

DR. MICOZZI'S

***INSIDERS'* CURES**

Classified Cancer Answers

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When it comes to fighting the “war on cancer,” I’ve been there. As a foot soldier in the laboratory and in the field. And finally, presented here, are the results of decades of research.

Whether you’re looking for cancer prevention, cancer treatment, or cancer survival...these are results you can use to take charge and win your own battle with cancer or help that of a loved one.

Cancer: The disease of modern times

Tragically, many modern medical researchers aren’t interested in history. I’ve had to listen to them boast for years about how doctors and healers of the past knew so little. And how fortunate *they* are to be at the peak of medical achievements. Such an attitude is not only ignorant, but dangerous. We have a lot to learn from the past.

Years ago, I tackled a huge project for the Walter Reed Army Medical Center and the National Cancer Institute (NCI). We researched every single case of cancer that had been reported in prehistoric animals and ancient humans. And people were astounded by the results. There was no evidence of the common cancers that are found in the 20th and 21st centuries.¹

Cancer is a modern disease. But the modern approaches to managing it are more like tortuous medieval treatments. Including cutting (surgery), burning (radiation therapy), and poisoning (chemotherapy). These modern treatments are often worse than the disease. Just as they were in medieval times.

Of course, the hope is that we kill the cancer before we kill the patient. But in the majority of cases, while some tumors may shrink or be cut out, these treatments do nothing to extend and improve people’s lives in the end. And in some cases, may actually kill them sooner.

All things considered, why wouldn’t modern, “enlightened” medicine consider natural, safer alternatives? The safety profile for natural medicine on average is over 20 times better than chemotherapy.² What ever happened to “first do no harm?”

Yes, the government does screen plants and natural products for anti-cancer activity. But, they only look at substances with the ability to kill cancer cells. Agents that kill cancer cells are also toxic to normal cells. This is what causes the terrible side effects of chemotherapy.

Whereas, nature contains remarkable plant substances that work in multiple ways. They can initiate cancer cell death without harming healthy cells, and can even *transform* cancer cells back toward normal cells, rather than

kill them. This is a process called *re-differentiation*. This is a remarkable fact of nature. And it’s ignored by the cancer establishment.

These plant substances have been known to Ayurvedic medicine (a form of healing native to India) and Chinese medicine for centuries. But of course most modern scientists remain proud of their ignorance of history and their view of its irrelevance to the marvelous medical achievements of the “modern world.”

The secrets to fighting cancer are steeped in actual history.

England, Germany and the hidden “Arms Race” for a cure

At 3:30 a.m., just before sunrise on the Summer Solstice of June 22, 1941, Germany launched Operation Barbarossa. German forces invaded the Soviet Union along a 2,000 mile front. It was the start of the biggest and bloodiest military campaign in human history. Within a matter of weeks, more than one million people would be dead.

Before ordering the invasion to start, Hitler was up all night with his minister of propaganda Goebbels. Goebbels’ diary reveals that the two spoke about how this invasion would remove the “cancerous tumor” of communism from Europe. But that’s not the only cancer they discussed. Shortly before they separated, just one hour before the invasion, they also discussed recent advances in cancer research. The “War on Cancer” was as important to Nazi Germany as were the other wars they were waging.³

Cancer was considered a “disease of modern civilization” due to its rapid increase since the turn of the 20th century. And in Germany, it was declared the “number one enemy of the state” (1935). In fact, the Nazi war on cancer was the most aggressive in history. It included restrictions on the use of asbestos and bans on food dyes, pesticides, and tobacco, among other things. All in the 1930s and early 1940s.

The Germans were trying to keep their population productive and fit. They emphasized physical activity, natural medicines, and a diet rich in fresh fruits and green vegetables. But of course, the effort wasn’t in the best interest of the people. It was to keep them “fit to fight.” A theme echoed in England as well.

There will always be an England

In 1929, the British Empire had launched the “British Empire Cancer Campaign.” They had been decimated by

the devastating effects of WW I. And now cancer was on the rise, killing even more. So the British were concerned about the health of their populations across the globe. And it was this campaign that produced the earliest data we have on the relationship between diet and cancer.

We would have done well to listen to what the British had learned. They took a broad approach, looking at the incidence of cancer in relation to the emphasis of certain foods in the diet.

They found over a dozen foods to be protective against cancer. Including beetroot, bread (whole meal), cabbage, carrots, cauliflower, raw milk (unboiled), onions, turnips, and watercress. They also suggested that there was a substance in green vegetables that was worth researching further. Keep in mind, many vitamins had not yet been discovered in 1929. Fifteen years later, they repeated the study focusing on green vegetables. And researchers found they provided protection against lung, gastrointestinal, and other cancers.

But unfortunately for the U.S., all this research fell on deaf ears. You can't learn from the past if you outright ignore it.

America's most shameful cancer failures

In 1972, as the War in Vietnam was winding down, President Richard Nixon declared a new conflict for the U.S. "The War on Cancer." And it's still dragging on 40 years later.

As usual, American medical scientists ignored the past. Including the race for a cure between England and Germany. Instead, they started from scratch...repeated the same old mistakes...and made many shameful new ones. Wasting precious decades of time and billions of taxpayer dollars.

Of course, the research generals in charge began by "fighting the last war." As is done in most wars. They focused their efforts on the most recent techniques being used. Instead of looking for better techniques. And so cutting (surgery), burning (radiation), and poisoning (chemotherapy) became their weapons of choice. They didn't consider any of the dietary discoveries of the past.

Then finally, in 1982, a "second front" was opened. Ten years into the U.S. war on cancer. The National Academy of Sciences Food and Nutrition Board issued a report on "Diet and Cancer." This report summarized

the potential of diet and nutrition in promoting or preventing cancer. And it was this report that motivated the NIH to finally make a serious effort to invest in nutritional research for cancer.

The beginning of the end

As a young scientist, I was recruited into the National Cancer Institute's new "crash program." The goal of the program was to uncover the role of diet and nutrients in preventing cancer. And it was my first glimpse at how misdirected our government research efforts are.

At the time, the National Cancer Advisory Board was chaired by a distinguished surgeon, Dr. Jonathan Rhoades. Dr. Rhoades was heavily influenced by the famous RDA guidelines. RDAs are the recommended dietary allowances for vitamins and minerals. So these are the doses and forms they chose as a guide for anti-cancer activity.

The problem is...the RDA's are designed to provide nutrients at levels that prevent frank nutritional *deficiencies*. This is not the same thing as *optimal* levels of nutrients. Research now shows that nutrients at levels higher than the RDA can actually prevent, fight, and even cure disease.

In fact, medical science understood little about human nutrition at the time. So much of the new "crash program" had to be directed to studying basic aspects of how nutrients appear in foods. Also how they enter the bloodstream and tissues of the human body.

But using the RDAs wasn't the only mistake. Dr. Rhoades also insisted on testing nutrients *only one at a time*. While nutrients exist in nature as rich, complex *combinations*. Even if they found some success, this approach would delay finding the truth. And virtually guarantee the war on cancer continuing for at least another generation. All the while, chemotherapy drug company profits would continue to pile up.

The NCI slogged along down the wrong roads for many years. Following this misdirected, "un-natural" approach. They shamefully lacked a genuine understanding of human nutrition or the role of natural products in human health. These basic aspects of human diet and nutrition were grossly under-studied and under-funded. All because the money had gone to the "big guns" of cutting, burning, and poisoning, instead of safer approaches.

And these were critical factors behind the most

shameful medical failure in U.S. history.

**The proven cancer revelation—
pushed aside for profits!**

In 1984, a staff scientist for the NCI and colleague of mine was on the verge of a medical epiphany. She had gathered a towering pile of PROVEN research regarding a downright *ordinary* substance. Vitamin C.

She was a part of the “crash program” to uncover as much as we could on the relationship between diet, nutrients, and cancer. And had taken it upon herself to gather and review a decade’s worth of small, but *very* sound studies on vitamin C. And what she found was staggering.

In fact, this tireless researcher reviewed over 46 separate epidemiological studies. She found that 33 of them revealed vitamin C offered significant protection against cancer...particularly for esophageal, pancreatic, stomach, lung, and breast cancers.⁴

Thirty-three out of 46.

That’s a 71% rate of positive results!

And in subsequent studies, vitamin C continues to produce jaw-dropping results...

- One study in mice showed vitamin C could rob a tumor of its power source—literally halting any new growth.⁵
- In the prominent medical journal *Prostate*, it was reported to be a “potent anticancer agent for prostate cancer cells.”⁶
- It was shown to be a CRITICAL element in your body’s ability to resist neoplasia—the formation of abnormal cells.⁷

Research had even been performed by two-time Nobel laureate, Linus Pauling leading him to controversially proclaim, “This substance can prevent cancer.”

Imagine. A real cancer breakthrough sitting right under the nose of the NCI the whole time. And all they had to do was look beyond the cutting, burning, and poisoning. To consider safer, natural approaches. And they didn’t even have to look far. This secret weapon was found just starting with the basics! Of all things, vitamin C.

And yet, tragically, chances are you still haven’t heard the potential of vitamin C for the prevention and treatment of cancer.

There was one BIG PROBLEM...

When this dedicated researcher finished her work,

she went proudly before our political bosses to deliver the revolutionary news. Was she congratulated? Was she asked to present her findings to an expanded panel of her superiors? *Was she even listened to?*

No. As she told me, they weren’t interested. Imagine, the NIH, the guardian of this nation’s health and well-being, wasn’t interested in her findings.

Why would the NIH shelve this once-in-a-lifetime discovery? Why would they pass on this sound research that could change the face of cancer treatment? Did the NIH already have a “cancer plan” and *this* once-in-a-lifetime discovery just didn’t fall in line?

For some reason the “science bureaucrats” ignored a hard-working, dedicated scientist with more-than-promising results in hand. Is it because they had already invested themselves in a plan that would just be too hard (and, dare I say, too embarrassing!) to stop at this point in time? It’s not hard to imagine an agenda pushing aside a breakthrough cure creating the shameful case we have here...

So what was so good that they could afford to ignore this colleagues’ staggering scientific findings?

Beta-carotene. Those two words (and tens of millions of dollars) single-handedly derailed this nation’s entire medical establishment—for decades—from finding a proven cure for cancer. Because in 1984, a monumental initiative was being planned to push beta-carotene into mass clinical trials for the prevention of cancer.

One published paper is all it took to get the NIH frothing at the possibilities. Just one paper, compared to the stack of research my colleague uncovered on vitamin C. You see, beta-carotene is a plant-derived form of vitamin A. And in 1981, an influential English scientist (who had studied in Nazi Germany during their earlier war on cancer) in an influential English scientific journal, asked a simple question based on a study showing the higher one’s vitamin A levels, the less likely they were to develop lung cancer. It was only a question, but the NCI immediately jumped to all the wrong conclusions.⁸ You can’t blame them for trying, but really...

Flash forward two years and the NIH had issued a large-scale clinical trial. (The cost of which soared into the tens of millions.) And word had spread to the press that “beta-carotene would save us all from cancer!”

All the while, several colleagues from the USDA Human Nutrition Research Center and I were uncovering

evidence of the exact opposite.

We actually looked to the past and reviewed a dozen smaller studies on beta-carotene. And we found no correlation between blood levels of beta-carotene and cancer. We also looked at over 30 studies following the results of the British Empire Cancer Campaign. We looked at the foods that consistently showed protective effects against cancer. Then we used the latest, state-of-the-art technology to identify the carotenoid content of each of these foods. And they were *not* high in beta-carotene. But they *were* high in vitamin C and other nutrients.

There was essentially no reason for the NCI to “bet” on beta-carotene. No reason to proceed with multi-million dollar, taxpayer-funded clinical trials that gave synthetic beta-carotene to people already at increased risk for cancer.

But it was too late. Word had already leaked out to the media about their new “darling.” And seemingly overnight, thousands and thousands of everyday citizens were taking beta-carotene for cancer. All before a full-scale U.S. clinical trial had even started!

In fact, once the clinical trial got underway, it became more difficult to organize the control group of patients *because so many people were already taking beta-carotene*. In the medical science world—that’s counting your eggs long before you even have the chicken...

But why, oh why was the NIH throwing caution (and a proven cure!) to the wind?

Could it be because they already put the cart before the horse? Word was out about beta-carotene and they had already invested themselves and the taxpayers’ money to prove its worth. Of course they would never admit it, but could it be that there was just no turning back on the agenda now...

Plus, when it comes to questionable judgments taking place in our more “*infallible*” institutions—always look at the advisory board.

In this particular case—a member of the *National Cancer Institute* advisory board happened to be a senior science officer at a manufacturer of synthetic beta-carotene. The shameful dots should be easy enough to connect. If the rug were pulled out from under beta-carotene, too much would be lost.

All the while, sealing the fate of a TRUE CANCER ANSWER to sit on the shelf, collect dust, and be kept from you.

One day I asked another scientist how the NCI could continue to ignore all the evidence about vitamin C. He explained that two-time Nobel Prize winner Linus Pauling had given vitamin C a “bad name.” In the government’s eyes, he was too vocal about its benefits. And the NCI couldn’t afford to be seen as “kooky” or “fringy.” Better to be just plain wrong. Meanwhile, Linus Pauling single-handedly held as many Nobel Prizes as the entire scientific bureaucracy of NIH put together. But the NCI prefers to be “often wrong, but never in doubt.” In fact...

We discovered many things when we began to do research with the USDA. First, we found that the nutritional quality of foods had declined drastically each decade during the 20th century right through the 1980’s.

Second, almost all the healthy foods that are known to prevent cancer in fact are *not* high in beta-carotene. But we did find that these foods *are* high in vitamin C and a lot of other carotenoids that no one had heard of before, including **lutein**, **lycopene**, and **beta-cryptoxanthine**.⁹ All powerful nutrients that you can easily stock up on through the green, leafy vegetables you get at the grocery store.

And all the NCI managed to prove, tens of millions of dollars later, was that beta-carotene did *not* prevent cancer. And that, in fact, cancer could actually *increase* by over 25% in some when using the synthetic, isolated beta-carotene.¹⁰

And all along, this flawed approach of the NCI—using the wrong doses, forms, and isolated synthetic nutrients—led to mixed results. Which of course opened the door to criticism by pharmaceutical-led mainstream medical science and oncology. Who continue to argue that nutrition won’t work against cancer.

I even went so far as to formally predict the failure of this flawed approach. I knew it wouldn’t work thanks to my work with the USDA, who actually knew something about nutrition. So I wrote up a scientific paper using the flawed and ill-fated example of beta-carotene. But my paper got caught up by my “political” bosses at the NCI...protecting their cancer empire, covering up their ignorance of human nutrition, and their waste of time and tax dollars.

Finally, once I left the NCI to work at Walter Reed Army Medical Center, and away from my “political” bosses...my paper was published in the *Journal of the National Cancer Institute* itself. Fortunately, the journal is reviewed by non-government scientists independent of

the NCI itself. And I was awarded the Young Research Investigator prize for this work at Walter Reed.

It wasn't until 2002 that there was finally general recognition among physicians that using RDA guidelines to treat diseases was not adequate. Thanks to the publication of a pair of papers by Fairfield and Fletcher in the *Journal of the American Medical Association*.¹¹

The stage was finally set for accepting that nutrients should be taken in adequate doses and in natural combinations in order to prevent and cure diseases such as cancer. Three-quarters of a century after the British initiated their first efforts in the war on cancer.

The irony of iron—yet another shameful misdirection

While the NCI ignored promising nutrients that could reduce cancer, like vitamin C...they also ignored the fact that too much of a certain nutrient could be dangerous—iron.

A great irony of medical practice in the 20th century was that the benefits of generally safe nutrients like vitamins A, B, C, D, and E were too often ignored. But everyone was quite happy to push the need for iron supplementation.

You'd hear about iron everywhere. From Ted Mack's "Amateur Hour" on early TV, sponsored by *Geritol* iron supplements...to the policy of fortifying grains with iron (in Scandinavia they forbid supplementing food with iron but supplement with selenium instead)...to the average physician. Iron was the one nutrient of them all that you needed to take. But it turns out the "Amateur Hour" would be a fitting name for these efforts to push iron.

Certain individuals, specifically pregnant and menstruating women, may need iron supplementation. But the vast majority of people, including virtually all men, don't need more iron. The only way to lose iron is through blood loss. So unless you have been hemorrhaging, your body should have all it needs.

In fact, there are many serious diseases that are caused by too much iron. And some people are susceptible to iron overload, which can be fatal. Further, if there is too much iron in the body, the excess iron may act as an oxidant. This is the very problem we try to counter-act by taking vitamins and nutrients that act as antioxidants.

My faculty advisor at Penn, Dr. Barry Blumberg won the Nobel Prize in 1976 for his discovery of the cause of infectious hepatitis. He also worked on the causes of liver cancer. Iron overload is especially a problem for the liver.

He quickly understood that too much iron could cause cancer not only in the liver but in most organs. And, in both men *and* women.

So this Nobel laureate approached us at the NCI to conduct more research on iron. He wanted to use data from the largest study that had yet been done on health and nutrition—the U.S. Health and Nutrition Examination Survey. But the science bureaucrats promptly rejected him!

The NCI wanted to keep all this data to themselves. Despite the fact that it was publicly funded data. It seems that, since everyone was supposed to know that women need to take iron supplements, we were not supposed to confuse people with the facts. Even if they came from a Nobel Prize winner.

After I left the NCI, we continued to pursue the truth of the science. Since we couldn't get the support needed from the NCI, we went to the Department of Energy for funding and to get access to the data from the publicly funded study. The Department of Energy had begun its life as the infamous "Atomic Bomb Casualty Commission" after the atomic bomb was dropped on Hiroshima and Nagasaki. Needless to say, studying the health effects of oxidizing radiation was a critical part of that effort. Later, the Atomic Energy Commission continued performing and supporting research on the effects of radiation and other forms of energy on health. Including effects on oxidation and antioxidation in cells and tissues.

Fortunately, the Department of Energy was quick to award a grant to our research team to do the analysis. And the analysis **proved that excess iron causes many different types of cancer in both men and women**. The results were published in the prestigious *New England Journal of Medicine*¹² and the *International Journal of Cancer*.¹³

Even if the NCI was not interested in the truth about iron, the Department of Energy was—and so were the consumers. It led to an entire industry based on iron-free supplements. When our results came out, science bureaucrats at the CDC screamed "bloody murder"—so to speak—at our "irresponsible" research showing that too much iron could be too much of a good thing. They also viciously attacked us personally—which reminds me of the old adage in the court room; if the facts are in your favor; argue the facts; if the law is in your favor; argue the law; if neither, attack the experts—in this case a Nobel Prize winner!

You see, their “job” at the CDC was to convince pregnant women and women of child-bearing age to take iron supplements. So “confusing” people about the risk of too much iron made their job harder. And the one thing you can never do is to actually make a government bureaucrat work harder.

Fortunately, the Department of Energy continues to support research on science that does not match the political agenda of the NIH or CDC.

Among the Thorns: Natural-born killer cells and other “good guys” in the war on cancer

Mainstream science bureaucrats continue to pour money into surgery, radiation, and chemotherapy. But the past still holds many promising answers. Better answers.

Fortunately, others outside the NCI science bureaucracy have embraced the possibilities. Many private institutions and independent scientists have provided a considerable amount of research on more positive approaches. These approaches are based on ancient knowledge and wisdom. But now, we are able to apply innovative, cutting-edge knowledge of how cells grow. This approach is actually way ahead of the curve when it comes to a new understanding of how the body works.

The following outlines a “triple-play” approach to fighting cancer. It focuses on three proven alternatives to the toxic triple approach of chemotherapy, radiation, and surgery. These proven approaches can help prevent and treat cancer, as well as improve the condition of cancer survivors.

1. Immune surveillance: Detecting cancer before it strikes

In the 1960s, a leading group of researchers discovered a critical connection between the immune system and cancer. They found that strengthening the immune system can help prevent and fight cancer. This is now a cornerstone of a natural approach. (As opposed to standard cancer treatments that are actually harmful to the immune system and to other healthy human cells.)

Cancer cells are actually formed continuously throughout the body due to the presence of free-radical ions that damage our cells. A healthy immune system can actually recognize these abnormal cancer cells. Once an abnormal cell is spotted, the immune system sends out “Natural Killer” cells (NK cells). These NK cells eliminate the cancer cells before they can grow into actual tumors.

Pro-immune effects of natural products include both enhancing the immune system’s immune surveillance system (like a “distant early warning” defense system) as well as stimulating the Natural Killer cells that eliminate cancer cells as they form in the body.

2. Anti-angiogenesis: Stopping tumors in their tracks

Some natural ingredients address one very important aspect of how cancer tumors grow. This approach has generally been overlooked by mainstream cancer research and practice. Cancer cells grow very fast compared to normal cells. This is how tumors grow. But tumors also need an increased blood supply.

An innovative approach to fighting cancer involves preventing new blood vessels from expanding to supply the growing tumor. Angiogenesis is the process by which new blood vessels extend into a growing cancer tumor. *Anti-angiogenesis* prevents this extension of blood vessels and stops the growth of tumors. This observation was made experimentally decades ago. But only a few scientists have applied this knowledge to develop effective treatments.

Dr. Judah Folkman of Boston, who died recently at the age of 75, was a persistent advocate of using anti-angiogenesis to treat cancer. He devoted his research laboratory in Boston to developing this approach. His work has often been cited as worthy of a Nobel Prize in Medicine & Physiology.

Ten years ago I personally invited him to speak in Philadelphia to a standing-room only crowd of distinguished physicians and scientists when I was the director of The College of Physicians of Philadelphia, the nation’s oldest and most distinguished medical academy. Fortunately, some work has continued along these lines to bring forward one of the important and unique aspects of natural approaches to cancer.

3. The antioxidant brigade: Targeted nutrients to help your body fight back

The accumulation of free-radical ions at the cellular level is thought to trigger the process of carcinogenesis—the development of cancer cells. These free radicals are in the atmosphere and are formed by the ionizing effects of the sun. They can also come from external toxins, such as pesticides and other chemicals in our food. But they’re also formed naturally as a byproduct of certain processes in the body.

Substances called antioxidants help keep free radicals in check, thus helping to prevent the formation of cancer cells. The body produces some antioxidants on its own. But you also get them from the foods you eat. Plants in the natural environment include a wide variety of potent antioxidants. Plants, like people, must protect themselves from the oxidative effect of free radicals in the atmosphere and from solar and other radiation.

Many plant compounds have been developed and tested for the ability to serve as antioxidants. In addition, various basic nutrients, such as vitamins, minerals, and amino acids have been found to have antioxidant properties. And when combined, antioxidant ingredients have been shown to work together to multiply their effects as a whole.

These findings are especially helpful if you or someone you love has undergone, or is undergoing mainstream treatments. Chemotherapy and radiation cause severe free-radical formation (oxidative stress) on the body. And while some oncologists have been concerned that antioxidant supplements may interfere with this type of cancer treatment, this has not been proven to be the case. Antioxidant supplements can help the body recover from the effects of cancer treatment as well as helping to prevent the recurrence of cancer.

Getting the right dose (and getting the dose right)

An important part of research on cancer is determining the correct doses that will have an effect on cancer cells while still being tolerated by the patient. Natural substances are not toxic to cells but act differently by influencing the correct growth of cells. And, in some cases (particularly with certain Ayurvedic and Chinese herbal combinations), they can even help cancerous cells return to homeostasis—a normal, stable, healthy state. In the medical field, this process is known as re-differentiation. Since such ingredients are all “natural products,” many of them are widely available on the open market.

However, additional research is needed to establish the correct doses and combinations of these ingredients to have the most beneficial effects. In addition, different formulations of these ingredients on the open market vary widely in their potency and quality. When dealing with cancer, it is critically important that these ingredients are present at the correct doses and that their formulations have the right potency. This is why it’s also important to work closely with a skilled practitioner.

I will share those dosages most researched below. But

also remember, when it comes to getting the “basics” for cancer prevention, you should fill your diet with a variety of colorful fruits and vegetables. With particular emphasis placed on dark-green leafy and cruciferous vegetables.

If supplements are used, they should be taken with meals to ensure absorption. Fat-soluble vitamins (including vitamin A, vitamin D, and vitamin E) should be taken with at least a little dietary fat. Some vitamin supplements are manufactured from natural or synthetic sources. For example, vitamin E may be isolated from soybean oil or made from petroleum derivatives. However, despite the appeal of “natural” vitamins, research has not generally found important differences in their effects.

The best cancer treatments you’ve never heard of

ANTIOXIDANTS

Vitamin C is probably the most well-known antioxidant, along with vitamins A, D, and E, and selenium. All of these are readily available and the research is extensive. I’ll save the full story of vitamin C for later (see below). And in interest of time and space, I won’t get into the details on the basics. Instead, following are a few antioxidants you may not have heard of for fighting cancer.

Acetyl-L-Carnitine (ALC) is an amino-acid with antioxidant properties. ALC helps turn the nutrients in our food into energy for our cells. It can help you overcome fatigue and improves the function of the brain and nervous system. This can be very helpful for those recovering from cancer. It’s also helpful to those suffering the effects of mainstream cancer therapies, such as the notorious “chemo-brain.”¹⁴ ALC has also been studied for its potential to help enhance the effects of traditional chemotherapy.¹⁵ A generally recommended dose would be 1,000 mg per day.

Alpha Lipoic Acid (ALA) is an essential fatty acid that is critical for the body. ALA supports energy production inside the cells and is a powerful antioxidant. But it also has the unique ability to extend the life of other antioxidants like vitamins C and E—making it an antioxidant of antioxidants. This powerful antioxidant also happens to be both water- and fat-soluble. This means it can reach all parts of the body to help fight free radicals. Alpha-lipoic acid has been shown to have anticancer effects by activating glutathione peroxidase (another potent antioxidant in the body) and decreasing oxidative stress in cancer patients. One recent study found that ALA could initiate cell death in lung cancer cells.¹⁶

ALA is found primarily in animal sources, including red meat, liver, heart, and kidney. The most abundant plant sources include spinach, broccoli, tomatoes, Brussels sprouts, potatoes, peas, and rice bran. It has also been suggested that food intake reduces the bioavailability of ALA. So when supplementing, it is recommended that ALA be taken 30 min before or 2 hours after eating.¹⁷ A generally recommended dose would be 300 mg per day.

Coenzyme Q10 is found in every cell in the body and is a powerful antioxidant. It plays a critical role in the process of turning food into energy for the cells. In the laboratory, coenzyme Q10 has been shown to prevent cancer and reduce cancer cell growth. It can also improve white blood cell and immune system function. One recent study has shown that coenzyme Q10 may provide much-needed protection to the heart when undergoing chemotherapy.¹⁸ In a recent pilot study, researchers found that supplementing with coenzyme Q10 and additional antioxidant vitamins (vitamin C, selenium, folic acid, and others) could extend survival time in patients with end-stage cancer.¹⁹ A generally recommended dose would be 150 mg per day.

IMMUNE SURVEILLANCE

Following are some of the most important nutrients for supporting the immune system and fulfilling the need for immune surveillance in the fight against cancer. Of course, there are many, many more. But these are most readily available and have the research to support them as well. Many of these may also act in other ways, but their overall impact on immune health is substantial, and it's essential they not be overlooked.

Vitamin C (ascorbic acid) is one of the most effective antioxidants. However, research has shown it may have an overall profound effect on the immune system. This was apparent even in the early cancer research uncovered by my colleague at the NIH (as noted above). Where it was not only shown to help cut off the power source of the tumors, but actually stops the formation of unhealthy cells. But unfortunately, thanks to the complete misdirection of the NIH, the research on all the potential mechanisms of action of vitamin C is still lacking.

Epidemiological evidence shows that populations who eat diets high in vitamin C have a lowered risk for some cancers. This may be because of the antioxidant function of vitamin C and its ability to block the formation of *N*-nitrosamines (cancer-causing substances formed in the stomach from certain foods). A strong epidemiolog-

ical finding has been the association between high intakes of foods rich in vitamin C and a reduced risk of stomach cancer. There is a weaker link to a decreased risk of cervical cancer in smokers. In other research, it may also help counteract the toxicity of some conventional cancer treatments while enhancing the cell-killing effect of others.²⁰

A protective effect of ascorbic acid in colorectal cancer could exist by its prevention of fecal nitrosamines or against other fecal mutagens. In addition, a mechanism has been proposed whereby vitamin C inhibits DNA synthesis and spread of preneoplastic cells. Administration of ascorbic acid has been shown to produce a 30–40% increase in protective enzymes.

Studies of rectal polyps among patients with a family history, support the possibility of a protective effect of vitamin C in polyp formation and thus possibly in colorectal cancer. With 400 mg of vitamins C and E administered to patients following polypectomy, after 2 years, the recurrence data rate was reduced approximately 20%.²¹

Ascorbic acid is generally tolerated well, but at high doses it may cause stomach irritation, heart-burn, nausea, vomiting, drowsiness, and headaches. Some oncologists are concerned that high-dose vitamin C may alter the absorption and excretion of some drugs used in the treatment of cancer, and may interfere with radiation therapy. However, there are no clinical studies documenting such effects. In adults, there is significant anecdotal evidence that vitamin C is safe at dosages of 1,000 mg per day and very minimal toxicity has been reported even at much higher dosages. However, there are few controlled studies of the toxicity of vitamin C.

Major proponents of high-dose vitamin C for cancer treatment included the late Nobel laureate Dr. Linus Pauling and Dr. Ewan Cameron. And while their research would need to be confirmed by more rigorous studies, they did provide a number of observational reports, case studies, and pilot studies involving large numbers of advanced cancer patients. These patients were given high doses of vitamin C. They reported that it appeared to improve overall well-being and quality of life, as well as resulted in a significant increase in the survival of patients with various types of advanced cancer.²² High-dose vitamin C levels can be achieved through intravenous infusion under direct medical supervision, as well as oral administration.

For my last act, while serving as Executive Director of the Center for Integrative Medicine at Thomas Jeffer-

son University Hospital, I fought and won through all the hospital professional, pharmacy, and safety committees to gain approval to offer high dose vitamin C infusions right in this major university hospital under direct medical supervision for patients recovering from cancer and cancer therapy.

A generally recommended dose is 750 mg per day, in combination with other “triple-play” nutrients as a dietary supplement; and high-dose IV under direct medical supervision.

Vitamins B1, B2, B3, B5, B6, B12. Most people have heard of B vitamins. But do you know what they can actually do for you? The B vitamins help optimize metabolism at the cellular level. Meaning, they are essential for energy of the cells. The B vitamins also play a role in many critical functions of the body. But they have also been shown to stimulate the immune system and inhibit cancer cell formation. Significant data suggest that a deficiency of vitamin B12 or folic acid may actually lead to increased tumor development. A study published in *Cancer Epidemiology Biomarkers & Prevention* in 1999 reported an association of low levels of B12 with breast cancer in postmenopausal women.²³ Another study published in the *Annals of Internal Medicine* in 1998 has shown a protective effect of dietary folate against the development of colon cancer.²⁴ A generally recommended dose of vitamins B1, B2, B3, B4, B5, and B6 is 100 mg of each per day. For B12, a generally recommended dose is 1 mg (or 1,000 mcg) per day in combination with other “triple-play” nutrients.

Zinc and calcium. Zinc, together with other minerals, like calcium, is thought to have a role in inhibiting cancer growth through enhancement of the immune system and/or by direct effects on the cells. Zinc, an essential constituent of numerous enzymes, functions in cell replication and tissue repair. Calcium plays an important role in many cell functions including the overall survival of the cell. It helps control cell proliferation and synthesis of DNA. Investigations found that supplementing with 1,250 mg of calcium per day significantly reduced cell proliferation in patients at high risk for large bowel cancer.²⁵ Epidemiological studies support the hypothesis that a higher calcium intake may reduce risk for colon cancer. One large study showed that people who took calcium supplements of 1,200 mg per day showed a decreased risk of colorectal polyps.²⁶ A generally recommended dose for zinc is 250 mg per day and for calcium it's 2,000 mg per day.

Lentinen and other mushroom extracts. Lentinen is a plant compound extracted from shiitake and other mushrooms. It has been shown to have potent anti-cancer properties, similar to other mushroom extracts. Mushrooms, such as shiitake, used for cancer in traditional Asian medicine, appear to contain a substance called polysaccharides. These polysaccharides appear to activate the immune system NK cells. In addition, some mushroom extracts have been shown in the laboratory to directly kill cancer cells, but leave normal cells alone. These observations have been made with mushrooms that are edible, such as shiitake, maitake, and gandoderma.

A study from Korea, including 272 patients, found that the higher the intake of mushrooms, the lower the prevalence of gastric cancer. In another study, 68 patients with advanced, non-small cell lung cancer were given a polysaccharide peptide mushroom isolate. This was a randomized, placebo-controlled, double-blind study. Patients in the intervention group showed stimulation of the immune system.²⁷

Some polysaccharides from mushrooms may also help protect bone marrow from the harmful effects of chemotherapy and may have clinical application in recovering from cancer. Clinical trials are under way in Japan evaluating the use of mushrooms as adjunctive therapy to chemotherapy. The National Cancer Center Research Institute of Japan conducted a 15-year epidemiological study from 1972 to 1986. They looked at the cancer rates in close to 175,000 people. They found that mushroom farmers had overall lower cancer death rates when compared to non-farmer populations (160.1 per 100,000 compared to 97.1 per 100,000).²⁸

A generally recommended dose of lentinen is 2,000 mcg (or 2 mg) from shiitake mushroom with a 4:1 extract of *Lentinus edodes*, caps and stems (equivalent to 8 mg of dried mushroom).

ANTI-ANGIOGENESIS

Despite the heroic efforts of Dr. Folkman, there isn't as much research in support of anti-angiogenesis as compared to antioxidants and immune support. However, several natural ingredients appear active in this category and are available:

Vitamin E (alpha-tocopherol). Note that natural vitamin E consists of four tocopherols and four tocotrienols. Despite this fact, the Cancer Establishment always tests just d-alpha tocopherol or, worse, dl-alpha tocopherol acetate, finds no anti-cancer effect, and proclaims that

“vitamin E” has no anti-cancer effect. This is a conclusion of reductionist Neanderthal nutrition research. If you’re going to test vitamin E, it should be tested in its natural state—with mixed tocopherols and tocotrienols.

That said, some studies have shown that alpha-tocopherol can neutralize the effects of certain cancer-causing compounds (such as *N*-nitrosamines). It may also stimulate the release of antitumor factors from the immune system. Animal studies suggest that it can prevent some chemically induced cancers and it may reduce the size of tumors. One study, in humans, suggested a beneficial effect associated with the use of vitamin E in patients with superficial premalignant lesions in the mouth.

In a laboratory study using breast cancer cells, vitamin E inhibited their growth. Results of animal studies examining the effect of vitamin E on mammary cancers have been contradictory. However, it has been reported that a supplement of 800 mg per day of alpha-tocopherol, taken during radiation therapy for breast cancer, reduced side effects and improved general well-being.²⁹

A generally recommended dose of vitamin E is 100 IU per day, especially in combination with selenium (see above as part of the “triple-play”).

Resveratrol. You may recognize the name of this plant compound for its popular anti-aging claim to fame. Which may be true, and a good reason to enjoy a glass or two of red wine with dinner. However, there’s a much more intriguing potential to resveratrol you may not hear elsewhere—it’s potential to act against angiogenesis (the spread of the blood supply of tumors). This phytochemical compound is found in grape skins and grape seeds. In laboratory studies, it has shown anti-cancer effects by inhibiting the growth of over 12 different types of cancer cells, including prostate, breast, colon, pancreas, and ovarian carcinomas. It has also been shown to have potential to enhance the effects of standard chemotherapy and radiation.³⁰ Research has also shown how resveratrol may interrupt the genes involved in cell formation, initiating cell death in prostate tumors.³¹

A generally recommended dose is 500 mg per day.

Genistein is a naturally occurring isoflavonoid (plant compound) found in soy products. It has been found to have anticancer activity in multiple tumor cell types. In one study, genistein was found to inhibit blood vessel formation in melanoma cells both in vivo and in

vitro.³² It has also been found to play a potential role in cervical cancer and prostate cancer. Epidemiological studies have shown there is an inverse relationship between dietary intake of genistein and cancer incidents, including breast, colon, and prostate cancer.³³ Subsequent research has shown it can actually work against prostate cancer in multiple ways. Genistein has been shown to work directly on the cancer cells, killing them and stopping their growth. But it may also work by interfering with estrogen receptors. Genistein may also provide important protection to healthy cells when undergoing chemotherapy.

A generally recommended dose is 50 mg per day. I recommend a brand called Bonistein™ Genistein.

Piperine (*Piper nigrum*) is the compound in black pepper that gives it its kick. It has a long history of use in Ayurvedic and Southeast Asian medicine—used as a general restorative tonic. Piperine has been shown to substantially increase the body’s ability to absorb the nutrients in foods and supplements. It has been shown to work a few different ways: by interfering with the body’s ability to metabolize (or use up) substances, stimulating absorption of nutrients through the intestinal lining, and actually slowing down the action of the intestines in order to give the body more time to absorb the nutrients there. Similar to super-antioxidants that support other antioxidants, piperine can increase the effectiveness of other beneficial nutrients, including antioxidants enzymes. Research has shown it can boost the bioavailability of the cancer-fighter curcumin (see below) substantially. This is important, since curcumin is not easily absorbed by the body. In addition to these complementary effects, piperine has been shown to have direct antioxidant, anti-tumor, and anti-inflammatory properties.³⁴ A recent in vitro study showed piperine is able to directly stimulate immune cells.³⁵ And in recent tests on mice, piperine was shown to inhibit the spread of breast cancer cells in vitro and in vivo.³⁶

A generally recommended dose is 20 mg per day of a brand called Bioperine® Piperine, which is a 50:1 standardized extract of *Piper nigrum* fruit.

COMBINED EFFECTS: Double- and triple-plays with these fabulous five ingredients

The following five ingredients have the unique power to address two or all three critical cancer-fighting effects. They provide antioxidant protection, immune support, and have anti-angiogenesis effects.

**The yellow spice breakthrough:
Curcumin (*Curcuma longa*).**

Curcumin is the gold-colored curry spice commonly used in India. It has been used for centuries as a spice in foods (turmeric) and as an herbal remedy in India, Malaya, and Southeast Asia. But it has suddenly been “discovered” by modern science leading to a torrent of current research. Curcumin has been extensively researched as a treatment for cancer. Its antioxidant effects are 10 times stronger than that of vitamin E. And it has been shown to stop tumor growth.

In a review of over 728 curcumin analogs which covers the literature from 1815 to mid-2009, researchers showed that curcumin interfered with multiple cell signal pathways including the spread of cancer cells, angiogenesis, and inflammation.³⁷ Therefore, among the natural products shown to possess chemical preventive and anticancer properties, curcumin is one of the most potent.

Other recent research has shown that curcumin can help stop the spread of cancer (metastasis) by decreasing the invasiveness of cancer cells in a lung cancer model.³⁸ It has also been shown to have a direct effect against cancer cells in colon cancer, chronic lymphocytic leukemia, liver cancer and ovarian cancer. And can slow the spread of melanoma, prostate cancer, multiple myeloma, lymphoma, and others.

In one recent study, curcumin was found to be lethal to human bladder cancer cells. It induced cell death and stopped the spread. The effect of curcumin was shown to be stronger than that of cisplatin (a common chemotherapy drug).³⁹

Curcumin has also been shown to have the unique ability to help enhance the effectiveness of chemotherapy when it may otherwise fail. Multidrug resistance to anticancer drugs is a major cause of chemotherapy failure for patients. Curcumin may be used as a chemo sensitizer to make tumor cells more sensitive to the effects of chemotherapy.⁴⁰ Thus potentially lowering the effective dose of toxic chemotherapy—an example of true complementary medicine.

Studies have shown it to exhibit similar activities to those drugs that have been developed to block tumor necrosis factor, vascular endothelial cell growth factor, human epidermal growth factor, and HER2.

A generally recommended dose is 200 mg per day as a dietary supplement, although dietary intake can be higher when used as a food spice versus a supplement.

The pungent protector: Garlic (*Allium sativa*).

Unlike many other herbs, garlic, is also a biologically active *food* with presumed medicinal properties, including possible anti-cancer effects. Garlic has been found to possess over 100 constituent compounds. Some have been looked at individually, but one can't discount the potential importance of the benefits of the whole.

Clinical studies of garlic in humans address several areas including protective associations with cancer as well as clinical adverse effects. There are multiple clinical studies with promising but some conflicting results. Some data, primarily from case-control studies, suggest dietary garlic consumption is associated with decreased risk of laryngeal, gastric, colorectal, and endometrial cancer, and colon polyps.

Recent research has found that the allicin in garlic (the main ingredient in garlic that gives it its distinctive flavor) can stimulate cell death via various actions.⁴¹

In a population-based, case-control study conducted in Shanghai, China, investigators found a link between the intake of allium vegetables, including garlic, scallions, onions, chives, and leeks, and the risk of prostate cancer. Men in the highest of three intake categories of total allium vegetables (more than 10.0 grams per day) had a statistically significantly lower risk of prostate cancer than those in the lowest category (less than 2.2 grams per day). Similar comparisons between categories showed reductions in risk for men in the highest intake categories for garlic and scallions.⁴²

You can increase your garlic intake by adding it to your taste to any vegetable, fish, or meat dish. One to two cloves per day is recommended. If supplementing with a garlic extract, a generally recommended dose is 200-400 mg, two to three times per day.

**The “back from the brink” cancer weapon:
Sutherlandia frutescens (“Cancer Bush”)**

In my explorations of the silent cures of South Africa, *Sutherlandia frutescens* is regarded as one of the most potent. It has had a long but hidden history of use as a safe and effective remedy for various health conditions by all cultures in the region. It has long been used as a supportive treatment in cancer, hence one of its common names—“Cancer Bush.” It is called *Kankerbos* in Afrikaans, a dialect of the Dutch settlers. And in the indigenous *Tswana* tongue, as in Botswana, it is called “*Phetola*” which means “it changes.” And indeed the plant changes the course of many illnesses for the better.

Sutherlandia has traditionally been used for enhancing well-being, immune support, longevity, stress, depression and anxiety. It was one of the few treatments found useful during the deadly global “Spanish Flu” epidemic after WW I that killed 20 million people worldwide during 1918-19. It works by helping the body heal and restore a normal state of health (or *homeostasis*) by mobilizing its own resources to overcome many physical and mental stresses. Research studies show that it works broadly among the body systems. This indicates that it functions as an *adaptogen* (see the first issue of *Insiders’ Cures*, included with your bonus reports), as well as an immune stimulant. Studies also indicate significant antioxidant activity, another important anti-cancer property.

Cancer bush contains a substance called *L-canavanine*. This potent compound has been shown to stop pancreatic cancer cells in their tracks.⁴³ Cancer bush also contains *GABA*, which has been shown to stamp a “cease and desist” on tumor cells.⁴⁴ And clinical trials are now underway testing it against the immune system’s ultimate enemy, the AIDS virus.⁴⁵

But beyond the technical aspects of this wonder-find, there lies a mysterious aspect that could make it the “back from the brink” cancer weapon patients have been praying for. And that’s the ability of the cancer bush to halt the deadly “wasting” process that so many terminally ill patients experience. This wasting away is called *cachexia*.

The presence of cachexia in cancer patients has long been understood to mean that cancer is a metabolic disorder, systemically throughout the body, rather than being just the presence of a malignant tumor. Therefore, a natural product like Sutherlandia, which also acts as an adaptogen, can show potential benefits over an approach to just killing cancer cells. Accordingly, it functions as an appetite stimulant in wasted patients, but not in healthy people. Dr. Credo Mutwa, one of South Africa’s most respected healers, has seen patients who weighed as little as 57 lbs turn the tides and reach 100 lbs in just 7 months.⁴⁶

A generally recommended dose is 600 mg per day of *Sutherlandia frutescens* leaf extract.

The Mother’s Day cancer crusher: Chrysanthemum

Chinese medicine also offers complex mixtures of active herbal remedies for cancer. One interesting and important ingredient is Chrysanthemum. Chrysanthemum is better known in the West as a simple decorative, hardy flowering plant. But the chrysanthemum itself is full of at least 15 different active and potent phytochemicals. Many

of these phytochemicals act as pesticides to discourage predators, so it’s not surprising that it would contain compounds that have anti-cancer properties. It is also a hardy plant, well known for its ability to withstand cold and continue to bloom even after other plants have closed down for the autumn and winter.

Chrysanthemum is a powerful symbol in Chinese and Japanese culture. It is often used as a tea in ceremonial occasions. Often a plant that is revered for its symbolic or iconic significance also has constituents that are very powerful herbal remedies. I recognized this common property of medicinal plants early in the development of medical anthropology in the early 1980’s.⁴⁷

Scientifically, Chrysanthemum moriflorium flowers have demonstrated various anti-cancer effects specifically against prostate cancer.⁴⁸ In Chinese medicine it is used for prostate cancer and prostate health together with reishi mushroom (*Ganoderma*), licorice root (*Glycyrrhiza glabra*), saw palmetto (*Serenoa repens*), and the adaptogen Sanchi Ginseng (*Panax pseudoginseng*).

Chrysanthemum and seven other active natural products were once available in the traditional Chinese combination remedy known as PC-SPES. In one of their rare, but still misguided, attempts to test a truly innovative approach to cancer, the NIH unwittingly used contaminated PC-SPES and had to halt their study, wasting more taxpayer dollars and a golden opportunity to expand the cancer treatment frontier. As a result of the contamination of the PC-SPES being tested, it was pulled off the market and is no longer available. Which is a shame, considering it was exceptionally effective. Particularly for re-differentiation, or returning cancerous cells back to a normal, healthy state.

However, similar, equally promising formulations made by different companies are now available. Chrysanthemum is included in a formulation called PC-CARE.

Treatment with PC-CARE or similar formulations should be individually monitored and sought from a qualified and knowledgeable traditional Chinese medical practitioner. Such practitioners may be found in Chinatowns in major urban areas and even some modern university hospital settings in the U.S.

The Middle-Eastern marvel: Black cumin (*Nigella sativa*)

Black cumin (*Nigella sativa*) is an annual flowering plant found in South and Southwest Asia. It is also called fennel flower, nutmeg flower, Roman coriander, black caraway seed, or black coriander, and sometimes onion

seed or black seed. It is regarded as one of the greatest of all medicinal herbs in Islam. Modern research is actively investigating its anti-cancer properties. An extract has recently been found to be effective against pancreatic cancer in the laboratory. Pancreatic cancer is a notoriously difficult cancer to treat. So the potential of black cumin is giving researchers hope in finally finding an effective natural remedy.

Researchers at the Kimmel Cancer Center at Thomas Jefferson University in Philadelphia, with whom I used to work, have found that thymoquinone, an extract of *nigella sativa* seed oil, blocked pancreatic cancer cell growth and killed the cells by enhancing the process of programmed cell death. Using a human pancreatic cancer cell line, researchers found that adding thymoquinone killed approximately 80 percent of the cancer cells, but presumably without the toxic side effects of chemotherapy.⁴⁹

Black cumin seed supplements are available in some natural food stores, vitamin shops, and from online supplement retailers. A good general dose is 500 mg per day.

There is more to consider when it comes to fighting cancer. You've read about some heavy-hitters here, but there are many other specific nutrients, plant compounds, as well as mind-body therapies that when combined can have added benefit. You can find most of these products on your own—most now readily available at health food stores, and some of the more basic even at the grocery store and natural food stores.

If you want to help lower your risk for developing cancer you can use good quality supplements on your own following these guidelines. If you are suffering from cancer, or recovering from cancer or the toxic effects of mainstream cancer therapy, work with a qualified practitioner to find the approaches that are right for you.

Beyond diet, nutrition, and dietary supplements, mind-body therapies are very effective for cancer patients and cancer survivors as true complementary medicine. An important step is to determine which mind-body therapies will work for you, and it is important to learn your “emotional type” by taking my simple survey in my book with Mike Jawer, *Your Emotional Type* (available through www.DrMicozzi.com or at your local bookstore).

If you have cancer or are a cancer survivor, don't try to conquer cancer on your own. It requires support from friends, family, and knowledgeable health practitioners.

For more detailed information on complementary approaches to cancer, see my handbook geared toward prac-

tioners, *Complementary & Integrative Medicine in Cancer Care and Prevention*, New York: Springer, 2007.

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