

FIGHTING CANCER

ONE WORKOUT AT A TIME

by Karlie Intlekofer, Ph.D.

Fighting cancer one workout at a time

In your work as a fitness professional, there's no doubt you've met many people whose lives have been impacted by cancer. Its threat is so ever present in our modern world that up to [one in four](#) adults express excessive worry about its potential onset. However, [research](#) suggests that regular exercise can keep these kinds of health anxieties at bay. That's why it's so important to remind the people you work with that exercise is an essential proactive measure when it comes to staying healthy.

Reducing Risk

The idea that exercise reduces cancer risk is supported by large-scale studies. For instance, [research](#) on over 750,000 individuals from Europe, Australia and North America suggests that cancer susceptibility is lower in individuals who reach certain physical activity goals. This means a minimum of 2.5 hours per week of moderate to vigorous physical activity, or about 30 minutes of exercise per day.

This minimum “dose” is associated with a [10%](#) lower risk of breast cancer and [27% lower risk of liver cancer](#). It also correlates to a significantly lower risk of endometrial and kidney cancer. What's more, studies in older men indicate that this level of activity can reduce the risk of high-grade, advanced or fatal prostate cancer by [almost 70%](#).

2.5  **HOURS**
EXERCISE


10% LOWER
BREAST CANCER

+

27% LOWER
RISK
LIVER CANCER

Activating Immune Cells

But how, exactly, does exercise fight cancer? The secret is the immune system's *natural killer cells*, grimly named cells with amazing benefits. As a workout begins, some of the exerkines released improve immune surveillance. Adrenaline (epinephrine) from the adrenal glands elevates the heart rate while also [mobilizing natural killer cells](#) throughout the body. At the same time, IL-6 released from contracting muscles mobilizes natural killer and dendritic cells. These immune cells are [activated](#) to seek out and destroy mutant cells, infiltrating [tumors throughout the body](#). Decades of research confirm that [“one of the most potent stimuli to recruit immune cells to the circulation is exercise.”](#)

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Immediate & Lasting Benefits

In addition to the same-day immune system advantages of exercise, accumulating benefits also occur. With repeated workouts, the energy-producing mitochondria throughout the body grow and multiply. And immune cells also experience this energy boost!

To demonstrate this effect, a recent [study](#) exposed a group of sedentary individuals to regular exercise for six weeks. The health of their natural killer cells was assessed before and after the intervention, revealing significant improvements in their ability to create energy as well as their tumor-fighting capacity.

It's Never Too Late

It's important to note that the earlier in life people make regular exercise a habit, the more they're [lowering their cancer risk](#). Yet starting exercise at any age changes the body in ways that lower cancer risk. For example, [studies](#) on men in their 60s and 70s indicate that immediately after a workout, factors in the blood circulate that inhibit the growth of cancer cells.

Exercise That Inspires

As we enter the calendar's cancer awareness months, let's remind all the people we work with about the connection between exercise, immune system health and cancer prevention. While virtually everyone's life has been touched by cancer, you can empower your people to stay positive by making frequent exercise a part of their lifestyle. You won't just inspire regular visits to your fitness facility — you'll also inspire hope.

WHEN TO SHARE CANCER-RELATED INFO?

United States Awareness Months:

- **September:** Prostate Cancer
- **October:** Breast Cancer
- **November:** Lung Cancer

World Cancer Day: February 4

Movember: Taking place in November, this global movement involves growing mustaches to raise awareness for men's health issues, including prostate cancer.

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Dr. Karlie Intlekofer is a neuroscientist who focuses on the benefits of exercise for brain health and well-being. She has a background in research and teaching at the university level and focuses on exercise motivation and brain areas involved in stress, learning and memory. Her passion in this field is bolstered by experience working with a wide range of ages and abilities as a personal trainer and group exercise instructor. As the Global Wellness Researcher at Matrix Fitness, Karlie integrates evidence-based practices into exercise programming and develops initiatives that support an enduring habit of physical activity.