

THE BIG IDEAS

Genes vs. Habits

One is more powerful than the other.

Cancer's Supply Lines

Time to cut them.

Nutrition Detox x3

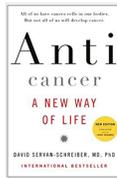
Sugar + Flour + Omega-6s.

Anticancer Mind

Helplessness fuels cancer.

The Best Protection

Tap into your life force.



Anticancer

A New Way of Life

BY DAVID SERVAN-SCHREIBER · VIKING © 2009 · 274 PAGES

“Seventeen years ago, I discovered from my own brain-scanning experiment that I had cancer. From the waiting room on the tenth floor of the oncology building, I remember looking down at people in the street—distant and oblivious, going about their everyday life. I had been cast out of that life, separated from its goal-oriented busyness and from its promises of joy, by the prospect of probable early death. No longer wrapped in the comfortable mantle of physician and scientist, I had become a cancer patient. This book is the story of what happened next—of the return to life and health—in fact, to a level of health I had never experienced before—while knowing I had cancer. It is the story of how I used my skills as a physician and a scientist to find out everything in the medical literature that would help me change the odds. Most important, it offers a new, scientifically based perspective on cancer that gives all of us a chance to better protect ourselves from this disease.”

~ David Servan-Schreiber, MD, PhD from *Anticancer*

I got this book immediately after my older brother had a major surgery and was diagnosed with cancer. One of my first steps in figuring out how to best support him and his family was to call my dear friend, [Pilar Gerasimo](#).

Pilar created *Experience Life* magazine and is one of the wisest people I know. She gave me a ton of things to think about and shared these articles: [Living Strong with Cancer](#) and [Integrative Oncology: A Healthier Way to Fight Cancer](#). When I asked her what books I should read she told me “I always think *Anticancer* is a good place to start.” So, here we are.

David Servan-Schreiber, MD, PhD, was a clinical professor of psychiatry at the University of Pittsburgh School of Medicine and cofounder of the Center for Integrative Medicine. He codirected an NIH laboratory for the study of cognitive neuroscience and published more than ninety articles in scientific journals.

David was diagnosed with brain cancer at 31 years old. At the time he was very skeptical of anything but the well-known, traditional Western therapeutic approaches. But, as he drilled into the scientific literature, he realized just how important Optimizing the “terrain” within our bodies is to the prevention and treatment of cancer.

This book is an overview of what he discovered. It’s incredibly thoughtful and thorough. If you or someone you love is fighting cancer, I highly recommend the book. (Get a copy [here](#).)

Although David lived for 19 years after his original diagnosis, he blamed his final relapse on failing to follow his own advice. He pushed himself too hard, maintaining a grueling travel/lecture schedule: “*In retrospect, my mistake is glaringly obvious,*” he wrote. “*We must not exhaust and overexert ourselves. One of the best defenses against cancer is finding a place of inner calm. ... Personally, I never managed to find that calm, and today I regret it.*”

The book is packed with Big Ideas. With a heart full of love, let’s jump straight in!

“I have always felt that the only trouble with scientific medicine is that it is not scientific enough. Modern medicine will become really scientific only when physicians and their patients have learned to manage the forces of the body and the mind that operate via vis medicatrix naturae [the healing power of nature].”

~ Rene Dubos, professor of biology, Rockefeller University; discoverer of the first antibiotic in clinical use (1939)

GENES VS. HABITS

" [Stephen Jay Gould] had lived thirty times longer than the oncologists had predicted. The lesson that this great biologist teaches us is simple: Statistics are information, not condemnation. The objective, when you have cancer and want to combat fatality, is to make sure you find yourself in the long tail of the curve."

~ David Servan-Schreiber

"We all live with myths that undermine our capacity to fight cancer. For example, many of us are convinced that cancer is primarily linked to our genetic makeup, rather than our lifestyle. When we look at the research, however, we can see that the contrary is true.

If cancer was transmitted essentially through genes, the cancer rate among adopted children would be the same as that among their biological—not their adoptive—parents. In Denmark, where a detailed genetic register traces each individual's origins, researchers have found the biological parents of more than a thousand children adopted at birth. The researchers' conclusion, published in the prestigious *New England Journal of Medicine*, forces us to change all our assumptions about cancer. They found that the genes of biological parents who died of cancer before fifty had no influence on an adoptee's risk of developing cancer. On the other hand, death from cancer before the age of fifty of an adoptive parent (who passes on habits but not genes) increased the rate of mortality from cancer fivefold among the adoptees. This study shows that lifestyle is fundamentally involved in vulnerability to cancer. All research on cancer concurs: Genetic factors contribute to at most 15 percent of mortalities from cancer. In short, there is no genetic fatality. We can all learn to protect ourselves."

Step #1 in fighting cancer: We need to recognize the fact that our lifestyle choices are influencing the likelihood of getting and/or surviving cancer.

It's easy to blame it on genetics but the research unequivocally shows that our HABITS are more influential than our genes. And, no matter where we're at, that's a GOOD thing as it means we have the power to do something to influence our health.

In *The Telomere Effect*, [Elizabeth Blackburn](#) and [Elissa Eppel](#) talk about the same idea and tell us: "As the obesity researcher George Bray has said, 'Genes load the gun, and the environment pulls the trigger.' His words apply not just to weight gain but to most aspects of life."

I was first introduced to this idea as an undergraduate studying psychology at UCLA. They called it the "stress-diathesis" model. As per Wikipedia: "a psychological theory that attempts to explain a disorder as the result of an interaction between a predispositional vulnerability and a stress caused by life experiences."

Again: Genes may load the gun. But it's our environment that pulls the trigger.

And, the fact is, if we think we got the short end of the genetic stick (and/or the short end of the childhood lifestyle stick), we need to be EVEN MORE vigilant in our lifestyle choices.

On that note, later in the book David tells us: "There is a dose-effect relationship between patients' adoption of anticancer lifestyle changes and the slower progression of their cancer. The **more** these patients are involved in a program to modify their 'terrain,' the **greater** the benefits. Similarly, researchers at the University of San Diego and Stanford University have shown that women who have had breast cancer and begin **both** to eat healthier **and** to walk for thirty minutes six days a week reduce their risk of relapse by almost half. It is, indeed, the **combination** of approaches—whether they are purely medical or involve lifestyle—that allows us to slow down cancer, or eliminate it."

P.S. Here's David's take on the interplay between conventional and alternative approaches: "It must be stated at the outset that to date, there is no alternative approach to cancer that can cure the illness. It is completely unreasonable to try to cure cancer without the best of conventional Western medicine: surgery, chemotherapy, radiotherapy, immunotherapy, and soon, molecular genetics. At the same time, it is completely unreasonable to rely **only** on this purely technical approach and neglect the natural capacity of our bodies to protect against tumors. We can take advantage of this natural protection to either prevent the diseases or enhance the benefit of treatments."

" In Chinese, the notion of 'crisis' is written as a combination of the two characters 'danger' and 'opportunity.' Cancer is so threatening that its effect is blinding; it is hard for us to grasp its creative potential. In many ways, my illness has changed my life for the better, and in a way I never could have imagined when I thought I was condemned."

~ David Servan-Schreiber

"Several studies show that, like soldiers, human immune cells fight all the harder when (1) they are treated with respect (they are well fed and protected from toxins) and (2) their commanding officer keeps a cool head (he deals with his emotions and acts with poise)."

~ David Servan-Schreiber

"Catherine Koebel's team demonstrated for the first time in a laboratory environment a radical new concept in the field of oncology. The results of their research suggest that cancer arises only from those cancer cells that find fertile 'terrain' in which to grow. That is, cancer cells will flourish only within an individual whose immune defenses have been weakened. It may be primarily the lack of healthy defenses that allows otherwise dormant cancer cells to become aggressive tumors."

~ David Servan-Schreiber

CUTTING CANCER'S SUPPLY LINES

"Combat against cancer often evokes military metaphors. None seem more appropriate to me than the greatest European battle of World War II.

It is August, 1942. In the approaches to Stalingrad on the banks of Volga, Hitler amasses the largest force of destruction in human history. More than a million seasoned men no enemy power has yet resisted, a massive panzer division, ten thousand cannons, twelve hundred planes. Facing them is the exhausted and poorly equipped Russian army, partly made up of adolescents or even schoolgirls who have never used a firearm but who are defending their country, their homes, their families. In combat of unimaginable violence, the Russian troops, backed up by civilians, hold on throughout the fall. Despite their heroism, they are desperately outnumbered. The Nazis' victory seems merely a matter of time. Marshal Georgy Zhukov then switches strategies completely. Instead of continuing a frontal assault, which offers no hope of victory, he launches the remains of his army across Nazi-held territory, behind German lines. This is where the units responsible for supplying the Nazi troops are stationed. Romanian or Italian, much less disciplined and fierce, they don't resist the attack for long. In a few days, Zhukov changes what seemed the inevitable outcome of the battle of Stalingrad. Once its supply lines have been cut, General Paulus's Sixth Army is incapable of fighting and ends up capitulating.

In February 1943, the German invasion is pushed back for good. Stalingrad represented a major turning point in the Second World War. It marked the beginning of the retreat of the Nazi cancer everywhere in Europe.

Soldiers are aware of the strategic importance of supplying armies at the front. But the relevance of this thinking to cancer treatments long seemed preposterous to cancer researchers. Perhaps it wasn't purely by chance that the idea was first sprouted in the mind of a military surgeon."

How's that for the perfect metaphor in battling cancer? Want to win the battle raging within your body against the powerful army that is cancer? Cut off the supply lines. How? Well, that's what the book is all about.

David establishes the fact that we *all* have cancer cells in our body. But only some of us will see those cancer cells develop into aggressive tumors. He walks us through the research that demonstrates the mechanisms through which cancer cells grow. Specifically, *"the fundamental but still little-known workings of the immune system, on the discovery of the inflammatory mechanisms underlying the growth of tumors, and on the possibility of blocking their spread by preventing new blood vessels from nourishing them."*

David tells us we need to pay attention to four things: 1) Environmental toxins (like toxic cleaning supplies, deodorants, etc.), 2) Our nutrition (cut back on the cancer promoters and boost the fighters—more on that in a moment), 3) Our minds (learning how to deal with stress more effectively and calmly while building our confidence and mental toughness—more in a moment), and 4) Our bodies (exercise, sleep, etc.).

In short: We need to keep our "terrain" as healthy as possible—making it inhospitable to cancer cells. We need to alter our behaviors and cut off the supply lines. Let's explore how.

NUTRITION: THREE PRINCIPLES OF DETOX

"When smokers give up tobacco, their risk of cancer drops sharply. If we stop promoting the growth of cancer cells in our bodies, the natural mechanisms of control over cancer can start to intervene and curb their spread.

To protect ourselves against cancer, we can limit our exposure to toxic factors in the environment. Among all those already identified or highly suspicious, I have selected three that seem to me the most deeply involved and the most easily changed:

" All the facts bear out this conclusion; everything that strengthens our precious immune cells, fighting inflammation (with nutrition, physical exercise, and emotional balance), and fighting angiogenesis, we undercut cancer's spread. Acting in parallel with strictly conventional medical approaches, we can enhance our body's resources. The 'price' to pay is to lead a more fully conscious, more balanced, and, in the end, more beautiful life."

~ David Servan-Schreiber

1. Overconsumption of refined sugar and white flour, which stimulate inflammation and cell growth through insulin and IGF (insulinlike growth factor)
2. Overconsumption of omega-6s in margarine, vegetable oils (including trans fats), and animal fats (meat, dairy products, eggs) stemming from farming methods that have been out of balance since the Second World War
3. Exposure to chemical contaminants that have entered the environment since 1940, which accumulate in animal fats, and—though studies are not yet definitive—exposure to the electromagnetic fields of cell phones

The first two factors listed here are largely to blame for the inflammation that fosters the development of cancer. The first step in any process of detoxification therefore always begins by eating a lot less sugar, white flour, and animal fat. Always choose animal products labeled 'organic.' Nonorganic foods don't have to be eliminated completely, but they should become only occasional foods, not the foundation of our diets. Instead of a steak with a bit of vegetables on the side, we need to imagine a little meat (well balanced in omega-3s) from time to time in a main dish of vegetables."

That's from a chapter called "The Anticancer Environment."

The factors that are "largely to blame for the inflammation that fosters the development of cancer"? The same things we talk about in ALL of our recent [Notes on Nutrition](#): Sugar + Flour.

Plus, an imbalance of omega-3s to omega-6s from overconsuming vegetable oils (remember, they didn't exist 100 years ago and are now accounting for a ton of calories) and too much factory-farmed animal products (again, 100 years ago, the animals we eat ate what they evolved to eat and had healthy omega-3/omega-6 ratios; now, they eat corn and soy which makes them sick (and, therefore, pumped up with antibiotics) and skewed to omega-6s).

So... Why should we care? Because all those sugars and flours and omega-6s create a TON of inflammation—which the cancer cells LOVE. (In fact, David says: "*Cancer feeds on sugar.*")

[Tom Rath](#) (who has a very rare genetic disorder that limits his ability to fight cancer) wrote a great book called [Eat Move Sleep](#) where he shares science-based best practices to Optimize. He says: "*Sugar is a toxin. It fuels diabetes, obesity, heart disease, and cancer. At the current dose we consume, more than 150 pounds per person every year, sugar and its derivatives kill more people than cocaine, heroin, or any other controlled substance around. One report aptly describes sugar as 'candy for cancer cells.' It accelerates aging and inflammation in the body and subsequently fuels tumor growth. It is now clear that if you lower your sugar intake, you reduce your odds of developing cancer.*"

(I was happy when the head nurse and dietician at my brother's hospital agreed that "Cancer loves sugar!" I asked her to repeat that to my brother and his wife to bring the point home.)

The book has a GREAT list of foods that have been scientifically demonstrated to be the best cancer fighters along with a list of foods to avoid. The top of the anticancer diet? Garlic, brussel sprouts, scallions, leeks, broccoli, cauliflower. Top of the avoid list? The Standard American Diet! Stuff like factory-farmed animal products, vegetable oils, etc.

Step 1? Eliminate the cancer promoters by ruthlessly raiding your kitchen and throwing away all the stuff that doesn't belong in your Anticancer body. Then restock it with the good stuff.

P.S. [Christopher McDougall](#) describes the whole omega-3/omega-6 imbalance in [Natural Born Heroes](#): "*Our hunter-gatherer ancestors had a one-to-one ratio. Today, ours is more like sixteen to one. Since the proliferation of vegetable and soybean oils in processed foods, omega-6 consumption has been through the roof. Instead of a small fire to warm the house, we've created an inferno that's burning it down.*"

PULLING LEVERS + REGAINING CONTROL

"I must insist on one point: No psychological factor by itself has ever been identified as being capable of creating that bad seed. In other words, nothing permits us to state that psychic trauma can be the sole cause of cancer.

However, as with nutrition, exercise, or the quality of our air and water, certain psychological states can profoundly influence the soil in which the seed develops."

~ David Servan-Schreiber

"At the University of Pennsylvania, in the laboratory of Martin Seligman, PhD, rats were grafted with the exact quantity of cancer cells known to induce a fatal tumor in 50 percent of them. In this experiment, the rats were divided into three groups. In the first group, the control group, the animals received the graft but were then left to live their lives as usual in the laboratory cage. In the second group, the rats were given small, random electric shocks which they had no control over. The animals in the third group were given the same random shocks but were provided with a lever that they quickly learned to press to avoid getting *extra* shocks.

The results, published in *Science*, were very clear. One month after the graft, 54 percent of control rats had successfully rejected their tumor. The rats subjected to shocks with no means of escape had become despondent. They would not fight against intrusions into their cage, and lost their appetite for food and for sexual partners. Only 23 percent of these rats managed to overcome their cancer. The most interesting group was the third one. Though they were submitted to the intense stress of the same number of frequent electric shocks, having learned that they could avoid receiving extra shocks by pressing a lever, these animals did not become despondent. They remained feisty when intruded upon, ate well, and copulated frequently as rats do in a normal environment. And in that group, 63 percent successfully rejected the tumor, more than the rats left alone. It seems that the helplessness was capable of hastening the tumor's spread, not the shocks themselves.

The lesson of this study is crucial. It isn't stress itself—the 'electric shocks' life inevitably gives—that promotes cancer development; it is the persistent perception of helplessness we may have in the face of stress that affects the body's reaction to the disease. Perhaps there may even be a 'good stress,' one that challenges us to reach for our inner resources, and that may stimulate our natural defenses to do this work more effectively. Yet many of us often feel that we just don't have a lever that would allow us to regain some semblance of control—at least over ourselves, if not always over the situation."

That astonishing (!) study is from a chapter called "The Anticancer Mind." Sub-section: "Feelings of Helplessness Feed Cancer."

We discussed our top enemies on the nutrition front of our war against cancer. Our #1 enemy on the psychological side? Helplessness. We need to pull the right levers to regain control.

We talk about similar research on learned helplessness in our Notes on [Seligman's *Learned Optimism*](#) (and [this +1](#)). And, we go into the details of "good stress" in [Kelly McGonigal's *The Upside of Stress*](#). Plus, in *The Telomere Effect*, recall their #1 tip to strengthen our immune systems/lengthen our telomeres: turn threats into challenges—basically, go from helplessness to optimism. (Then we have the +1 on the hopeful [swimming rats](#) who increased endurance 240x!)

David offers a number of "levers" we can pull to create an empowered, "Anticancer Mind." His top recommendation is to create a sense of calm in our lives—getting out of fight-or-flight and letting our bodies do their thing to help us recover. He encourages us to breathe properly and points out the compelling evidence on the power of meditation.

Breathing-wise, he talks about the power of "coherent breathing" and Optimizing heart rate variability. We explored this in depth in our Notes on [The Healing Power of the Breath](#). They tell us the optimal rate is about 5 breaths per minute (or 3.5 /min if you're taller than 6 feet). That's inhaling to 4 or 5, holding for 1, and exhaling for 6+ (always a little longer on exhale). Repeat.

I gave my brother a quick class on breathing the morning of his surgery and encouraged him to focus on his breath before and after the surgery. After a couple minutes of practice, we celebrated the fact that he was now officially a meditator. (I got him a [Muse](#) to keep it going!)

"The group that received practical advice about lifestyle changes had a 56 percent lower mortality risk over the eleven-year period. ... If results like this were ever achieved with a new drug, every oncologist in the world would feel obligated to prescribe it.

Whether its learning to relax and better control our minds, or better nourishing ourselves, or practicing regular physical exercise, there's really only one secret. We need to give ourselves a way in which we can steer the course of our own lives instead of being subjected to them in helplessness and distress."

~ David Servan-Schreiber

THE BEST PROTECTION AGAINST CANCER

"In the end, the best protection against cancer is a change in attitude arising from the process of growth valued by all the great psychological and spiritual traditions. To describe the very foundation of the life force, Aristotle speaks about 'entelechy' (the need for self-fulfillment that starts with the seed and comes to full fruition in the tree). ... Abraham Maslow, the founder of the human potential movement, refers to 'self-actualization.' The spiritual traditions encourage 'awakening' by developing the unique—in other words, the sacred—in the self. It is very important that we define our most authentic values and put them to work in our conduct and in our relationships with others. From that approach springs a feeling of gratitude for life as it is—and our body, and its biology, basks in its grace."

That's from the chapter called "Learning to Change" in which David tells us about the creative potential of cancer—catalyzing us to, as the sub-title of the book puts it, "A New Way of Life."

We each have a life force within us that is *constantly* begging us to express the best within us. We've talked about [Maslow's](#) admonition that "What one can be, one must be."

And, I love Aristotle's parallel concept of "entelechy."

Let's imagine that life force within pushing us to experience life as the next-best version of ourselves as we use all of life's challenges as fuel for that ultimate journey.

Sending love from our family to yours!



Brian Johnson,
Chief Philosopher

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About the Author of "Anticancer"

DAVID SERVAN-SCHREIBER



David Servan-Schreiber, MD, PhD, was a clinical professor of psychiatry at the University of Pittsburgh School of Medicine and cofounder of the Center for Integrative Medicine. He codirected an NIH laboratory for the study of cognitive neuroscience and published more than ninety articles in scientific journals. His pioneering book *Anticancer: A New Way of Life* became an international bestseller and was translated into more than forty languages. He is also the author of *The Instinct to Heal* and *Not the Last Goodbye*.

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Brian Johnson loves helping people optimize their lives so they can actualize their potential as he studies, embodies and teaches the fundamentals of optimal living—integrating ancient wisdom + modern science + practical tools. Learn more and optimize your life at optimize.me.