healthy participants — couch potatoes to amateur athletes — before and after they exercise.

What she learns, she said, may be able to help cancer patients in the future. *(Find out more about participating in the ACE study here.)*

In the meantime, **cancer patients can help themselves by continuing to move their bodies**. Or getting them moving *again* if, like me, they've been inactive for a while.

Thanks to a bad ankle break, I haven't been able to move much the last few months. But I'm finally back on my feet — without a cane or crutches — and am more than ready to get back to

yoga and strength training and walking and whatever else.

I absolutely need to, in fact. My last DEXA scan showed osteopenia in both hips and I'm carrying around some of that extra fat, insulin and inflammation again, not uncommon for cancer patients on anti-hormone therapy.

"Just don't overdo," McTiernan advised, when I told her my plan. "Exercise itself is unlikely to be harmful, but you have to be careful and not get into a bike accident or something. Oh sorry, I guess that's how you broke your ankle, isn't it?"

Yes, injuries *can* happen if you try to do too much too soon — as if on cue, I pulled a muscle in my back within days of talking with McTiernan (getting back onto the exercise horse safely is another story altogether). Outside of that, though, **there really are no down sides to physical activity.**

In fact, for me, being active offers the best motivation ever: staying alive. My anti-hormone pills may or may not continue to work (cancer can develop a resistance to them, as it does to many therapies), but I absolutely know my body will never develop a resistance to those exercise meds.

So I'm launching yet another DIY exercise trial, or as they say around the Hutch, an intervention. This time it doesn't have to be an "N of 1," though. In fact, a little company would be lovely.

Join me?

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