



Riordan  
Clinic

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Riordan Clinic is a not-for-profit 501(c)(3), nutrition-based health facility with locations in Wichita, Overland Park, and Hays, KS. The clinic was co-founded by Olive Garvey and Hugh D. Riordan. We have integrated lifestyle and nutrition to help you find the underlying causes of your illness. Since our inception in 1975, the mission has been clear and unwavering to "...stimulate an epidemic of health."

## IVC and the Riordan Approach to Adjunctive Cancer Care: 7 Key Questions

Originally published October 2017



**AUTHOR**

Ron Hunninghake, MD

Q1. What is IVC and how does it benefit cancer patients?

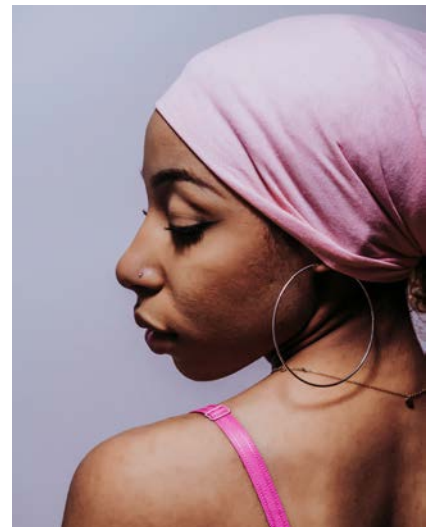
Intravenous vitamin C (also referred to as IVC) is an adjunctive cancer therapy, widely used in naturopathic and integrative oncology settings. Two decades of groundbreaking research on IVC therapy at the Riordan Clinic have resulted in the Riordan IVC Protocol for Adjunctive Cancer Care.

While the focus of this protocol is IVC, Dr. Hugh Riordan emphasized the importance of providing comprehensive wellness care for the cancer patient in conjunction with the IVC therapy.

Q2. What are the proven benefits of IVC therapy in the care of cancer patients?

During this intravenous treatment, high doses of buffered ascorbic acid enter your body through a small tube inserted into a vein in your arm or through a port. This results in blood levels of vitamin C that reach 300-400 times the levels achievable by oral intake alone. The cancer patient can benefit from IVC therapy in several ways:

1. Because cancer patients are often depleted in vitamin C, the IVC provides a rapid means of restoring tissue reserves.
2. IVC improves quality of life in cancer patients by a variety of metrics, as documented in four published studies.



Continued on page 2

# PUBLISHED STUDIES HAVE SHOWN THAT IVC THERAPY CAN BE USED IN PARALLEL WITH TRADITIONAL CANCER TREATMENTS, SUCH AS SURGERY AND CHEMOTHERAPY, **WITHOUT INTERFERING WITH THEIR EFFECTIVENESS.**

3. IVC reduces inflammation as measured by C-reactive protein levels.
4. IVC reduces the production of pro-inflammatory cytokines, which down-regulates the “micro-inflammatory cellular environment” of cancer cells.
5. IVC is preferentially toxic to tumor cells but not to normal cells.
6. IVC inhibits the growth factor that promotes new blood vessels to grow towards the tumor.

## Q3. Is IVC a vitamin or a drug?

IVC shifts ascorbate function from a simple anti-scurvy vitamin to a surprisingly beneficial pro-oxidant with powerful pharmaceutical actions. Pharmaceutical IVC doses have shown significant anticancer effects in animal models and tissue culture studies. This well studied effect has been described as the “selective cytotoxicity effect of high dose ascorbate on tumor cells.” Numerous research institutions have replicated this effect over the last several decades. Only recently has research on sepsis brought this effect to the attention of conventional medicine.

## Q4. Is IVC “a natural chemotherapy agent?”

Although the literature and clinical studies do suggest that IVC has a good safety profile and important anti-tumor activity, it is nevertheless not to be considered a “stand-alone” chemotherapy agent. IVC is best utilized as one component of a multi-faceted, adjunctive care approach that would best include dietary, nutritional, and lifestyle changes that support overall wellness in the cancer patient. When used in this wellness context, IVC acts as an ideal adjunctive therapy that can:

- Reduce chemotherapy side effects
- Improve survival time
- Enhance quality of life for the cancer patients receiving it once or twice weekly as part of an overall lifestyle program of care

## Q5. How is IVC used in conjunction with traditional oncology?

Published studies have shown that IVC therapy can be used in parallel with traditional cancer treatments, such as surgery and chemotherapy, without interfering with their

effectiveness. Ideally, the cancer patient will enlist BOTH an oncology team that is providing optimal treatment for the cancer disease, and a wellness support team that is addressing the multifaceted challenges that every cancer patient must face. Best practice suggests that the medical implementation of IVC in the care of a cancer patient would lean heavily on baseline and periodic nutritional laboratory monitoring.

## Q6. What are the “basics” of the Riordan IVC Protocol?

The Riordan IVC Protocol for Adjunctive Cancer Care is an integrative program that favors optimal treatment for both the cancer disease and the wellness care of the patient who has a cancer diagnosis.

The decision to start IVC is made by Riordan medical providers after careful review of the patient’s medical history, in conjunction with comprehensive lab testing. Treatment is to be continuous with infusions of IVC two times per week, on average. Regular treatments with IVC, without lapses in treatment, have been shown by our studies to increase the overall effectiveness of the IVC in the suppression of tumor growth.



The Multi-C Oral Vitamin C Protocol is advised 2-3 times daily, especially on non-IVC days as an important but often neglected part of the effective implementation of the Riordan Protocol. The Multi-C Protocol includes oral liposomal C, sodium ascorbate, and ascorbyl palmitate to maintain high serum, extracellular, and intracellular levels of vitamin C between intravenous infusions.

Infusion time requirements and financial requirements need to be carefully assessed prior to beginning IVC treatment to determine whether the patient can sustain the benefits of the complete protocol.

IVC is typically continued until there is an improvement of patient conditions (stabilization of patient tumor or no detection of cancer for a 12 month period of time).

At such a point, treatment frequency is gradually tapered while maintaining the Multi-C Oral Protocol.

The updated Riordan IVC Protocol for Adjunctive Cancer Care and our cancer research articles relating to IVC and cancer are helpful to read and share with your medical support team. These can be found on our website at [riordanclinic.org/what-we-do/high-dose-iv-vitamin-c](http://riordanclinic.org/what-we-do/high-dose-iv-vitamin-c).



#### Q7. What are the “adjunctive” components of the Riordan IVC Protocol for Adjunctive Cancer Care?

Following Dr. Hugh Riordan’s death in 2005, the Riordan approach to the care of cancer patients was formulated by way of 7 key verbs in 7 precepts:

##### 1. CREATE CO-LEARNER RELATIONSHIPS

Cancer patients co-learn best in partnership with their Riordan Clinic doctors and medical team.

##### 2. IDENTIFY THE CAUSES

The Real Health Discovery Laboratory panel is utilized to search for and address 17 common underlying causes that perpetuate conditions that have been shown to give rise to cancer. Correcting these factors can help the body’s healing system slow and possibly eliminate cancer growth.

##### 3. CHARACTERIZE BIOCHEMICAL INDIVIDUALITY

The Real Health Discovery Laboratory Panel includes vitamins, minerals, amino acids, fatty acids, hormones, food reactions, inflammation markers, and additional biochemical indicators which can serve as:

- A baseline of your current health status
- An inventory of correctable health factors
- A source of valuable clues that point to correctable carcinogenic factors

#### 4. CARE FOR THE WHOLE PERSON

Cancer is a disease that occurs in the real life of a human being. The complex life histories, traumas, stressors, toxic exposures, dietary indiscretions, medication side effects, spiritual crises, poor lifestyle habits, sleep disorders, physical, emotional, psychological, financial, marital and many other health challenges – all of these may be playing into the grueling challenges of a cancer care plan.

The Riordan Approach is not a simple solution for this complex array of lifestyle issues. It is an acknowledgment that an adjunctive cancer care assessment is more than just infusing vitamin C into the vein of that human being.

#### 5. CHOOSE FOOD AS MEDICINE

Although there is no single diet that is widely acknowledged as effective in cancer patient care, the importance of making healthy food choices is paramount for good cancer outcomes.

Food issues that need to be addressed include food wholeness, safety, quality, hidden inflammatory lectins, mold toxins, GMO issues, and effects of food on the gut biome, phytonutrient factors, glycemic issues, ketogenic programs, and the appropriateness of other controversial cancer diet plans.

#### 6. CULTIVATE HEALTHY RESERVES

The Riordan Approach, like gardening, takes time and is the result of continuous effort and on-going co-learning. Healthy reserves include nutrients, habits, social networks, spiritual resources, and a strong self-concept.

The Real Health Discovery Panel is a valuable key and starting point for identifying deficiency states that can be corrected as an integral part of building whole-life reserves.

#### 7. DISCOVER THE HEALING POWER OF NATURE

An old Latin proverb says: “Medicus curat, natura sanat,” which means the doctor cares {for the patient}, nature heals [the patient]. The Riordan Approach integrates the ancient wisdom of natural healing techniques with modern medical science.

Learn more about IVC at  
[riordanclinic.org/what-we-do/  
high-dose-iv-vitamin-c](http://riordanclinic.org/what-we-do/high-dose-iv-vitamin-c)

# Cancer-Related Fatigue

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AUTHOR

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Fatigue is a common problem in cancer patients, both among those undergoing active treatment and in survivors. Some reports show that as many as 90% of cancer patients struggle with fatigue at some point in their journey and a prevalence of up to 45% in cancer survivors. The fatigue that comes with cancer, called cancer-related fatigue (CRF), is different from the fatigue of daily life. CRF causes disruption in all aspects of quality of life, and may be a risk factor for reduced survival.

By definition, CRF is a distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment, that is not proportional to recent activity, and interferes with usual functioning. More and more, cancer centers are relying on integrative medicine practitioners to help manage this complex condition with complementary and alternative (CAM) therapies, as these have been shown to be the most promising interventions available at this time.

## What Causes It?

While the causes of CRF are not fully understood, it is generally thought to be a multifactorial condition and component of a symptom complex which may include depression, anxiety, and sleep disorders.

With CRF, sometimes there are measurable factors involved, such as anemia, nutritional deficiencies or hormonal imbalances. However, more often there are intangibles that may contribute to CRF, such as pain, stress, poor sleep patterns, deconditioning, and medication side effects. On top of all that, there is the fatigue that can be caused by cancer itself, as well as cancer treatments such as surgery, chemotherapy and radiation.

Given the complexity of the problem and the lack of objective measurement of what is primarily a subjective symptom, interventional trials have been somewhat limited.

## What Can be Done?

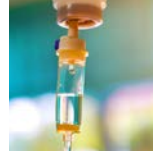
Despite the lack of a universal objective measurement for CRF, research into effective interventions has continued to build and better inform clinicians on how to mitigate this highly prevalent condition. Several evidence-based therapies have been identified to potentially help improve CRF. Let's take a look at some of these:



### GINSENG

This traditional Chinese Medicine herb has long been used as a natural energy booster. In a large study led by Mayo Clinic, high doses of the American ginseng

(*Panax quinquefolius*) given over two months was effective at reducing CRF<sup>1</sup>. Ginseng's improvement of fatigue is likely due to its known mechanisms of decreasing inflammation and regulating cortisol levels.



### IV VITAMIN C

A 2018 review of several human trials concluded that intravenous ascorbic acid (vitamin C) up to 25g can improve several quality of life measures including CRF<sup>2</sup>. Of note, most of these trials have shown this effect in patients undergoing concomitant chemotherapy treatments.



### MISTLETOE

European mistletoe (*Viscum album*) extracts have an extensive history of use and clinical evidence as a safe and effective adjunctive cancer treatment to help with quality of life measures, including CRF. Although it is used across all tumor types, gynecologic and breast cancer patients have shown particular improvement in fatigue with mistletoe use<sup>3</sup>.



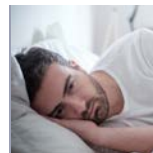
### ACUPUNCTURE

More established as a tool to treat pain and nausea in cancer patients, recent studies have also shown this versatile modality to be quite beneficial for CRF<sup>4</sup>.



### EXERCISE

Aerobic exercise, with its myriad health benefits, has been clearly shown to improve CRF, particularly in survivors. The American Cancer Society recommends that adult cancer survivors get at least 150 minutes of moderate intensity or 75 minutes of vigorous activity each week (or a combination of the two). This intervention not only helps with CRF but also with reduction of cancer recurrence.



### SLEEP

The majority of studies that have assessed both sleep and fatigue in patients with cancer provide evidence supporting a strong correlation between CRF and various sleep parameters. It's clear that the quality and duration of sleep, or lack thereof, reciprocate with CRF. Improving sleep hygiene is crucial and often times the first place to start. Beyond that, a trial of a natural sleep aid, such as melatonin, may be enough to tip the scales in favor of improved sleep.



### TAI CHI

The traditional Chinese health-promoting exercise, often done in groups, has been shown to have many positive effects in cancer patients. A meta-analysis investigating the effectiveness of Tai Chi

on CRF concluded that the practice leads to short-term ameliorative effects that are actually superior to rigorous physical exercise and psychological support<sup>5</sup>. The best effects were shown in patients with breast and lung cancers.



## SUMMARY

CRF is one of the most distressing cancer-related symptoms and requires a clinician or team of clinicians to look at many underlying causes and interrelated conditions. Cancer patients are best served by working with an integrative practitioner who has knowledge of all of the CAM therapies indicated for CRF, and who continues to look at all potential underlying causes, even as the patient moves into long-term survivorship. As the understanding of cancer and its treatments evolves rapidly, so will our understanding of CRF and how to best manage it.

### References:

1. PMID: 23853057
2. PMID: 29719430
3. PMID: 19519890
4. PMID 29128952
5. PMID: 29564620

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# Tips to Help Reduce Radiation Toxicity From Cancer Scans

Medical imaging has become a central component of cancer care to ensure early and accurate diagnosis and monitoring. Unfortunately, many imaging modalities use ionizing radiation (IR) to generate images. IR even in low doses can cause direct DNA damage and generate reactive oxygen species and free radicals, leading to DNA, protein, and lipid membrane damage.

This cell damage can lead to apoptosis, necrosis, teratogenesis, or carcinogenesis. As many as 2% of cancers (and an associated 15,000 deaths annually) can be linked to CT scans alone.

## Two tips I recommend to reduce the radiotoxicity of your next cancer scan:

- **Take a high dose of melatonin (20 mg – 60 mg) the night before your scan.**  
Don't worry, these doses are safe but you may need to build up your tolerance over time as it can cause vivid dreams and next-morning grogginess.
- **Schedule a high-dose vitamin C infusion as soon after the scan as possible.**  
It's important to wait until after as the IVC can interfere with some radiotracers and contrast agents. If you don't have access to IVs then take up to 10g of lipospheric/Liposomal vitamin C after the scan. Watch for bowel tolerance and adjust accordingly.

These tips are extremely safe for most but you should always work with a doctor who knows your individual case for the best outcomes.

## Contact the Editor

Please send any comments or suggestions to  
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Thank you for reading.



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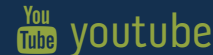
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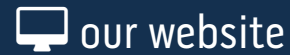
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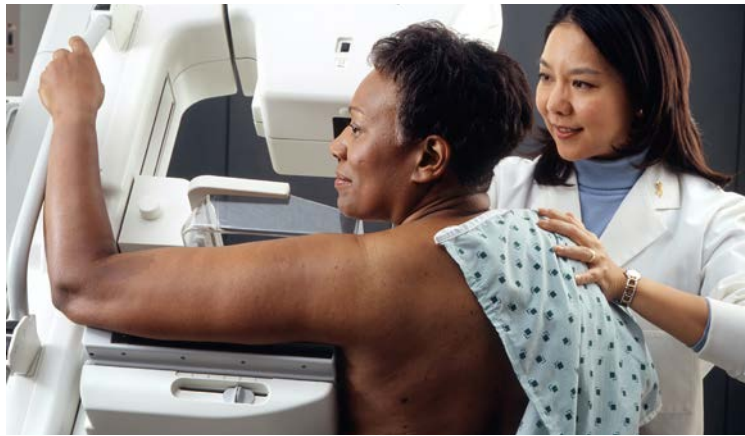
# The Oncology Program at the Riordan Clinic

Are you or a loved one facing a cancer diagnosis? The Riordan Clinic is here to help.

Every day in America, nearly five thousand people hear the words, “You have cancer.” That phrase conjures up a whirlwind of emotions—fear, anxiety, confusion, and hopelessness, to name a few. Once the initial shock wears off, patients are left trying to figure out how they are going to treat their cancer. Typically, the standard of care involves surgery, radiation, or chemotherapy, or some combination of those therapies depending on the type of cancer and stage.

These treatments can be life-saving in some. But often, they fall short. Many patients are left with long-term toxicities and side effects. Perhaps the most significant shortcoming of standard cancer care is that the sole focus is on treating cancer rather than strengthening and supporting the human that has cancer.

Here at Riordan Clinic, our approach to cancer treatment is one that complements the traditional standard of care with greater emphasis on supporting the human. Our goal is to get to the root cause of disease and address it using a variety of safe, research-based therapies and services that focus on “whole-person” care.



At the Riordan Clinic, you aren't seen as a cancer patient. You are a person who has cancer. We're here to care for you as an individual person, and by doing so we will address the cancer as well.

## Customized Clinical Care

Most of our cancer patients come to us already equipped with a lot of their own research, and many have implemented special diets and nutraceuticals. Unfortunately, without proper guidance, patients often miss the mark on what they need during different phases of their treatment and throughout the healing journey. For this reason, we spend a lot of time working with the patient to organize their diet and supplement regimen. This enables us to address key nutrient

deficiencies and target the factors that are driving their particular type of cancer.

Our standpoint at Riordan Clinic is that cancer requires an “all hands on deck” approach. All too often, cancer patients are told that the traditional standard of care is their only option. That simply is not the case. Integrative therapies are a valuable complement to traditional cancer care and can be incorporated at almost any time during treatment.

## IV Vitamin C (IVC)

At the backbone of all of our cancer support protocols is intravenous vitamin C (IVC). Why IVC? In addition to its ability to selectively kill cancer cells, IVC has a wide range of other benefits for cancer patients. It decreases inflammation, refuels the immune system, and may even help turn cancer stem cells back into healthy cells. The research behind IVC as an adjunctive cancer therapy is impressive. It has been studied in cases alongside chemotherapy and radiation, showing strong evidence for both safety and synergistic effects.



## Strengthening the Immune System with Mistletoe & Hellaborus Therapy

The immune system is the missing link when it comes to cancer. We all have cancer cells in our bodies every day. Read that again. Scary, I know! The difference is that in a person with a properly functioning immune system, those cancer cells are detected and eradicated before enough of them can congregate and form a tumor.

The key to regaining an edge on cancer is to increase the immune system's capacity to eradicate cancer cells. While many of our



therapies have immune benefits, mistletoe therapy may be the gold standard. Mistletoe, typically given as a subcutaneous injection, delivers an elegant shock to the immune system by ramping up the production of natural killer cells, macrophages, and inducing low-grade fevers. Like IVC, there is an impressive

amount of clinical research behind mistletoe. It is another safe and effective treatment to be used alongside conventional therapies and is an approved treatment for cancer patients in many countries around the world.

*Helleborus niger* is a perennial herb often referred to as the Christmas Rose. This biologic therapy has been widely used in Europe for many years to improve sleep, appetite, circulation and mental strength in cancer patients. It can also inhibit cancer cell growth, reduce tumor-related pain and decrease inflammation. Helleborus therapy is most commonly a complement to Mistletoe Therapy and is advised for all types and stages of cancer treatment.

## Other Treatments and Services

We offer several other therapies at Riordan Clinic to help support cancer patients. These include Ozone, Ultraviolet Blood Irradiation, Chelation, and metabolic treatments such as fasting protocols, and repurposed drugs. With an extensive menu of integrative therapies at our disposal, we can put pressure on cancer cells from many different angles and pathways while simultaneously working to rebuild human function. Detox methods, including infrared saunas, are also valuable tools in ridding the body of toxins as it heals.

## Nutrient Testing

Laboratory testing is essential to the process to determine and monitor various cancer markers, detect nutrient deficiencies, and

screen for other major health issues. Riordan Clinic's medical team has arranged a lab profile that is specific to cancer and people who have had a cancer diagnosis. Our doctors use the results of this lab testing as a vital tool in discovering the root cause of your health concerns, make decisions on treatment care and protocols, and to monitor progress along the way.

Because laboratory testing requires fasting, we will have you meet with one of our experienced phlebotomists as your first step in the day's schedule.

Tests are performed through the convenience of our onsite Bio-Center Laboratory. After meeting with the doctor, more testing may be recommended that is specific to your type or stage of cancer. These recommendations will be fully explained to you by your doctor during your appointment(s) and you will have the opportunity to decide together how to proceed.

Are you ready to take your first step towards REAL HEALTH? **Call us today! 800-447-7276**

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# Foods to Include in an Anti-Cancer Diet



**AUTHOR**

*Jenny Bradley, M.A.I.L., CNE*

Did you know scholars propose only 5-15% of cancer is genetic?! Late medical doctor and neuroscientist David Servan-Schrieber, MD, Ph.D notes, “All research on cancer concurs: Genetic factors contribute to at most 15% of mortalities from cancer. In short, there is no genetic fatality. We can all learn to protect ourselves”. That is good news! It shows us we can influence our cells activity through the role of epigenetics.

Our lifestyles, including what we eat, influence what is “nearby” to toggle our gene’s indicators on or off. That means **we can do things, even while living with cancer, to best support the body’s systems down to the intracellular level.** This often starts with a trip to the grocery store and making conscious decisions about what we put in our cart. Below are some anti-cancer foods to add to your shopping list:



## **BERRIES**

Blueberries contain “ellagic acid and other compounds with anti-mutagenic effects that can protect your cells from free radicals and DNA damage, as well as slow down or stop cancer cell growth for many types of cancer”. They also inhibit angiogenesis (new blood vessel formation that feeds the cancer)



## **GREEN TEA**

Green Tea has a catechin called EGCG (epigallocatechin gallate) that has been shown to interrupt the metabolic pathways of breast cancer stem cells. Warm the water to no more than 180 degrees Fahrenheit, not boil, in order to not burn the tea and therefore lose more of its anticancer properties.



## **CRUCIFEROUS VEGETABLES (BROCCOLI, CAULIFLOWER, BRUSSELS SPROUTS, KALE, ETC.)**

Cruciferous vegetables are rich in DIM (diindolylmethane) which helps one’s body process estrogen into safe metabolites and helps maintain healthy levels of estrogen. Lightly steam or briefly sauté the cruciferous veggies to help reduce the goitrogenic properties that may bother the thyroid or give digestive rumbles.



## **TURMERIC**

Curcumin found in turmeric has been found to possess an unprecedented amount of anticancer properties which include reducing inflammation and reducing risk of metastasis . Include black pepper or a healthy fat, like organic unrefined coconut oil, when using turmeric in recipes in order to help the body best absorb its important nutrients.



## **GINGER**

Ginger is a warming spice that is a powerful anti-inflammatory that acts against certain cancer cells and helps reduce the formation of new blood vessels. It also helps in dealing with side effects of various cancer therapies.

“Ginger suppresses nausea and therefore is excellent treatment and preventative for the nausea and upset stomach that sometimes occurs with chemotherapy treatment.”



## **GARLIC & ONIONS**

Garlic and onions are in the same family and express many of the same anticancer effects. This family aids in the metabolism of toxins out of the body while also enhancing DNA repair, slowing cancer cell reproduction, and

inducing apoptosis (cancer cell death). Chop raw garlic and let it sit for 10-15 minutes before cooking it in order to help it form the anticancer compound from the enzyme allicin. Onions have a powerful flavonoid called Quercetin which has been shown to inhibit the cancer pathways that lead to metastasis.



## **MUSHROOMS**

Mushrooms have been used for centuries for medicinal purposes. Many mushrooms have anticancer benefits, but one study showed white button mushrooms suppress aromatase by 60 percent From their polysaccharides,

mushrooms stimulate and modulate the immune system and increase immune cell activity within tumors.

**As with any dietary recommendations, this information does not substitute for personalized guidance from your licensed medical practitioner who knows your particular case.**

*Jenny Bradley has been thriving with her cancer diagnosis since 2017. She equips others to confidently advocate for themselves and have more peace and less overwhelm on a cancer journey. Jenny has a Master of Arts in Intellectual Leadership and is a Certified Culinary Nutrition Expert who shares her cancer insights and tips at [shrinkthemutantschool.com](http://shrinkthemutantschool.com) and [@shrinkthemutant](https://www.instagram.com/shrinkthemutant) on Instagram. Jenny lives in Kansas with her husband Mike and their little dog Poppy.*

**Research references can be found on the website - [riordanclinic.org/2021/05/foods-to-include-in-an-anti-cancer-diet](http://riordanclinic.org/2021/05/foods-to-include-in-an-anti-cancer-diet)**