



# Conquering Cancer™ Digest

BY NATHAN CRANE

## Even 1 Glass of Red Wine Per Day Increases Your Cancer Risk

BY NATHAN CRANE

If you've been allowing yourself a glass or two of wine every day because it's "good for your heart," I'm afraid I've got some bad news for you. It turns out that the well-established myth that low to moderate alcohol consumption poses few health risks and may even improve our heart health is just that... a myth.<sup>1,2</sup>

The notion that having a little bit of alcohol had health benefits was based on initial observations from a study of participants in the UK Biobank, a large-scale biomedical database and research resource containing information on nearly 400,000 adults. Light to moderate drinkers were reported to have the lowest risk of heart disease... even lower than people who completely abstained from alcohol!

However, a more in-depth analysis of the same study revealed that light to moderate drinkers tended to have healthier lifestyles than abstainers

– including more physical activity and vegetable consumption, and less smoking – which was probably the real reason why they had better heart health.<sup>1, 2</sup> In other words, it wasn't the alcohol that made them healthier, it was their other behaviors.

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# All Alcohol Consumption Increases Cancer Risk, Period

Conclusive evidence had already emerged back in 2016 that **alcohol consumption is a direct cause of multiple forms of cancer** and that people consuming even low to moderate amounts of alcohol were at risk.<sup>3, 4</sup>

Similarly, a 2020 Canadian study by the World Health Organization's International Agency for Research on Cancer (IARC) shows a clear link between alcohol consumption and a substantially higher risk of getting several types of cancer.<sup>5, 6</sup> **Increased risk was evident even among light to moderate drinkers who consumed up to two drinks a day and represented one in seven of all new cancers** in Canada in 2020 and more than 700,000 cases worldwide.

Even just one standard-sized glass of wine consumed every day was linked to a six percent higher risk for developing female breast cancer!<sup>6</sup>

Globally, alcohol use was linked to an estimated 741,300 new cases of cancer in 2020,<sup>6</sup> including:

- 24%** of breast cancer cases
- 20%** of colon cancers
- 15%** of rectal cancers
- 13%** of oral and liver cancers

Professor Dame Sally Davies, England's chief medical officer, reportedly told a parliamentary hearing in 2016, "Do as I do when I reach for my glass of wine. Think: do I want the glass of wine or do I want to raise my own risk of breast cancer?"<sup>3</sup>



# How Does Alcohol Cause Cancer?

According to Dr. Kevin Shield, Independent Scientist at the Institute for Mental Health Policy Research and co-author of the IARC study, alcohol causes cancer in multiple ways.<sup>5</sup>

Alcohol causes cancer mainly by impeding an essential process known as DNA repair in our body's cells. Chronic alcohol consumption can also cause liver cirrhosis, a dangerous disease marked by cellular degeneration, extensive inflammation, and fibrous thickening of liver tissue.

Alcohol is also known to **interfere with the normal regulation of our sex hormones, increasing the risk of breast, ovarian, and**

**cervical cancer.** In smokers, alcohol increases the risk of head and neck cancers, because it enhances our body's absorption of toxic carcinogens from tobacco.

## Cutting Back on Alcohol Consumption Is Beneficial for Everyone

In 2020, an estimated 4.1% of all new cases of cancer worldwide were attributable to alcohol consumption. Yet, according to Dr. Isabelle Soerjomataram, Deputy Branch Head, Cancer Surveillance Branch at IARC, "...the impact on cancers is often unknown or overlooked, highlighting the need for implementation of effective policy and interventions to increase public awareness of the link between alcohol use and cancer risk, and decrease overall alcohol consumption to prevent the burden of alcohol-attributable cancers."<sup>5</sup>

On a more positive note, drinkers who gave up alcohol were seen to reverse their risk of getting certain cancers.

The longer they avoided alcohol, the greater the risk reduction observed.<sup>3</sup>



Clearly, we can all benefit by cutting back (or out) our alcohol intake, rather than ascribing to the current recommendation of simply limiting ourselves to one to two drinks daily.

Challenge yourself to alcohol-free days. Other helpful suggestions for cutting back include swapping every other alcoholic drink for sparkling water, choosing smaller servings or less alcoholic versions of drinks, and not keeping a stock of alcohol at home.





## Digging Deeper into the UK Biobank Study

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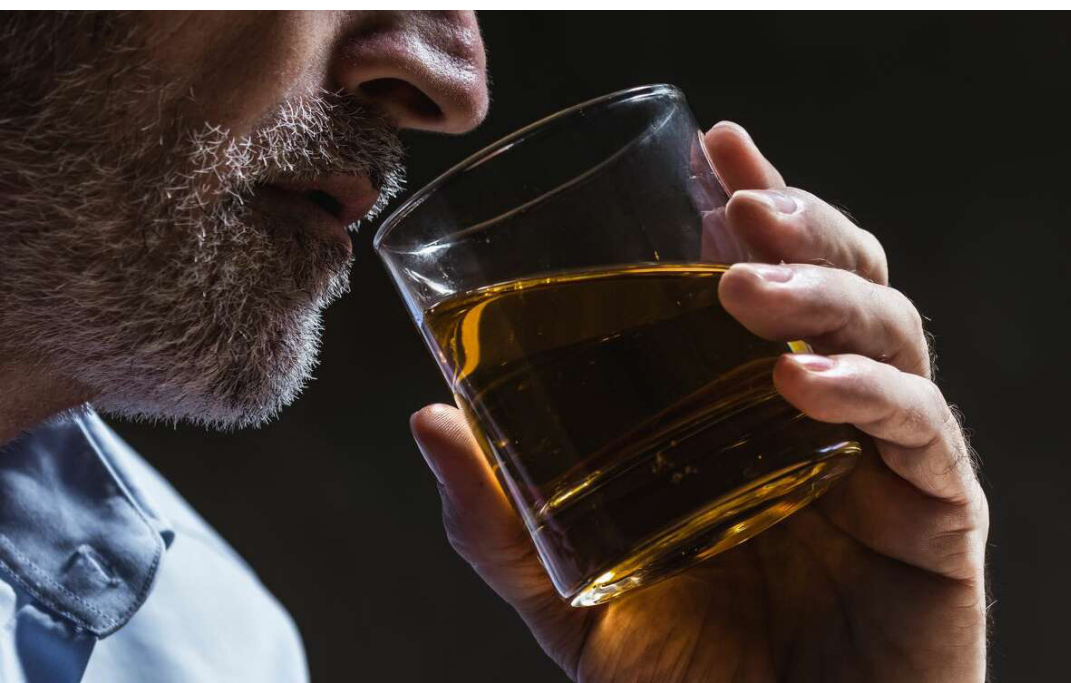
Genetic analysis of the UK Biobank study confirmed that individuals with a genetic predisposition for higher alcohol consumption were indeed more likely to consume more alcohol. At the same time, they were also more likely to develop high blood pressure (BP) and coronary artery disease.<sup>1,2</sup>

Promisingly, only minimal increases in cardiovascular risk were seen in individuals who consumed between zero to seven drinks per week. Greater increases in risk were seen in individuals who consumed seven to 14 drinks per week, while the highest risk was reported in those who consumed 21 or more drinks per week.

Notably, the in-depth analysis detected **an increase in cardiovascular risk even at levels currently deemed “low risk”, based on national guidelines** from the U.S. Department of Agriculture (USDA).<sup>1</sup> Clearly, these guidelines, which specify less than two drinks per day for men and one drink per day for women, are insufficient.<sup>1,2</sup>

Interestingly, data obtained from an additional 30,716 participants in the Mass General Brigham Biobank showed that the relationship between alcohol intake and cardiovascular risk is not linear, but exponential.

Therefore, cutting back is likely to benefit even those people who only drink one alcoholic beverage every day. Naturally, the health gains of cutting back are likely to be more substantial in those who habitually consume more alcohol. In other words, alcohol consumption is not to be recommended as a means to improve heart health. Instead, **reducing or completely eliminating alcohol intake is the ideal way to lower cardiovascular risk in all individuals.**



BOTTOM LINE:  
Even Light to  
Moderate  
Alcohol  
Consumption  
Is Associated  
with Greater  
Cancer Risk

According to Dr. Jürgen Rehm, Senior Scientist at the Institute for Mental Health Policy Research and Campbell Family Mental Health Research Institute, research into the link between light to moderate drinking and cancer is relatively new.<sup>5</sup> Unfortunately, public policy does not yet reflect a proper awareness of the degree of cancer risk associated with alcohol consumption.

Dr. Rehm recommends raising taxes on alcohol, along with limiting its physical availability and marketing. He would also like governments to consider requiring manufacturers to include information about health and safety risks associated with alcohol consumption, including cancer risk, on alcoholic beverage labels.



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# Are You Incorporating CAM Into Your Cancer Healing?

Complementary and alternative medicine (CAM) are therapies and practices that are not part of conventional medical care. Under the umbrella of CAM, **complementary medicine** is used *together with* conventional medicine, while **alternative medicine** is used *in place of* conventional medicine.

Other terms for conventional medicine include Western, allopathy, mainstream, orthodox, and regular medicine.

**Integrative medicine** does just what its name suggests... it integrates (combines) conventional medicine with CAM practices that are shown to be safe and effective, with an emphasis on treating the whole person.<sup>1</sup> The potential benefits of such a holistic approach are currently being assessed in situations such as pain management and relief of symptoms, for example in cancer patients and survivors.



# Types of CAM Include: <sup>1</sup>

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## **Traditional alternative medicine**

This includes acupuncture, Ayurveda, homeopathy, naturopathy, and traditional Chinese medicine (TCM).

## **Healing by touch**

This approach is based on the concept that illness or injury in one area of the body affects all other parts. If other areas of the body can be brought back to optimum health with manual manipulation, then the body can focus on healing itself. Examples include chiropractic and osteopathic medicine, massage, and body movement therapies such as yoga.

## **Diet & herbs**

Our diet overall has become more complex and varied, but also less nutritious. Caloric excess combined with nutritional deficiency has resulted in the increased prevalence of many chronic diseases, whose risk can be lowered via dietary supplements and herbal medicine.

## **Application of external energy**

This approach is based on the concept that external energies can benefit health. Such therapies include electromagnetic therapy and Reiki.

## **Mind**

Many practitioners of conventional medicine recognize the power of the mind-body connection and accept that people heal better when they are emotionally healthy. Such therapies include meditation, biofeedback, and hypnosis.

## **Stimulation of the senses**

Stimulating the senses, including touch, sight, hearing, smell, and taste, may influence overall health. Therapies incorporating the senses include art, dance, and music, as well as visualization and guided imagery.

Then there are practices such as **Tai Chi** and **Qigong** which combine more than one of these elements. *See page 11 for an interview with Dr. Roger Jahnke, Director of the Institute of Integral Qigong and Tai Chi for a wonderful explanation of the differences between Tai Chi and Qigong and a guided healing practice.*

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Many CAM therapies can help manage cancer symptoms and side effects of treatment. Because they can have great healing benefits we have and will continue to delve into many of these practices in the *Conquering Cancer Digest*.

It is important to note, however, that the National Center for Complementary and Integrative Health **cautions that some CAM approaches may interfere with conventional cancer treatment or have other risks.** They recommend that people who have been diagnosed with cancer should consult their health care providers before using any complementary health approach.

According to a 2012 survey, around 30% of American adults and 12 percent of children used CAM health care practices in the previous 12 months. When megavitamin therapy and prayer specifically for health reasons were included in the definition of CAM, the percentage of adults using CAM rose to 62%.



## Types of CAM Therapies Commonly Used in the U.S.

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Acupuncture*	Guided imagery	Naturopathy*
Ayurveda*	Homeopathic treatment	Prayer for health reasons
Biofeedback*	Hypnosis*	Progressive relaxation
Chelation therapy*	Massage*	Qigong
Chiropractic or osteopathic manipulation*	Meditation	Reiki
Deep breathing exercises	Megavitamin therapy	Tai chi
Diet-based therapies	Movement therapies	Traditional healers*
Energy healing therapy/ Reiki*	Natural products (nonvitamin & nonmineral, such as herbs and other products from plants, enzymes, etc.)	Yoga
Folk medicine		<i>*uses a practitioner</i>



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# Ancient Healing Practice of Tai Chi and Qigong

BY NATHAN CRANE WITH DR. ROGER JAHNKE

The following is a condensed version of my interview with Dr. Roger Jahnke, doctor of Oriental medicine, for the Healing and Awakening Global Summit. Dr. Jahnke is the director of the Institute of Integral Qigong and Tai Chi and co-founder and recent chairperson of the board of the National Qigong Association. He serves as a consultant to hospitals, social service agencies, and corporations in Complementary and Integrative Medicine (CAM / IM), wellness, and medical cost reduction. Dr. Jahnke is the author of *The Healer Within* and *The Healing Promise of Qi*.



**Nathan: What was it that led you to Eastern medicine and the great work that you've been doing now for over four decades?**

**Dr. Jahnke:** We all have our interesting trajectories for how we end up doing what we're doing. I'm from a place called Cincinnati, Ohio. My dad died when I was a younger person, around age 10, and I decided at that point that instead of being a baseball player for the Cincinnati Reds, that I would be a doctor. And so I went to pre-medical school and found it... well, it was distressing because I was looking for how to prevent disease. And the claim of most of the people that I asked about prevention was, "Well, we don't do prevention. We're doctors, we diagnose and treat diseases," and that really caught my attention and I actually kind of got depressed about it.

It was the year 1966 or so and I was kind of rebellious anyway, so I dropped out of medical school and went to comparative world literature, where the first book that we read was called *Tao Te Ching*. A 2,500 year old book of wisdom from the shamanic era of the Chinese tribes. And one of the things that I read in that book got my attention so that I basically said, "I want to be a doctor of this". It's basically Chinese philosophy but I interpreted that as meaning becoming a doctor of Chinese medicine, which was a fascinating experience.

By the way, "prevention" is the negative word because it means prevent disease. The positive words are health resiliency maximization, or you could call that wellness

enhancement, or sustainable wellbeing-based living. We think of the society that we live in as supposedly the most sophisticated society that's ever inhabited the earth. But actually, would you just look at healthcare or what we call healthcare, which is really a code word for "medical intervention financing." If you just look at that system, we realize that a massive percent of our attention, our money, and our fear goes to something that isn't even that useful, while prevention and health sustainability is everything.



Everybody can do Qigong because Qigong can be done lying down, by people who can't get up, and can be done by sitting, for people who can't stand. It can be done standing by people who need to hold on to something. They stand next to a wall or stand next to a chair, and some forms of Qigong are even walking forms. Tai Chi, which is a kind of Qigong or a very, very, very close brother and sister with Qigong, is a walking form, but Tai Chi can be modified to be done like Qigong, and even lying down.

So, Qigong is like the magic. The most eloquent system for self-health resiliency maximization, which includes not just physical but also mental, emotional, and even spiritual. Integrating what are called the three treasures.

**Nathan:** Can you talk a little bit more about how you came into learning Qigong and teaching it? I know you certify teachers as well, if you can talk about that.

**Dr. Jahnke:** How I transitioned from clinical practice of Chinese medicine to being the director of a Qigong and Tai Chi training and research institute is that in my medical practice people would come and say, "I have this problem. Can you estimate how many treatments I'll need and how much that's going to cost?" I would do that and then sometimes people would say, "Well, my insurance probably isn't going to pay for this and I can't afford it. So, you know, bye-bye."

I would say, "Well, let's don't bye-bye. Why don't you join us on Wednesdays for our community practice session, which has a cost of \$5?" This person would be kind of bummed out and leave, and then come on Wednesday and pay \$5 to practice Qigong with a community of other people practicing Qigong. On a number of occasions that same person would come back to me and say, "You know that thing that you were going to treat me for that was going to cost more than \$1,000? Well, I'm better. At \$5 a week, that cost me \$200."



That really started to bother me that people could cure themselves or heal themselves, or recover their wellbeing without having to have treatments. Chinese medicine is very much about educating people to be well. So they'd have this health problem, I'd give them acupuncture, herbs, Chinese physical therapy and so forth, and then they would just say, "Basically, I'm sick, you're the doctor, you fix me, I'll give you the cash. And that'll be that."

Over in the community practice session, people were hungry for knowledge. So over here, I've got maybe 15 or 20% of the people who are hungry for knowledge in my clinical practice. And over here, I've got a hundred percent of the people in the community practice session who are hungry for knowledge.

I got so tired of these people over here who just wanted to hire a fixer I decided that I wanted to hang around with these people over here. And so I started being a teacher of Qigong more, and wrote a couple of books. And then eventually I thought, "Just do the math. If you can teach a hundred people a week, what would happen if you trained thousands of people to teach a hundred people a week?" So the exponential number just suited my sort of sense of social responsibility. So that's how I got transitioned out of doctoring on a regular basis and more into the power of Qigong.



I'm interested in supporting people in liberating themselves from the opinions of anyone else and coming under the auspices of their own wisdom. Which can be gained by learning to quiet down, be less distracted, learn how to take care of ourselves; learn how to be more resilient.

**Nathan: Why does Qigong work? Why do people start seeing chronic diseases go away and see their health improve and their immune systems increase, and their infection rates decrease? Explain the essence of why this actually works and helps us heal.**

**Dr. Jahnke:** In the Chinese tradition it all works because you're harmonizing the Qi. So then we have to ask the question, what is Qi? And Qi is basically present everywhere in the cosmos. So when I wave my hand through the air, I'm waving my hand through the Qi. And when I place my hand on my heart, I'm bringing my hand Qi into proximity with my heart Qi. And when I take a deep breath and then exhale very slowly, I'm having an influence on the interface between this cosmological presence and my local self.

The sort of interface between the cosmological presence and the local self is called the Qi channels, sometimes called meridians. So there's Qi in the cosmos, it's present in the human system. It is resonant and operating as a function of its relationship with the human system. If the human system is allowed to depreciate, the Qi becomes deficient and what's called stagnant or blocked. So this Qi is everywhere. And our job as a human is to allow

the Qi to do what it does best.

The baseline on how all this stuff works, from the Chinese point of view, is that we are proper stewards of our relationship with the cosmological field and how the cosmological field supports us in our thriving. The Qi functionality is the same or very similar to metabolic and mental emotional functionality. So when the organs are harmonized in their functionality and they are at peak capacity, then we are cooperating with the presence of Qi within us. When we get stressed, when we eat food that's not really food, when we believe that somebody else is in control, all of that depreciates metabolic capacity. All of that can work against the capacity of the organs to do what they do.

We've got channels or fields of energy operating within the body. And those fields of energy are then focused on organs. And then organs are focused on function. And so everything, from the balancing and harmonizing of homeostasis, which is the autonomic nervous system, parasympathetic and sympathetic, and then going towards producing different types of neurotransmitters.

Adrenaline-based neurotransmitters get things done. We can run on adrenaline but we also depreciate reserves when we're spending our energy making adrenalin and spending adrenalin. Whereas the other side of the nervous system, the parasympathetic, is associated with rest, restoration, rehabilitation. Those neurotransmitters are based on choline. When you are producing acetylcholine-based neurotransmitters, that's going to be

endorphins which can neutralize pain. And oxytocin, which neutralizes fear and anxiety. And serotonin, which is for well-being. When we go to sleep, we organize our sleep through the development of the presence of serotonin molecules. And then it goes even further to the genes.

There's now lots of study on the extent to which eliciting the relaxation response has an influence on the telomeres of the genes. The telomeres are the part of the gene that is the fuel for cell replication and for gene expression. When your telomeres shrink, it's like the gas in a gas tank. When the gas is all gone, the car stops. When the telomere has been used up, spent, the capacity for the cell to replicate goes to zero. How many cells in your liver can go to zero before your whole body shuts down? How many cells in your cardiovascular complex can go to zero capacity to replicate before they stop working? What about your brain? How many brain cells can you afford to not replicate given the fact that cells are replicating all the time and that's how we sustain ourselves? So that's how it works.

**Nathan: What is the difference between Qigong and Tai Chi?**

**Dr. Jahnke:** Qigong is old. Tai Chi is a practice. Tai Chi is a phenomena. The concept of Tai Chi is ancient but the use of the word Tai Chi to describe a practice is new. So Qigong is ancient and nobody even knows when it began. It's probably at least 50,000 years.

The human gene is three million years old. At what point did humans start to figure out that

they want to stay fit and be able to defend themselves? And defend themselves not only in war but also defend themselves by being peaceful and building their immune system, and their functional capacity?

Qigong is a very quieting practice, usually. We do types of Qigong that make sounds, we do types of Qigong that are more vigorous, faster. That kind of thing where the sounds and movement, and breath are all being combined. But mostly what we're trying to do is activate a metabolic process in a relaxed state and be relaxed. Qigong has the capacity to affect the autonomic nervous system, as I just described, to make what we call at the Institute of Integral Qigong and Tai Chi, the medicine within.

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**The most profound medicine is produced within the human body for no cost and Qigong is a power tool for that.**

Tai Chi is the same in a way because it has body practice, breath practice, and mind focusing practice. That's the three parts of Qigong, the three parts of yoga; they're called the three treasures in China. Tai Chi and Qigong are the same in that they have those three parts. But Tai Chi is more complex because with Tai Chi, you use your hands and your feet at the same time. So imagine having one hand in one position and moving the other hand in another position, doing something else. And at the same time, you have your weight on one foot, and another foot is stepping. It's quite complex and therefore it requires a lot of brain power and coordination of the nervous system.

So the simple answer, between Qigong and Tai Chi is that Qigong is usually done sitting and standing or lying down. Tai Chi is usually done walking. That's a big difference. Qigong is stable, it doesn't usually go anywhere. And Tai Chi is those foot movements as well as the arm movements. But the most important difference is that Qigong soothes the autonomic nervous system, harmonizes homeostasis, and raises the extent to which choline-based healing neurotransmitters are present within the system. Whereas Tai Chi is more focused on brain plasticity.

Learning Tai Chi is novel and unusual and the most powerful part of brain plasticity is novelty; doing new things. So learning to dance or learning any new thing is always going to be very good for brain plasticity. The extent to which novelty is engaged in learning Tai Chi is high so it has a big effect on brain plasticity.

So Qigong, soothing and healing and Tai Chi, brain plasticity. Eventually, when we relax into Tai Chi, it becomes less novel and more soothing and so then Tai Chi becomes kind of like Qigong.

**Nathan:** I love how you explain the difference because it makes it very clear. You had offered to guide our viewers and listeners through a short, simple Qigong practice. I'd love for you to guide us through that.



**Dr. Jahnke:** The foundation of Qigong is the three treasures. The three treasures are not only posture, breath, and mind, but the three treasures are also associated with the body function, the mind function, and the spirit function; these three. The idea is to be able to harmonize and integrate, and bring the body, mind, spirit or three treasures of oneself into integrative coherence.



**Nathan:** I'm just soaking in the peace of the Qi right now. It was a beautiful practice. For me, just the feeling of peace and calmness. The question that came up in my mind was, "Why doesn't everybody around the world know about Qigong?"

**Dr. Jahnke:** Well, that's what we're doing right now is we're making sure that everybody does. There's an idea that older people should do slower practices and younger people should do Kung Fu, and I disagree. I think that younger people do really well learning early in their life how to stop. And I think older people really do well in staying flexible and able by whatever the choice of their exercise is.

For me because of my being steeped in Chinese medicine, I love Kung Fu. So I'm inviting everyone to look at the spectrum between quiet sitting, quiet sitting with a little movement, Tai Chi, which is in the middle between movement and stillness, and then moving towards more movement. Every citizen is invited to explore sitting still and being quiet and to explore being explosive and active, and weaving those all together into a personal practice.



**Nathan:** I just want to thank you for your decades of research and dedication to this field and for all the people you've helped train and helped bring these teachings out to the world. I have this feeling that Qigong is going to become as well-known as yoga has here in the West. And I think we as a humanity and as a society can benefit greatly from these teachings and from this practice. So, thank you for what you do and thank you for being here and sharing your wisdom with all of us.

**Dr. Jahnke:** You are so welcome. And before we go, I just want to say one thing about making Tai

Chi easy. I work with an organization. It's a 501 (c) (3) nonprofit called The Healer Within foundation. So look up "Tai Chi Easy", which is a combination of Qigong and Tai Chi, with all the benefits of both that we talked about. And in a context where we're disseminating Tai Chi Easy to populations of people who would otherwise not have access. So it's a really powerful, exciting initiative that we have going. And be sure that people have a look at [healerwithinfoundation.org](http://healerwithinfoundation.org). Nathan, thank you so much. I wish you many blessings and a blessing for everyone out there.



# Quick Broccoli & Edamame Soup

BY JOEL FUHRMAN, M.D.

**SERVES: 6**

## Directions

Simmer all ingredients, except for cashews, collard greens, white beans, and lime juice, about 45 minutes or until vegetables are tender.

In blender, puree cooked ingredients and cashews with just enough soup liquid to liquefy. Simmer collards in remaining broth for 10 minutes. Add pureed mixture, beans, and lime juice to greens and broth. Mix thoroughly, reheat and serve.

**PER SERVING:** Calories 246, Protein 13 g, Carbohydrates 37 g, Sugars 5 g, Total Fat 7 g, Saturated Fat 1 g, Cholesterol 0 mg, Sodium 179 mg, Fiber 11.4 g, Beta-Carotene 11715 ug, Vitamin C 65 mg, Calcium 275 mg, Iron 4.8 mg, Folate 226 ug, Magnesium 126 mg, Potassium 915 mg, Zinc 2.1 mg, Selenium 6.1 ug

## Ingredients

- 4 ounces frozen chopped onions
- 8 ounces frozen broccoli florets
- 1 cup frozen edamame beans
- 3 tablespoons Dr. Fuhrman VegiZest or other no-salt-added seasoning, adjusted to taste
- 2 cups carrot juice
- 3 cups low-sodium or no-salt-added vegetable broth
- 4 cloves garlic, pressed or minced
- 1/2 teaspoon ground ginger
- 1/2 cup raw cashews
- 16 ounces frozen chopped collard greens
- 1½ cup cooked white beans (navy or cannelloni) or 1 (15 ounce) can low-sodium or no-salt-added beans, drained
- 1 tablespoon fresh lime juice





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# Isoflavones in Fermented Soy: Natural Anti-Cancer Compounds

BY NATHAN CRANE

Phytoestrogens are biologically active, estrogen-like compounds that are naturally present in fruits, vegetables, legumes, and whole grains.<sup>1</sup> One prominent type of phytoestrogen is isoflavones.

Isoflavones can cause a number of estrogen-like and/or anti-estrogenic effects in the body.<sup>2</sup> Studies show that **dietary phytoestrogens can play an important role in lowering the risk of menopausal symptoms, osteoporosis, heart disease, and hormone-associated cancers.**



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Both flavones and isoflavones appear to play a prominent role in lowering cancer risk.<sup>4</sup> For instance, consumption of foods rich in isoflavones, such as soy, have been linked to lower cancer rates. **These natural bioactive compounds appear to act against cancer via multiple mechanisms.**<sup>4</sup>

**Estrogen** is a category of sex hormone responsible for the development and regulation of the female reproductive system and secondary sex characteristics. There are 3 types of estrogen:

- (E1) estrone – dominate in postmenopausal women
- (E2) estradiol – the major form of estrogen
- (E3) estriol – mainly present in pregnant women

An **anti-estrogen** is a substance that blocks the body's production or utilization of estrogens or inhibits their effects.

Premenopausal women have higher circulating levels of estradiol (the major form of estrogen) and thus isoflavones may act more like an anti-estrogen. In postmenopausal women who have lower estrogen levels, isoflavones may act more like an estrogen.<sup>3</sup>



# Flavonoids vs Isoflavonoids

## Flavonoids

## Isoflavonoids

### Definition

Flavones are a group of flavonoids that have the 2-phenylchromen-4-one backbone in their chemical structure

Isoflavonoids are a group of flavonoids that have the 3-phenylchromen-4-one backbone in their chemical structure

### Antioxidant Activity

Have less antioxidant activity compared to isoflavonoids

Have higher antioxidant activity compared to flavonoids

### Classified Members of the Group

Includes flavonones, flavones, flavonols, flavan-3-ols, and anthocyanidins

Includes isoflavones, isoflavonones, isoflavans, pterocarpans, and rotenoids

### Examples

Quercetin, myricetin, hesperitin, catechin, etc.

Genistein, daidzein, homoisoflavonoids, etc.

Source: <https://www.differencebetween.com/difference-between-flavonoids-and-isoflavonoids/>

## Glossary of Plant Compounds<sup>5,6</sup>

**Phytonutrients** – chemicals found in plants (Phyto is Latin for plant).

**Flavonoids (aka bioflavonoids)** – a type of antioxidant found in plants. Commonly found in the leaves, bark, roots, flowers, and seeds of plants.

**Isoflavonoids** – Another type of antioxidant found in plants. They have a different chemical structure than flavonoids. Because their biological effect is via the estrogen receptor, they are also referred to as “phytoestrogens”.

**Flavones** – a class of flavonoids. They differ from other flavonoids due to their chemical structure. They are the primary pigments in white- and cream-colored flowers and act as co-pigments with anthocyanins in blue flowers.<sup>7</sup>

**Isoflavones** – a type of isoflavonoid found in legumes, including soybeans, chickpeas, fava beans, pistachios, peanuts, and other fruits and nuts. Soybeans are the richest source of isoflavones.<sup>8</sup> There are several types of isoflavones, including genistein and daidzein.

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Soybeans and other legumes are especially enriched in the isoflavones genistein, daidzein, glycitein, formononetin, and biochanin A.<sup>2</sup>

Isoflavones, being estrogen-like in their structure and size, bind to so-called “receptor proteins” that estrogen would normally bind to and activate. There are two types of estrogen receptors (ER):

- ER-alpha
- ER-beta

**ER-alpha is known to play a prominent role in the breast and uterus, along with maintaining bone and metabolic health, while ER-beta manages various aspects of the central nervous system and immune system.<sup>9</sup>**

Interestingly, ER-beta also appears to counteract excess cell proliferation triggered by ER-alpha in the breast and uterus. This is important because ER-alpha overactivation has been shown to promote cancer formation and growth, while ER-beta activation appears to counter this.<sup>9,10</sup> The soy isoflavones genistein and daidzein are known to preferentially act via ER-beta.<sup>11</sup>





## The Trouble With Hormone Replacement Therapy

Hormone replacement therapy is used to replace falling levels of estrogen in menopausal women. However, **hormone replacement therapy is known to increase the risk of breast and endometrial cancer, as well as of thromboembolisms** (formation of clots in blood vessels, obstructing blood flow) and strokes in menopausal women.<sup>12</sup>

On the other hand, phytoestrogen consumption after adolescence has been shown to:

- Protect against endometrial and breast cancer <sup>13,14</sup>
- Reduce intensity and frequency of hot flashes and other menopausal symptoms <sup>9</sup>
- Improve sleep and cognition
- Improve bone health and lower osteoporosis risk, and
- Reduce vaginal atrophy.



As mentioned earlier, beans and legumes – especially soybeans – are the best dietary sources of isoflavones and fermentation makes them even more potent.

Fermenting soy transforms its isoflavone compounds into metabolites known as isoflavone aglycones, which are **absorbed faster and in amounts up to 5 times greater** when we consume them.<sup>15,16</sup>

# Isoflavones Help Prevent Cancer Cell Growth

Isoflavones interfere with multiple aspects of uncontrolled cell cycle progression in cancer cells, slowing down or completely stopping their rapid rate of cell division.<sup>17</sup>

It has been shown to both prevent proliferation and induce apoptosis (programmed cell death) in cancer cells in culture. For instance, treatment of cervical cancer cells with a soy-derived isoflavone mixture<sup>18</sup> and ovarian cancer cells with genistein<sup>19</sup> was seen to prevent proliferation and induce apoptosis.

In animal experiments, treatment with genistein was also seen to prevent proliferation

and induce apoptosis via activation of the ER-beta receptor in intestinal cancer cells.<sup>10</sup>

“

**Of all the isoflavones, genistein, the main soy isoflavone, appears to be the most potent for the prevention and effective management of cancers.**

Genistein also inhibits NF kappa B, an important cellular protein that controls the expression of many pro-inflammatory genes and proteins.<sup>13</sup> NF kappa B is known to be permanently “switched on” in many cancers, which has been linked to both increased angiogenesis (formation

of new blood vessels to supply oxygen and nutrients to the growing tumor) and metastasis (migration of cancer cells from their site of origin to other areas of the body, usually with fatal consequences).



# Genistein Can Help Conventional Cancer Treatment Work Better

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Genistein, along with other isoflavones, has been shown to potently block both angiogenesis and metastasis.<sup>20, 21</sup>

**Genistein also shows additive effects with standard anticancer drugs, along with sensitizing cancer cells to chemotherapy and radiotherapy.**<sup>20</sup>

The actions of the two isoflavones genistein and daidzein, as well as their combination, were assessed and compared on androgen-dependent prostate cancer cells, as well as androgen-dependent prostate cancer cells that had migrated or metastasized to bone.<sup>22</sup> Promisingly, genistein and daidzein showed additive effects in preventing proliferation and inducing apoptosis in both these variants of prostate cancer cells. Overall, **soy extracts that contain a combination of various isoflavones seem to be safer and more effective as anticancer agents than individual isoflavone compounds.**<sup>23</sup>

Prostate cancer is the second most commonly diagnosed cancer in men. South and East Asians consume soy foods regularly, which is believed to play a role in the lower incidence of prostate cancer seen in these countries. According to a meta-analysis of 30 articles, **the consumption of soy-based foods and the isoflavones genistein and daidzein may be linked to a lower risk of prostate cancer.**<sup>24</sup>





Pancreatic cancer is the fourth most common cause of cancer-related mortality in the US and Europe, with a poor 5-year survival rate using conventional treatment. A major challenge in its treatment is the high resistance of pancreatic cancer cells to apoptosis. Therefore, making pancreatic cancer cells more sensitive to apoptosis is likely to be a successful strategy to combat pancreatic cancer and increase the chances of patient survival.

In a laboratory study, the effects of a soy isoflavone beverage (Haelan 951) along with a calpain inhibitor was assessed on the viability, growth, and apoptosis of human and rat pancreatic cancer cell lines.<sup>25</sup> The beverage on its own was **seen to cause significant growth inhibition (i.e., stopped cancer cell growth) in both human and rat pancreatic cancer cell lines**, whereas control cells remained unaffected. At the same time, the beverage induced apoptosis in all cell lines, including the controls.

Calpains are a family of calcium-dependent enzymes present in all our body's cells. The addition of a calpain inhibitor to the soy isoflavone beverage in the above study amplified growth inhibition in human, but not in rat pancreatic cancer cell lines. Calpain inhibition also amplified the apoptotic effect in all cancer cell lines being tested, but not in controls.<sup>25</sup>



# Isoflavones Reduce Side Effects of Chemotherapy

Chemotherapeutic drugs are designed to kill rapidly dividing cells. Cancer cells grow fast, but so do certain normal, healthy cells in our body – such as blood-forming cells in the bone marrow, hair follicles, the cells lining our mouth and gut, and sperm. Damage to these healthy cells is responsible for the side effects of chemotherapy.



Methotrexate (MTX) is a commonly used chemotherapeutic drug that reduces nutrient absorption, along with causing diarrhea, anorexia, and other problematic symptoms. Promisingly, the **consumption of various soy products has been shown to partially protect against MTX toxicity.**<sup>20</sup>

In a laboratory study, 5 commercial protein-based foods were tested in non-tumor-bearing rats given a single injection of MTX.<sup>26</sup> Of the 5 groups of rats being tested, only rats that were fed soy concentrate maintained their food intake at above 90 percent of pre-injection levels. Additionally, they had no diarrhea. Further, severe damage was seen in the cells lining the intestine of all the animals, except those consuming the soy concentrate diet and the food containing soy fiber.<sup>26</sup>

Similarly, genistein has been **shown to reduce the DNA-damaging side effects of bleomycin, another chemotherapeutic drug, on normal, healthy white blood cells.**<sup>27</sup> At the same time, genistein enhanced the DNA damage caused by bleomycin in leukemia cells in culture. In another study, cisplatin in combination with genistein was seen to have considerably less toxicity in normal white blood cells.<sup>28</sup>



These studies suggest that administering soy isoflavones with chemotherapy is likely to significantly improve patient quality of life. Indeed, **genistein has been shown to reduce the adverse effects of chemotherapy in pediatric cancer patients.**<sup>29</sup> During the treatment cycles given along with genistein supplementation, these patients showed less suppression of bone marrow activity, fewer mouth sores and infections, and a reduced requirement for blood product supplementation.

## Soy Protein Isolate (SPI) vs Whole Food Soy Products

Many foods contain isolated soy protein – a highly processed form of soy that is usually made from genetically modified soybeans (see *Issue 4 for why you need to avoid GMO foods*). It's commonly found in protein powders, bars, soy-based infant formula, cereal, and products where they want to increase the protein content without adding carbs and calories.

I recommend only consuming organic whole food versions of soy (including fermented soy) such as those highlighted in green on the chart. As you can see, the processed foods contain far less of the beneficial isoflavones than you'll find in the whole foods. Beyond just the isoflavones and protein, whole soy foods are rich in other nutrients including fiber, B vitamins, potassium, magnesium. You can find more information on the isoflavone content of various foods in this [USDA database](#).<sup>30</sup>

Unfermented soy foods	Isoflavone content (mg)	Protein (g)
Soy milk, 1 cup	6	7
Tofu (bean curd), soft, 3 ounces	20	8
Soybeans, mature, boiled, 1/2 cup	55	15
Soybeans, dry roasted, 1 oz	40	11
Soy cheese, 1oz	2	4
Soy burger, 1 patty	5	14
Fermented soy foods	Isoflavone content (mg)	Protein (g)
Miso, 3oz	37	10
Natto, 3oz	70	14
Tempeh, cooked, 3oz	30	13
Soy sauce, 1 tbsp	0.02	0

Choose the soy foods in green for the greatest health benefit



### Key Takeaways:

Consuming organic whole foods that contain isoflavones (e.g., soy) can be beneficial for a variety of health issues and has a particular role in certain types of cancer. Fermented soy products are easier for the body to digest and assimilate. Avoid isolated soy protein in processed foods (as well as processed foods in general).

### Nathan Recommends

Haelen 951 is a highly concentrated soybean beverage with a 30 year history of improving health. It's a whole-food product grown organically and fermented to increase bioavailability for best results. I personally take Haelen 951 daily to improve my overall health and vitality and recommend it to anyone seeking to avoid or fight cancer and improve longevity.

**FIND OUT MORE**

# Tempeh Mushroom Burgers

BY JOEL FUHRMAN, M.D.

SERVES: 6

## Directions

Preheat oven to 350 degrees F.

Place tempeh in a food processor and pulse until crumbled. In a saute pan, heat 2-3 tablespoons of water and saute the tempeh, mushrooms, onions, and garlic until onions are tender and mushrooms lose their moisture, about 5 minutes.

In a large bowl, partially mash black beans, then add the tempeh mixture and remaining ingredients.

Form mixture into 6 patties. Place on a parchment-lined baking sheet and bake for 30 minutes, flipping after 15 minutes.

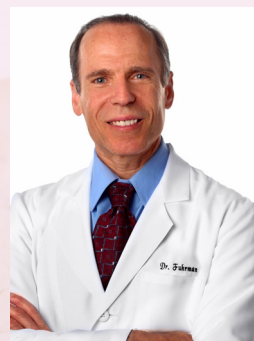
**PER SERVING:** Calories 149, Protein 12 g, Carbohydrates 18 g, Sugars 2 g, Total Fat 4.7 g, Saturated Fat 0.9 g, Cholesterol 0 mg, Sodium 43 mg, Fiber 4.6 g, Beta-Carotene 154 ug, Vitamin C 3 mg, Calcium 70 mg, Iron 2.8 mg, Folate 78 ug, Magnesium 69 mg, Potassium 448 mg, Zinc 1.1 mg, Selenium 2.3 ug

## Ingredients

- 1 (8 ounce) package tempeh, broken into chunks
- 1 cup chopped mushrooms
- 1 small onion, chopped
- 3 cloves garlic, chopped
- 1 1/2 cups cooked or 1 (15 ounce) can no-salt-added or low-sodium black beans, drained
- 2 tablespoons tomato paste
- 1 teaspoon coconut aminos
- 2 teaspoons ground cumin
- 1/2 teaspoon chipotle chili powder

## Joel Fuhrman, MD

is a board-certified family physician, nutritional researcher and 7-time *New York Times* best-selling author. He serves as the President of the Nutritional Research Foundation. Dr. Fuhrman has authored numerous research articles published in medical journals and is on the faculty of Northern Arizona University, Health Science Division. His two most recent books are *Eat to Live Quick and Easy Cookbook* and *Fast Food Genocide*.





On average, one American dies of a blood clot every 6 minutes<sup>1</sup>

# Cancer & Blood Clots:

## Understanding the Risk and What You Can Do About It

BY NATHAN CRANE

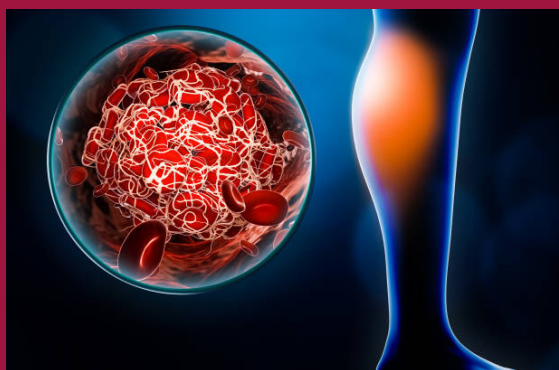
Did you know that 1 in 5 blood clots are related to cancer and its treatment?

With around 900,000 Americans affected each year by blood clots, that adds up to a significant number. Even more concerning is that there are at least 100,000 deaths in the U.S. alone each year related to DVT (Deep Vein Thrombosis) and PE (Pulmonary Embolisms).<sup>2</sup> The survivors of DVT & PE often have lingering complications that negatively impact their quality of life.

# What is DVT & PE?

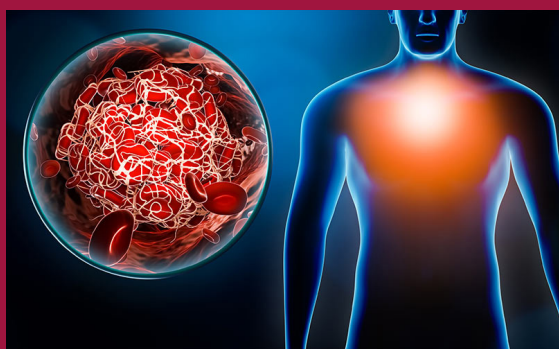
If you develop blood clots while healing from cancer, it lowers your survival rate. This means it's important to avoid getting blood clots in the first place.

According to the Centers for Disease Control and Prevention, the risk of a blood clot is greatest in the first few months after a cancer diagnosis which is also the time when most people are taking treatments.



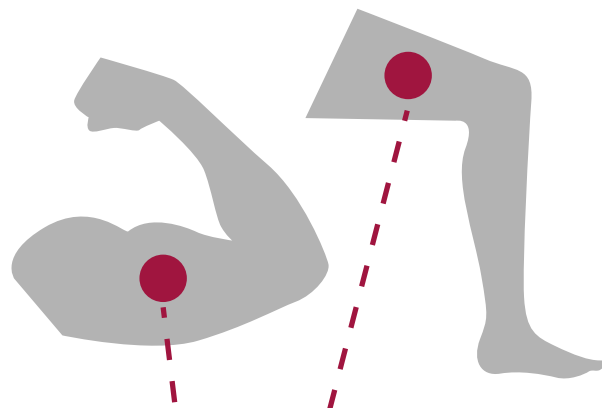
## Deep Vein Thrombosis (DVT):

A blood clot in one of the large veins, usually in a person's leg or arm. It can partially or completely block the flow of blood through the vein.

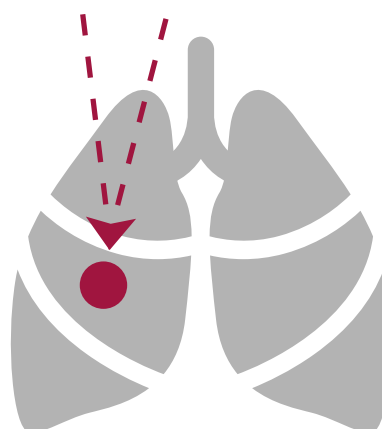


## Pulmonary Embolism (PE):

A blood clot in the lungs.



If a DVT is not treated, it can break off and travel to the lungs.



A blood clot in the lungs is called a **pulmonary embolism**, or **PE**. PEs are life-threatening and require immediate medical attention.

# Signs & Symptoms of a Blood Clot

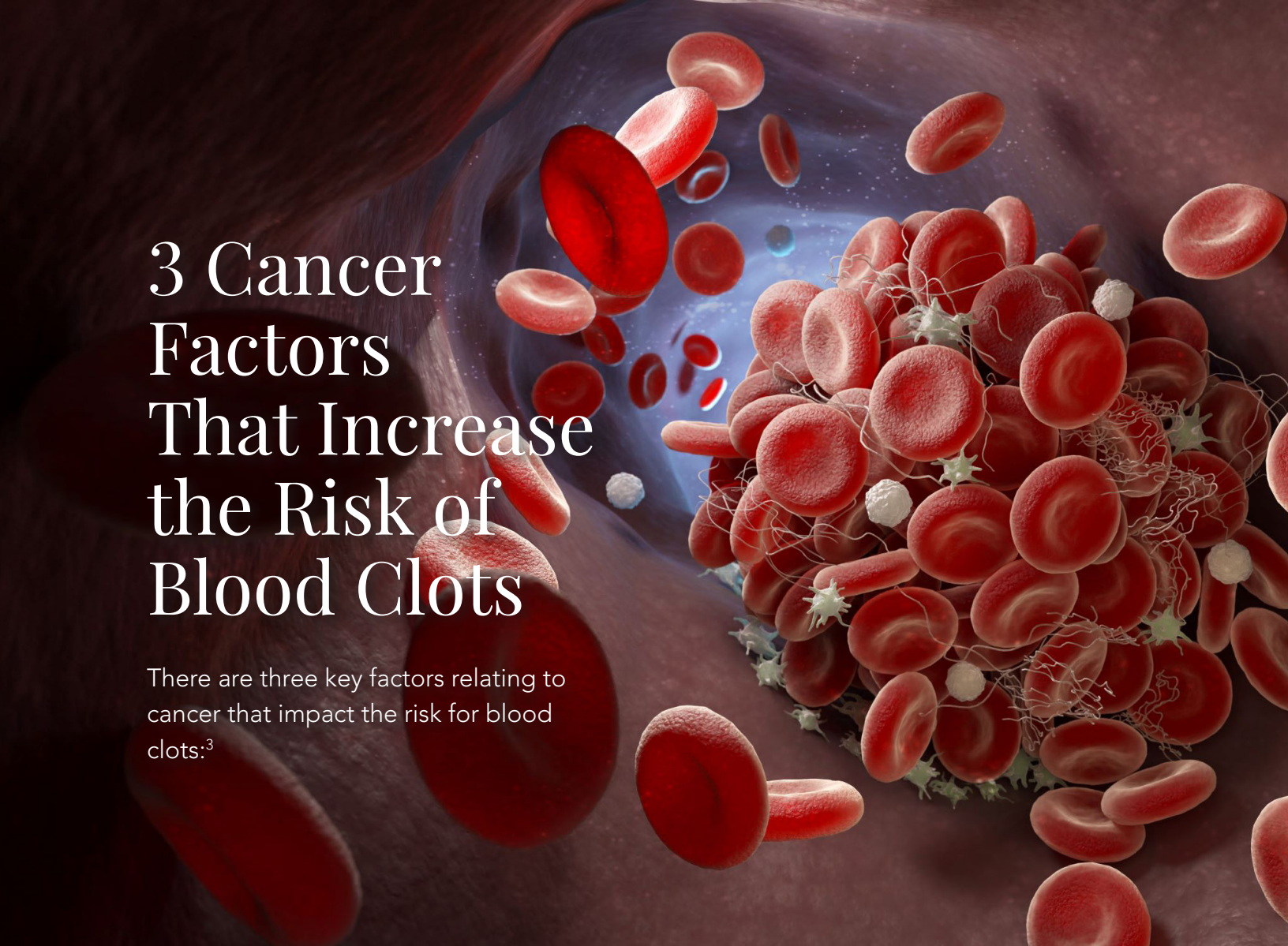


## → In an arm or leg:

- Swelling
- Skin that is warm to the touch
- Pain or tenderness not caused by injury
- Redness or discoloration of the skin

## → In the lungs:

- Difficulty breathing
- Coughing up blood
- Chest pain that worsens with a deep breath or cough
- Faster than normal or irregular heartbeat



# 3 Cancer Factors That Increase the Risk of Blood Clots

There are three key factors relating to cancer that impact the risk for blood clots:<sup>3</sup>

## 1. Type/location of the cancer

Cancers that pose a greater risk for blood clots include cancer in the:

- Pancreas
- Stomach
- Brain
- Lungs
- Uterus
- Ovaries
- Kidneys
- Blood cancers (lymphoma & myeloma)

## 2. Age

The older you are, the more at risk you are for blood clots.

## 3. Conventional Cancer & Hospital Treatments

Treatments that involve surgery, chemotherapy, hospitalization, hormonal therapy, and catheters can all increase your risk of a blood clot.

# General factors that increase your risk for blood clots

- Previous blood clot
- Family history of blood clots or clotting disorder
- Being in the hospital for illness or surgery, especially surgery of the hip, knee, abdomen, or pelvis
- Severe physical trauma (e.g., car accident)
- Serious illnesses (especially of the lungs, heart, or diabetes)
- Broken bone or severe muscle injury
- Sitting too long, especially while travelling with your legs crossed
- Extended immobility (e.g., bedrest)
- Smoking
- Overweight/obesity

Some of these factors are within your control, while others aren't. Take steps to eliminate the factors you can such as quitting smoking and not sitting for extended periods of time.





# Herbs to Protect Against Blood Clots

Dr. Nalini Chilkov is an expert in integrative cancer care and immune enhancement who I have interviewed several times. In a recent interview she stated that about 40% of cancer patients will develop a blood clot and the physiology of cancer itself causes you to make more blood clots.

**To combat this increased risk of blood clots, Dr. Chilkov has two favorite herbs she recommends to her cancer patients.**

- Turmeric
- Salvia Dan Shen (Red Sage Root)

She recommends 3,000 milligrams (3 grams) a day of each herb for therapeutic use.

“

All oncologists know that cancer patients are at risk for blood clots. In general, they don't do much about it. They wait till you have a problem, and I think that's bad medicine. So I always include something in my treatment plan to decrease the risk of blood clotting.”

-DR. NALINI CHILKOV

## Who Shouldn't Use Anti-Coagulant Herbs?

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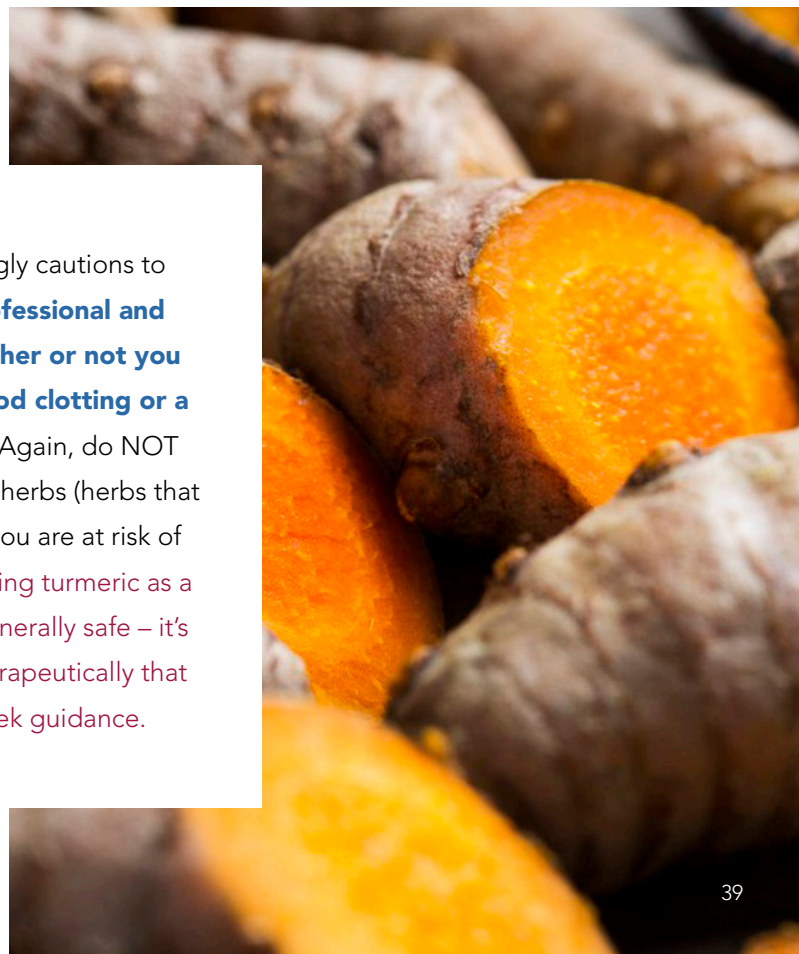
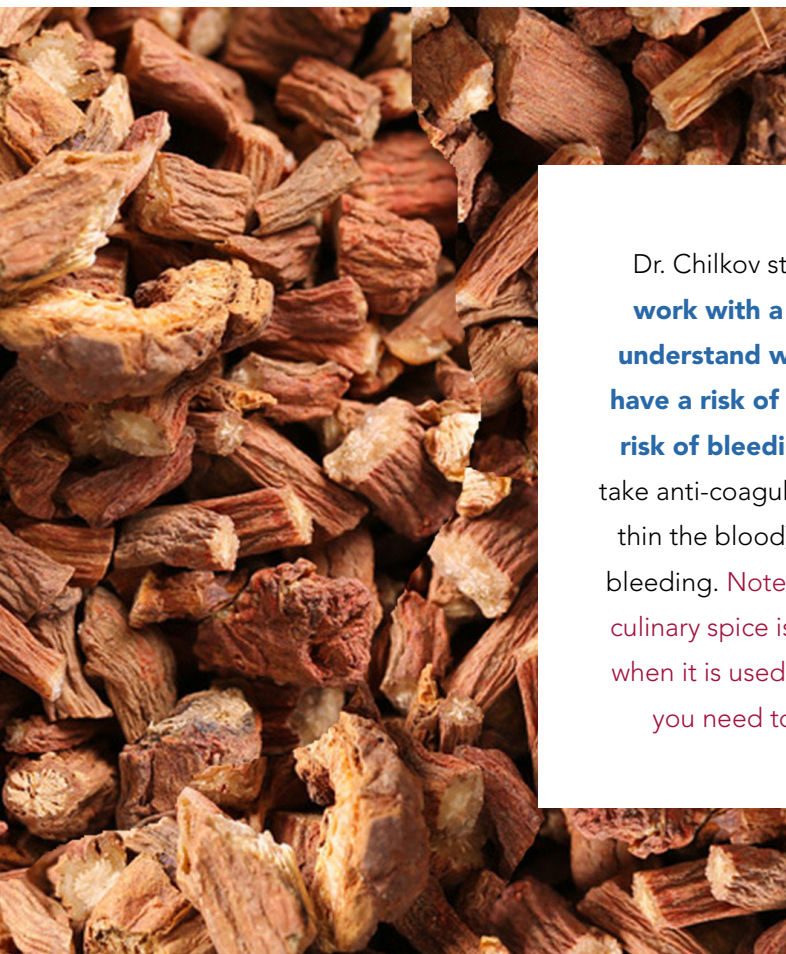
Dr. Chilkov shares that there are certain situations and conditions where it would NOT be advisable to take these herbs that help to thin the blood. These include:

- if you're on a blood thinner such as Heparin, Lovenox, or Eliquis
- if you have low platelets or increased bleeding
- If you have a heart condition
- If you have a large tumor burden
- if you've just had surgery
- if you've had a pro-inflammatory chemotherapy

## Sources

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1. <https://www.stoptheclot.org/spreadtheword/>
2. <https://www.ncbi.nlm.nih.gov/books/NBK44178/>
3. <https://www.cdc.gov/ncbddd/dvt/materials/cancer-and-blood-clots.html>



Dr. Chilkov strongly cautions to **work with a professional and understand whether or not you have a risk of blood clotting or a risk of bleeding**. Again, do NOT take anti-coagulant herbs (herbs that thin the blood) if you are at risk of bleeding. **Note:** Using turmeric as a culinary spice is generally safe – it's when it is used therapeutically that you need to seek guidance.

# Nathan Crane



**Nathan Crane** is a natural health researcher and holistic cancer coach. He is an award-winning author, inspirational speaker, Amazon #1 bestselling and 20x award-winning documentary filmmaker.

Nathan is the Director of the Health and Healing Club, President of the Holistic Leadership Council, Producer of the Conquering Cancer Summit, Host of the Conquering Cancer Documentary Series, and Director and Producer of the award-winning documentary film, *Cancer; The Integrative Perspective*.

Nathan discovered powerful holistic solutions to overcome years of trauma, homelessness, depression, and suicide attempts to find a life of meaning, purpose, health, and fulfillment.

He has received numerous awards including the Accolade 2020 Outstanding Achievement Humanitarian Award, and the Outstanding Community Service Award from the California Senate for his work in education and empowerment with natural and integrative methods for healing cancer.

With more than 15 years in the health and wellness field as a researcher and advocate, Nathan has reached millions of people around the world with his inspiring messages of hope and healing.

His website is [NathanCrane.com](https://NathanCrane.com)