

GcMAF: A Potential Anti-Cancer Therapy?

By Dr. David Jockers

What if scientists had already discovered and tested an effective cure for cancer and other chronic diseases? Do you think it would be celebrated and used to benefit patients all around the world... or do you think there may be an attempt to suppress the knowledge of such a treatment?

Could the medical doctors who have tested this and used it successfully even be in danger for their lives?

Over the past year, there have been media reports of alternative health doctors associated with a compound called GcMAF that have been found dead under mysterious circumstances. The cause of death in all of these cases has been somewhat suspicious and linked to sudden heart failure, suicide, etc. What's a major cause for concern is that none of these doctors were showing any signs of mental or physical illnesses that would in any way lead those around them to anticipate a problem.

So what exactly is GcMAF – and why may it be a clue into the sudden deaths of these notable doctors?

GcMAF Naturally Occurs in Our Bodies

Globulin component Macrophage Activating Factor or GcMAF, is also called vitamin D-binding protein-

derived macrophage activating factor. It is an endogenous (occurring within the body) glycosylated vitamin D binding regulatory protein present within the immune system. This naturally occurring protein is found in all healthy individuals, but is depleted in people with an improperly functioning immune system.

Excitingly, GcMAF immunotherapy has been shown to improve immune system function – and quite possibly, prevent and even reverse cancer.

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The Mysterious Death of Dr. Jeff Bradstreet

Let's consider the intriguing case of Dr. Jeff Bradstreet. Dr. Bradstreet received his science undergraduate and medical degrees from the University of South Florida and held a Florida medical license for over 30 years. In media reports, however, he is referred to as a "controversial" alternative medical practitioner.

His supporters assert that Dr. Bradstreet treated over 11,000 patients suffering from a number of different chronic illnesses (most notably autism) using experimental GcMAF immunotherapy.

In June 2015, Dr. Bradstreet's clinic in Georgia was raided by the FDA. The [search warrant](#) allowed for the seizure of all GcMAF on the premises and related items and records. After the raid, Dr. Bradstreet fled town to a hotel near Lake Lure in North Carolina. If indicted, he would have faced up to 20 years in prison for practicing what the FDA would deem "unethical science."

Dr. Bradstreet went to check into his hotel but the room was not ready. Hours later his body was found with a gunshot wound to the chest about three miles away in Chimney Rock, NC. A handgun was found nearby.

Police reported the death to be a suicide, but Dr. Bradstreet's family and supporters are conducting their own private investigations, believing there is much more to the story than the official version from the authorities. They say he had shown no signs of depression or suicidal behavior, and many of them believe he was murdered for his knowledge of GcMAF therapy.



Dr. Jeff Bradstreet was found dead three days after his clinic was raided by the FDA

So let's learn more about GcMAF, and why Dr. Bradstreet was such a strong advocate of this powerful therapy for children with autism, cancer patients, and many others suffering with chronic illnesses.

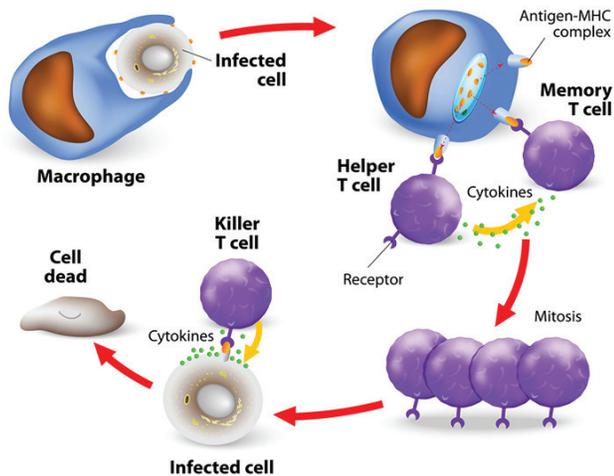
GcMAF Activation of Macrophages is Key for a Healthy Immune Response

GcMAF plays an important role in activating macrophages. Macrophages (from the Greek for "big eaters") are white blood cells that literally swallow and digest cellular debris, foreign substances, bacteria, cancer cells, and anything else that does not have the "right" proteins to identify it as a healthy cell belonging to the body.

When GcMAF is depleted, the immune response becomes weak because macrophages are not being activated by GcMAF. Furthermore, our body's tissues are not successfully repaired and homeostatic imbalance can occur from a lack of available macrophages.

Microglia are a very important type of macrophage located specifically in the spine and brain. They defend your immune system against threats to the central nervous system which cause trauma and represent a crucial first line of defense.

CELL-MEDIATED IMMUNE RESPONSE



Macrophages are white blood cells that protect the body from infection

The Role of Vitamin D in GcMAF

Vitamin D is a group of fat-soluble hormones. In humans, the most important forms of this vitamin are vitamin D3 (cholecalciferol) and vitamin D2 (ergocalciferol).

Vitamin D has essential responsibilities in the human body and helps to defend the immune system from chronic disease. The biological role which vitamin D plays in the human body is far more complex than our previous understanding. Interestingly, it has also recently been revealed to be influential in regulating GcMAF function.

Vitamin D is an Important Nutrient during Pregnancy

The ability of a baby to develop a strong defense system is influenced by environmental and genetic factors before birth. Vitamin D is critical during pregnancy in promoting a baby's health and development.

The development of the central nervous system is largely influenced by vitamin D. For instance,

the following neurobiological processes require vitamin D:

1. **Neuroprotection** – the preservation of the central nervous system is required to prevent degeneration which can lead to disorders such as multiple sclerosis
2. **Neuroplasticity** – required for emotional thinking and cognitive thought
3. **Neurogenesis** – the process of creating new brain cells

Autism is a disorder significantly affected by immune dysfunction. According to Dr. Bradstreet, symptoms in children with autism and autism spectrum disorders were shown to improve following treatment with GcMAF to promote innate macrophage activity.

Vitamin D deficiency disrupts the proper development of the immune system, affecting the brain and the spinal cord and is therefore linked to the development of autism. In pregnant women, vitamin D3 has been shown to reduce the risk of infertility and miscarriages by reducing the autoimmune response from natural killer cells.

GcMAF Improves the Endocannabinoid System

An individual's health is greatly influenced by the endocannabinoid system and its interaction with the immune system. The endocannabinoid system helps regulate homeostatic processes and is found in organs, glands, and immune cells located everywhere in the body. Individuals with autism have been reported to have altered endocannabinoid pathways and disrupted macrophage defenses. This problem leads to altered immune functioning.

Treating autistic children with GcMAF reportedly diminishes autistic symptoms and improves the endocannabinoid system. Factors required to stimulate macrophage activity are improved in autistic individuals when treated with GcMAF. This treatment has led to improved receptor activity and gene expression.

The endocannabinoid system helps regulate anxiety and mood. Along with cancer, the following diseases are also associated with improper functioning of the endocannabinoid system:

- Osteoporosis
- Obesity
- Multiple Sclerosis
- Parkinson's disease
- Huntington's disease
- Stroke

(You can find out more about the endocannabinoid system in our cannabis article on page X).

Abnormal Enzyme Levels Indicate Immune Dysfunction

Alpha-N-acetylgalactosaminidase or nagalase is an enzyme found in increased levels in people with autoimmune-related complications. Elevated levels of nagalase is associated with an increased risk for lupus, autism spectrum disorders, viral infections such as HIV and AIDS, and many types of cancer.

In fact, nagalase has been shown to accumulate in the blood of cancer patients. Its activity shows a strong correlation with the total mass of tumor tissue present in a patient (known as "tumor burden"), as well as how aggressive the cancer is and how quickly it spreads.

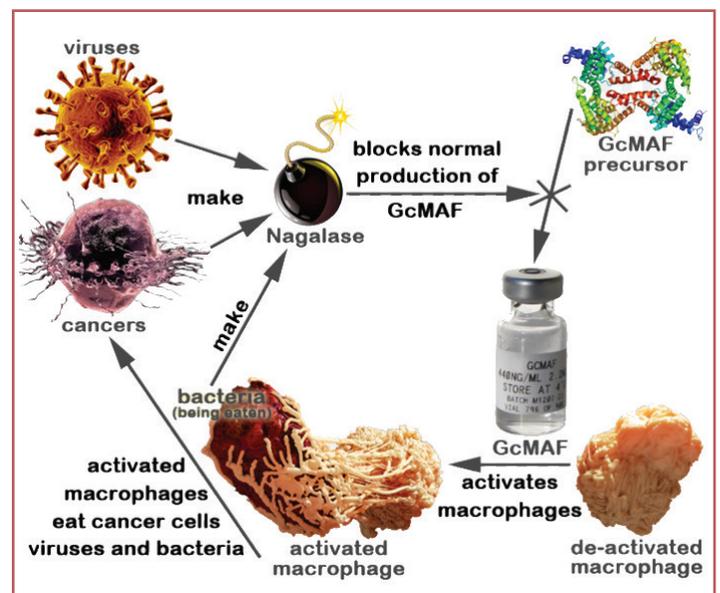
Interestingly, cancer cells possibly activate nagalase which in turn blocks GcMAF production. Researchers and physicians alike assess the severity of tumors in patients by measuring levels of the nagalase enzyme.

Activation of macrophages (the white blood cells that destroy non-healthy cells) is inhibited by nagalase. Nagalase reduces GcMAF through immunosuppression pathways; as a result, the availability of active macrophages is decreased.

Nagalase Inhibits Synthesis of GcMAF

Nagalase cannot stop an immune defense attack that is in the process of taking place. Fortunately, this enzyme also can't minimize the effects of GcMAF already formed and stop cancer cells already detected from being destroyed.

Nagalase can inhibit the synthesis (production in the body) of GcMAF, but it cannot break down biologically identical GcMAF that is injected into the body or intravenously administered.



Nagalase produced by viruses, cancer cells, and bacteria can inhibit natural production of GcMAF, but not GcMAF injected into the body

GcMAF Has Potent Antitumorogenic Properties

The administration of GcMAF to individuals with cancer in clinical studies has exhibited remarkable success. Studies report improvements including:

- A reduction in tumor receptors known to spread cancer
- The prevention of blood vessel growth needed for tumors to grow
- The ability to inhibit cancer cell growth
- Improved immune response from activated macrophages, lymphocyte availability, and an increased red blood cell and platelet count

Patients who were said to have “incurable” cancers and diseases were administered GcMAF as a weekly injection. Even at a late stage of the disease, anticancer immunotherapy was seen to be effective. Tumors reduced in size, nagalase activity decreased, and in some instances the cancer was completely eradicated after only six months of treatment.

Administering GcMAF to cancer patients with elevated levels of the nagalase enzyme was shown to lower enzymatic activity along with providing significant clinical benefits in a mixed group of patients with different types of cancers, generally considered incurable.

In most cases, GcMAF therapy was initiated at late stages of tumor progression. The nature of this study means that a cause-effect relationship between GcMAF administration and disease outcome cannot be established. However, some clear trends emerged. All 20 patients had a higher than normal

nagalase activity. All patients except one showed a significant decrease in nagalase activity in response to weekly GcMAF injections.

Lower levels of nagalase activity was associated with improved clinical conditions. Importantly, no adverse side effects were reported. These results suggest that its worth exploring whether GcMAF is a potentially effective anticancer immunotherapy.

A wide variety of cancers were treated using the GcMAF treatment in clinical research as reported by Dr. Steve Hofman. These cancer types included:

- Cancers relating to the neck and head
- Bladder cancer
- Colorectal cancer
- Ovarian cancer
- Follicular lymphoma

Macrophages Activated by GcMAF Destroy Tumor Cells

Up to 50 percent of monocytes (a type of white blood cell) and macrophages are concentrated in the spleen. It is observed that blood flow increases to the spleen and notable factors are found to stimulate the immune system following GcMAF treatment.

The proliferation of further cancer cells is not only inhibited, but macrophages inundate present tumors and began a process of active phagocytosis. This cellular “eating” process is activated by GcMAF in the presence of tumors. In other words, activated macrophages only exist in the company of cancer. Furthermore, macrophages activated by GcMAF are shown to increase programmed cellular death of cancer cells (apoptosis). This biological process only leaves behind remnants of cancer cell debris.

An *in vitro* analysis of GcMAF treatment shows that cancer cells are completely eradicated after only seven days. Clinical research is required to further establish the body's natural abilities to use GcMAF in order to prevent and cure cancer. However, there is anecdotal evidence that supports the ability of GcMAF immunotherapy treatment to be effective.

Additional Supplements Function in Synergy with GcMAF

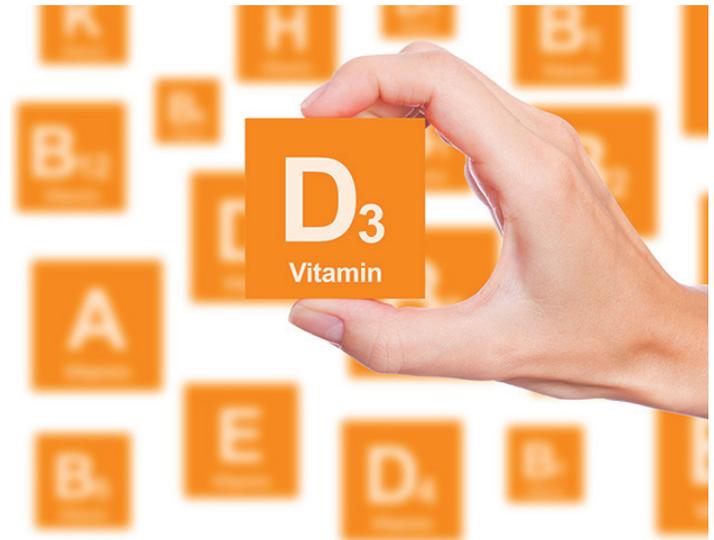
The Immuno Biotech Treatment Centre reported clinical data that tumor volume can be lowered by an average of 25 percent following only one week of GcMAF therapy. Both diameter and cell thickness of tumors were reduced.

The Immunocentre of Europe proposes that GcMAF is effective in destroying cancerous cells immediately. GcMAF treatment can rebuild the health of the immune system in an individual from three weeks to a maximum of three months on average.

Certain supplements such as oleic acid and vitamin D3 have a synergistic effect and help to repair and rebuild a healthy immune response, helping to overcome chronic disease and cancer.

Oleic Acid - When GcMAF treatment is integrated with oleic acid supplementation, there is an increased immune system response sooner and a significant improvement in the reduction of tumors. Oleic acid is an integral component required for GcMAF synthesis.

Vitamin D3 - In order to repair and rebuild the immune system with GcMAF treatment, it is recommended to also consume 10,000- 20,000 IU of vitamin D3 daily with nutritional supplementation.



Consuming 10,000-20,000 IU of vitamin D3, along with oleic acid, is recommended during GcMAF treatment

Where to Find GcMAF ImmunoTherapy

As expected, GcMAF immunotherapy is not available commercially in the U.S. and the FDA considers it an unapproved drug. This is one of the major reasons why Dr. Bradstreet's clinic was raided by the FDA.

There are still some clinics that offer GcMAF immunotherapy, but due to obvious concerns, most don't advertise this. A medical organization in Japan, called [Saisei Mirai](#), has manufactured and tested both a serum form of GcMAF that is injected into the patient, along with an oral bovine colostrum form. Products can be purchased from their website.

Colostrum and GcMAF

Colostrum is a form of first milk produced in mammals (including humans) that contains high levels of immunoglobulins designed to help build the newborn immune system. Specific types of bovine colostrum derivatives have been shown to be GcMAF activators. Colostrum has been shown in studies to activate GcMAF in individuals with serious infections and fatigue.

High quality colostrum is obtained from grass-fed cows or goats and comes in a capsule or powder form. It does contain small amounts of dairy proteins such as casein and whey, but due to the immunoglobulin matrix it is most often well-tolerated by people who are sensitive to dairy products.

It is best to consume colostrum away from meals to allow for quicker passage through the stomach to the gut. Swallowing pills may be the easiest approach, but the most effective may be swishing the powder in your mouth. In the mouth and throat there is specific immunological lymphoid tissue which is typically rich in macrophages. You can take a colostrum powder with water and put it in your mouth for 15-20 minutes to help activate these macrophages and absorb immunoglobulins sublingually.

After 15-20 minutes, swallow the mixture. This is one of the most effective ways to boost macrophage activity and is a recommended method for individuals who suffer with immunoglobulin deficiency syndromes.

Bravo Yogurt and GcMAF

One special type of yogurt is now being marketed for its benefits on activating GcMAF. This yogurt is called [Bravo Super Probiotic Yogurt](#) and it's not available in grocery stores so it must be [ordered online](#) and prepared at home.

Dr. John Gray has this to say about Bravo Yogurt on his website: *"Bravo Yogurt has proven to produce GcMAF in a completely natural way. This GcMAF Probiotic Bravo Yogurt Kit contains 42 essential probiotics to restore healthy gut function and digestion. These 42 strains of probiotic bacteria have proven to produce the essential protein, GcMAF."*



Bravo yogurt is not available in stores. The starter culture must be ordered online and prepared at home

The typical daily recommendation goes like this: Take a half cup of the special Bravo yogurt in the morning or at the end of a fiber-rich meal. After consuming the yogurt, don't eat or drink anything for an hour to make sure the probiotics and immunoglobulins avoid increased digestive activity and are able to get into the system.

With every spoonful it is recommended to swish it in your mouth for 30-60 seconds and then gargle it before swallowing. This helps to get the immunoglobulin compounds into the lymphoid tissue in the mouth and throat.

How to Boost Your GcMAF Levels

Healthy individuals are believed to produce approximately 10,000 cancer cells each day. GcMAF aims to destroy these cancer cells. Therefore, it is critical for you to maintain GcMAF concentration levels in your body in order to promote health and optimize the full healing capabilities your body has to offer.

Individuals taking GcMAF are encouraged to use oleic acid in the form of olive oil and avocados along with supplementing with high doses of vitamin D3. Drinking a minimum of 2 gallons (liters) of water and herbal teas each day is also recommended. You should also consume a low carbohydrate, ketogenic style diet high in good fats and key proteins shown to slow the development of cancer.



Olive oil and avocados are good sources of oleic acid

If you consider yourself a relatively healthy person already, minimize your risk of developing chronic disease or cancer by choosing a healthy lifestyle.

Lifestyle Recommendations to Reduce Your Risk of Cancer

There are specific things you can do to support your body's natural abilities to increase GcMAF production and optimize your health. Build a strong immune system by using the following recommendations as a guideline:

1. **Limit your sugar consumption.** Physicians are increasingly becoming aware of the health threats which sugar promotes. Not only should you avoid simple sugars such as sweets, but also complex sugars which are broken down from starches and grains. Both types of sugars feed cancer cells and need to be limited in your diet (and preferably eliminated).
2. **Receiving adequate amounts of vitamin D3 daily** is required for optimal health. One of the leading causes of autoimmune complications is vitamin D deficiency and may lead to a variety of concerns such as autism and cancer.
3. **Avoid soy milk** which may limit the absorption of trace minerals.
4. **Eliminate all forms of wheat** from your diet along with cancer causing agents such as lectins.
5. **Carrageenan is an additive found in a variety of foods which should be avoided at all costs.** Carrageenan is used as a thickening agent and has also been found to block GcMAF activity. You may find it useful to think of the effects of carrageenan as similar to the nagalase enzyme which ultimately is responsible for weakening immune defenses.
6. **Avoid the need for a root canal** and when possible, choose a tooth extraction. [Root canals](#) are associated with the destruction of the immune system.
7. **Avoid any substance which suppresses the immune system including cortisone, steroids, and anti-inflammatory drugs.** This advice is

from a specific treatment plan offered by the [Immunocentre of Europe](#) for naturally stimulating GcMAF production. Their treatment protocol also recommends the avoidance of radiation therapy and all experimental drugs which may cause adverse health effects and unknown reactions.

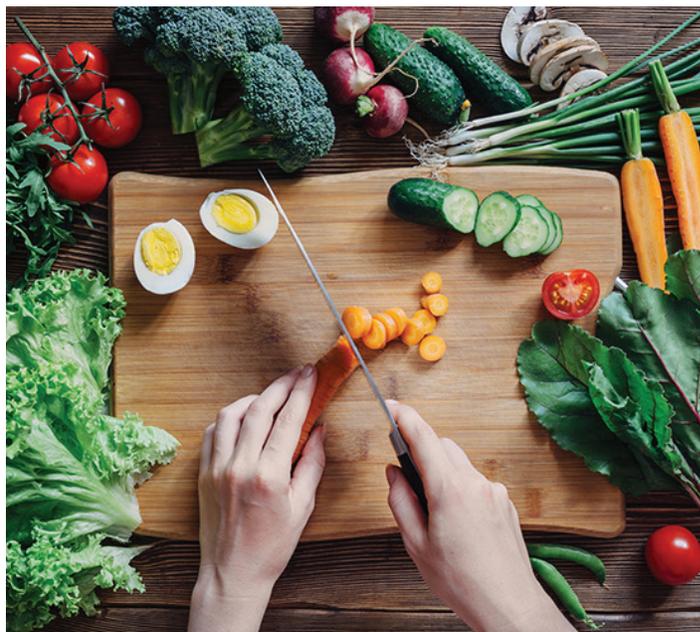
8. Remove all artificial sweeteners from your diet. Sugar substitutes such as aspartame suppress the immune system. Opt for plant-based sweeteners such as Stevia or Xylitol made from hardwood (not corn).



Artificial sweeteners are linked to numerous health conditions, including suppressing your immune system

9. Reduce your stress. People who have been diagnosed with cancer or a chronic disease might readily recall a recent life-changing occurrence which resulted in a severe shock to their bodies. Reducing stress levels is absolutely necessary to building a strong immune defense. Stress has the ability to puncture holes into your titanium-armored immune defenses and consequentially allows disease a chance to take hold.

10. Consume a diet rich in fish, pastured, grass-fed meat, and a variety of vegetables to optimize nutrient intake. Diets lacking essential amino acids and trace minerals result from poor nutrition and can lead to the degradation of your health and reduced GcMAF concentration.



Consuming an optimal diet of organic vegetables and pastured, grass-fed meat and wild fish will help keep GcMAF levels high

11. Move your body. Lack of oxygen and exercise are two of the most important factors associated with the development of cancer. The circulation of oxygen and exercise does more than benefit a healthy figure. Cells rely on a steady supply of oxygen to function properly.

Exercise optimizes health by promoting factors which reduce your risk of cancer. For instance, exercise limits the flow of cortisol through your body which causes stress and anxiety. Specifically, increased cortisol levels in men are associated with a decline in testosterone levels and are a risk factor for heart complications.

12. **Avoiding environmental contaminants** is recommended to reduce the toxicity of your immune system. Eliminate all toxic habits such as smoking which lead to carcinogenic mutations and put you at an increased risk for chronic ailments.

Are Benefits of GcMAF Purposely Being Hidden from the American Public?

GcMAF has shown incredible promise in the treatment of cancer, autism, and many other chronic diseases. Unfortunately, the FDA appears to be acting to suppress this information and terrorized one of the leading experts in Dr. Jeff Bradstreet. Could Dr. Bradstreet even have been killed over his use and expertise in GcMAF? Or was it really a case of suicide, likely brought on by the stress he must have endured from the threat of arrest and imprisonment for promoting an alternative treatment?

We will have to wait until all investigations are final, and of course, we may never know the truth. In the meantime, you can begin receiving some of the benefits of GcMAF therapy by using a high quality bovine colostrum supplement and vitamin D3, along with a low-carb, ketogenic style diet, and an active, healthy lifestyle.

Sources:

The in vitro GcMAF effects on endocannabinoid system transcriptionomics, receptor formation, and cell activity of autism-derived macrophages.

The Endocannabinoid System as an Emerging Target of Pharmacotherapy

GC protein-derived macrophage-activating factor decrease a-N-acetylgalactosamidase levels in advanced cancer patients

A Novel Role for a Major Component of the Vitamin D Axis: Vitamin D Binding Protein-Derived Macrophage Activating Factor Induces Human Breast Cancer Cell Apoptosis through Stimulation of Macrophages

Vitamin D binding protein-macrophage activating factor directly inhibits proliferation, migration, and uPAR expression of prostate cancer cells

About Dr. David Jockers



Dr. David Jockers is a Maximized Living doctor, functional nutritionist, corrective care chiropractor, exercise physiologist, and certified strength & conditioning specialist.

He runs one of the hottest natural health websites: DrJockers.com and is the author of *SuperCharge Your Brain*, the complete guide to radically improve your mood, memory, and mindset, and the *SuperCharged Recipe book* with over 180 full-color recipes to help you take back control of your health. He is a regular contributor to thetruthaboutcancer.com and has well over 1,200 professionally published natural health articles on the web and in print magazines.

Dr. Jockers is a sought after speaker around the country on such topics as weight loss, brain health, functional exercise, natural detoxification, and disease prevention. He currently owns and operates Exodus Health Center in Kennesaw, Georgia.

GcMAF: How GcMAF Works

Natural killer cells, miscarriage, and infertility

First immune

Oral Colostrum Macrophage-activating Factor for Serious Infection and Chronic Fatigue Syndrome: Three Case Reports.

GcMAF.se

Marsvenus.com

Norml: Introduction to the Endocannabinoid System

Q&A with Doc Nuzum: Fulvic Acid & Humic Acid Supplementation

With Dr. Daniel Nuzum

Q: Doc Nuzum, can you start off by explaining what Fulvic and Humic acids are?

Doc Nuzum: Sure! Fulvic and Humic acids are naturally occurring, non-toxic organic acid complexes with fantastic healing potential, because of their ability to:

- Dissolve and remove accumulated toxic pollutants from the body
- Transport vital nutrients, including vitamins and minerals, into the body's systems and into individual cells
- Act as powerful antioxidants, inactivating harmful free radicals, and
- Increase the body's overall redox potential. (Redox potential or reduction potential in this context is defined as the measure of the current of the body's electric charge)

Q: So can you expand a little then on what Fulvic acid does?

Doc Nuzum: Fulvic acid is key for preserving health and wellness. In fact, without it life would not exist at all. It is a natural, acidic organic complex of polymers (thought to be generated as a result of microbial metabolism) that contains highly active (unspent) carbon, hydrogen, molecular oxygen and up to 60 different minerals.

Typically Fulvic acid is extracted from humus found in soil, sediment, or aquatic environments. It's also soluble in acid, alkaline, and neutral environments. Soil containing Fulvic acid is better able to retain moisture and it improves soil structure because it enables plants to easily take up and use the vital nutrients they need.

Q: You mentioned humus. Can you explain what that is?

Doc Nuzum: Humus is a thick, dark brown or black organic material that forms in the soil when plant and animal matter decays into its most basic chemical elements. Many of these chemicals are important nutrients for plants, bacteria, and other organisms that live in soil.

Humus is believed to make soil more fertile. It allows air and water to move easily through soil, allowing oxygen to reach the roots of plants. Humus can also be produced by composting.



Humus is the thick, dark brown or black organic material formed in soil from decayed plant and animal matter

Q: What then is the difference between Fulvic and Humic acid?

Doc Nuzum: Both Humic acid and Fulvic acid are major components of humus and are mixtures of many different molecules with similar chemical properties. Humic acid is darker in color, whereas Fulvic acid has a yellowish hue. Humic acid molecules are generally larger and more complex than those in Fulvic acid, and contain more positively charged particles.

Fulvic acid is actually a specific type of lightweight Humic acid with high oxygen content. In general, Fulvic acid has numerous nutritional benefits, while non-fulvic Humic acid has stronger antiviral and antibacterial properties.

Q: Where does Fulvic acid come from? Where is it found?

Doc Nuzum: Fulvic acid is typically found in clay, soil, or shale, and sometimes also in bodies of water such as lakes, streams, and oceans. However, the greatest concentrations of Fulvic acid are located in rare shale deposits, which are areas featuring multiple layers of compressed fulvic shale rich in minerals and trace elements.



The greatest concentrations of Fulvic acid are found in rare shale deposits

Q: So it sounds like Fulvic acid is important for soil, but what makes Fulvic acid so important for our health?

Doc Nuzum: Fulvic acid is highly “bioavailable.” In other words, it’s easily absorbed into the blood when consumed. Also, because of its very low molecular weight it’s able to pass easily through the protective membranes of the body’s cells.

Fulvic acid makes nutrients such as vitamins and minerals, and even other herbal supplements, more soluble and readily available for use by the body’s cells. It also makes the transport of these nutrients much more efficient which dramatically increases the body’s ability to absorb them via the digestive system.

Many health experts (me included) believe that most people should take a Fulvic acid supplement to overcome any nutrient deficiencies they may have and to maintain a healthy lifestyle.

Q: Can you speak to how Fulvic acid enhances nutrient absorption at the cellular level?

Doc Nuzum: Fulvic acid is critical for nutrient absorption at the cellular level. It enters the body’s cells easily, helping them (the cells) to choose what nutrients, minerals, vitamins etc. to bring in – and at what quantities – and which ones to keep out. This means the cells can utilize nutrients quickly and efficiently. In other words, Fulvic acid improves the overall health and functioning of the body.

Q: Why is Fulvic acid critical for the function of vitamins and minerals?

Doc Nuzum: Fulvic acid is capable of easily transporting nutrients into the body. Not only that, it is able to transport over 60 times its own weight in vitamins and minerals into cells. In fact, without Fulvic acid (along with active carbon and high molecular oxygen), vitamins and minerals are of little or no use to the body.

In general, a good Fulvic complex increases the overall retention, absorption, and utilization of nutrients present in food, vitamins, and supplements.



Fulvic acid can improve cell absorption of nutrients from food, vitamins, and other supplements

Q: You mentioned that Fulvic acid is an antioxidant. How does it act as an antioxidant?

Doc Nuzum: In combination with active carbon and high molecular oxygen, Fulvic acid is one of the most powerful antioxidants and cleansers in the world. When this Fulvic acid encounters free radicals, it supplies an equal and opposite charge to neutralize them – thereby acting as a health-protective antioxidant.

In this way, Fulvic acid protects the body's cells from oxidation by environmental toxins and is a crucial factor in the prevention, and even reversal of infections and diseases, and in maintaining overall good health and well-being.

Q: You also mentioned that Fulvic acid can help move toxins through the body. Does it have any impact on heavy metals?

Doc Nuzum: Yes. Fulvic acid forms strong complexes with metals, including "ferric" iron, aluminum, and copper, increasing their ability to dissolve in water. The presence of Fulvic acid in the body is believed to allow heavy metals to move through the body's systems more efficiently.

Q: How does Fulvic acid balance the body's electric potential?

Doc Nuzum: Fulvic acid is a high quality electrolyte that dissolves in water or other liquids and is able to conduct electric currents, helping to keep the electrical potential of cells balanced.

As an electrolyte it maintains the health of the body's cells by allowing the free flow of electrons and other ions. This increases cell membrane permeability, helping to absorb nutrients faster and keeping them in the body longer.

Q: Early on you had mentioned "redox potential" which has to do with measuring the current of a body's electric charge. How does balancing the body's electric potential help to maintain health?

Doc Nuzum: The body's overall electric potential can be negatively affected by fluid loss, emotional stress, sleep deprivation, lack of exercise, and bad nutrition.

On the other hand, improving the electric balance in the body's cells can help defend them against infections and diseases, which are typically associated with low energy levels. The powerful electrolyte properties of Fulvic acid may even help to prolong the lifespan of these cells.



Lack of sleep, along with stress, poor nutrition, and no exercise negatively impact your body's electric potential

Q: As a bit of a recap, can you list out the primary health benefits of Fulvic acid supplementation that people can experience?

Doc Nuzum: Absolutely! There's a lot of really great benefits to Fulvic acid supplementation, including:

- Maintenance of appropriate nutrient levels in the body's cells
- Improved memory, focus, and analysis
- Removal of harmful toxins and free radicals from the body
- Neutralizing radiation and eliminating or reducing its harmful effects on the body
- Enabling faster and more efficient absorption of nutrients including vitamins and minerals into the body's systems and cells

- Boosting and helping to rebuild the immune system, thereby warding off infection and illness
- Increasing energy and metabolism and leading to greater activity levels, weight loss, and an overall sense of well-being
- More restful sleep
- Reduced stress levels
- Lower levels of arthritis-related pain and inflammation
- Improved circulation and lower blood pressure (BP)
- Better hormone and electrolyte balances
- Healthy hair, skin, and nails



Healthy hair, skin, and nails are just a few of the many potential benefits from Fulvic acid supplementation

Q: Why is it necessary to take a Fulvic acid supplement? Can't we get it from our food?

Doc Nuzum: There is a strong correlation between the Fulvic acid content in foods and the soil they are grown in. Most of the mass-produced fruits and vegetables grown today contain insufficient Fulvic acid because the soils they're grown in have become depleted of essential nutrients.

For this reason, health experts recommend taking supplements containing Fulvic acid as a regular nutritional aid, with or before meals. Always be sure to consult with a qualified health practitioner before taking Fulvic acid supplements to make sure they won't interfere with any other condition you may have or interact with other treatments or medications.

Q: Is it better for a Fulvic acid supplement to be acidic or alkaline in nature?

Doc Nuzum: Both. Fulvic and Humic acids are naturally acidic organic polymers. Therefore, supplements containing these organic compounds should have an acidic pH – in more alkaline solutions they will be neutralized and rendered inactive, unable to provide their health benefits.

Q: Last question. Are there any contraindications to consider while taking a Fulvic acid supplement? In other words, any reasons why people shouldn't take it?

Doc Nuzum: Both Fulvic and Humic acid are organic products that are known to be completely non-toxic. However, some experts believe that the consequences of taking these supplements need to be tested more thoroughly and they claim that

reports of their effectiveness are mostly anecdotal at this point in time. As I mentioned earlier, it's always a good idea to check with a qualified health professional who understands your particular health profile.

Finally, remember that no supplement can replace a balanced, nutritious diet, proper exercise, and healthy lifestyle choices.

About Dr. Dan Nuzum



Dr. Dan Nuzum is a Doctor of Natural Medicine, Osteopathic Doctor, and Traditional Tribal Practitioner. Doc Nuzum (friends call him "Doc") isn't the typical "I went to medical school, got my degree, and opened an office" doctor.

He has spent tens of thousands of hours in the medical field, and has several degrees. He has been helping people become better versions of themselves for more than 20 years. In addition to being a practicing doctor, Doc Nuzum is also a chemist with his own supplement line, a husband, father, and black belt martial artist.

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Charlene's Cancer Fighting Kitchen

Broccoli Sprout, Kale, Cucumber & Aloe Smoothie: The Tissue Rebuilder



This savory smoothie is packed with antioxidants, anti-inflammatories, essential fatty acids, and nutrient rich compounds. These ingredients are known to boost the immune system, halt tumor growth, restore damaged tissues, and energize the body.

This recipe is easy to prepare, taste bud tingling, metabolism boosting, and hunger satisfying. One a day keeps cancer at bay!

For all recipes, please use fresh, organic, locally-grown ingredients whenever possible, including organic, non-irradiated spices. This will give you the maximum cancer fighting benefits.

Yield: Two 12-ounce servings

Preparation Time: 10 minutes

Ingredients:

- 1 medium cucumber, chopped
- 1 handful of kale, carefully rinsed and chopped
- 1 handful of broccoli sprouts, rinsed
- 1 small tomato, quartered
- ½ ripe medium Haas avocado, peeled and chopped
- 2 tablespoons fresh Aloe Vera gel
- ¼ cup freshly squeezed lemon juice
- ¾ cup spring or filtered water

Spices:

- 1 teaspoon fresh turmeric root OR
1 teaspoon powdered turmeric
- ¼ teaspoon cayenne pepper powder
- Quality salt to taste, such as pink or sea salt

Directions:

1. Add all ingredients except aloe vera to the blender and gradually blend to high speed for 30 seconds or until smooth.
2. Cut aloe vera stalk lengthwise, scoop out the gel and place in the blender. Blend again until aloe vera gel is mixed into smoothie.
3. Pour into glasses and garnish if desired. Enjoy!

Spicy Ginger, Honey & Avocado Dressing



This delicious dressing features ginger for its anti-inflammatory effects, avocado for boosting metabolism and healthy fats, and coconut oil's amazing cancer fighting properties.

An added bonus is the fantastic four cancer-killing spices: turmeric, oregano, cayenne pepper, and garlic, along with black pepper to increase absorption.

Use this dressing on salads, steamed vegetables, or to add some zip to fish or chicken.

Yield: 1¼ cups

Preparation Time: 15 minutes

Ingredients:

- 2 tablespoons fresh ginger root, chopped
- 2 tablespoons raw honey OR coconut nectar* OR Lakanto**
- ¼ cup cold pressed coconut oil
- ½ of a medium avocado, ripe
- 2 cloves garlic, crushed
- ¼ cup freshly squeezed lemon juice

Spices:

- ½ teaspoon OR add quality salt to taste, such as pink or sea salt
- ½ teaspoon dried oregano
- 1 teaspoon turmeric root OR turmeric powder
- ½ teaspoon cayenne pepper powder
- ½ teaspoon freshly ground black pepper

Directions:

1. Place all ingredients in a blender or food processor and blend until smooth.
2. Pour on your salad or veggies, toss to thoroughly incorporate, and enjoy.
3. Keep for no more than five days in the refrigerator to retain nutritional value.

**Coconut nectar can be found in some specialty grocery stores and is readily available online. Coconut nectar is exceptionally high in enzymes, nutrient rich, and is low glycemic, so it's excellent for a sugar substitute.*

***Lakanto (Wholesome Sweeteners Brand) is a one to one sugar substitute available at Whole Foods. This is a superior sweetener for ketogenic diets and low glycemic needs.*

Shiitake Quinoa Quiche



Shiitake mushrooms are a popular anti-cancer food due to shiitake's unique anti-tumor mycochemicals that trigger natural cancer cell death, boost the immune system, help combat the side effects of radiation treatments, detoxify the system, and reduce inflammation.

This is a satisfying recipe that is a good source of protein. Enjoy its delicious, earthy flavor while also benefiting from the anti-cancer qualities of turmeric, ginger, and garlic, plus the detoxification benefits of parsley and cilantro. Coconut milk is a healthy source of fat and contains lauric acid, which has antiviral, antimicrobial, and antifungal properties.

Yield: Eight 2-inch slices

Preparation Time: 25 minutes + soaking time

Ingredients:

- 5 eggs (preferably from free-range, pastured hens)
- 2/3 cup red quinoa, soaked overnight
- 2/3 cup dried Shiitake OR Maitake mushrooms (or both), soaked one hour*
- 1 medium red onion, chopped
- 3 cloves garlic, peeled, crushed, and chopped
- 3/4 cup coconut milk OR substitute favorite nut milk

Herbs & Spices:

- 1 teaspoon turmeric powder
- 1/2 cup parsley, finely chopped (handful chopped = 1/2 cup)
- 1/2 cup cilantro, finely chopped (handful chopped = 1/2 cup)
- 1 1/2 tablespoons fresh ginger root, finely chopped

Directions:

1. Place quinoa in a bowl, cover with fresh water and let sit 8 hours or overnight.
2. Place dried mushrooms in a bowl, cover with fresh water and let sit for one hour.
3. Drain quinoa and place in a saucepan covered with water to about a half inch above the quinoa. Gently simmer covered for 20 minutes or until fluffy. Drain any excess liquid and set aside to cool on a plate or bowl.
4. Drain mushrooms, slice, and set aside.
5. In medium bowl add the eggs, coconut milk, and turmeric powder and whisk with a wire whisk until frothy.

Shiitake Quinoa Quiche *(continued)*

6. Add all the remaining ingredients along with quality pink or sea salt and fresh ground black pepper to taste. Mix together with a spoon.
7. Pour into a lightly greased (with coconut oil) 9" glass pie plate and bake in 350 degree Fahrenheit oven for 15 to 20 minutes or until a butter knife placed in center comes out clean.
8. Allow to cool for five minutes, then slice and serve. Enjoy!

**Dried shiitake and/or maitake mushrooms can be found at Whole Foods, health food stores, organic markets, Asian markets and online.*

About Charlene Bollinger



Charlene Bollinger is a devoted Christian, happily married wife, joyful mother of 4 beautiful home-educated children, health freedom advocate, co-founder of CancerTruth.net, former model/actress/fitness buff, and lover of healthy food and healthy living.

After losing various family members to conventional cancer treatments, she and her husband, Ty, learned the truth about cancer and the cancer industry and together work tirelessly helping others learn and live free, healthy lives.

Currently, Charlene is working on compiling a cookbook to help families learn that they can indeed cook healthy, delicious food in this toxic world. Along with her husband, Ty, she is also the co-owner of Infinity 510 Squared Partners Publishing Company.

The Forbidden Herb: Healing with Hemp and Cannabis

By Ty Bollinger

Depending on who you talk to, it's either a dangerous weed rightfully blacklisted by the government as a societal vice – or it's one of the most functionally versatile yet completely misunderstood plants ever to grace God's green earth. I'm referring to the *cannabis* plant, the "forbidden herb" that's rapidly earning itself a fresh reputation as nature's healing alternative to everything from polluting fossil fuels to dangerous pharmaceuticals.

Perhaps you've heard a thing or two about cannabis in recent years. Perhaps you've wondered to yourself if this mysterious botanical specimen is really just a mind-altering "drug" that lazy people use to get high. Or if it just might be a panacea with the potential to "heal the nations," as spoken of in ancient texts like the Holy Bible.

As we explore this taboo subject together, I encourage you to keep an open mind and consider all the facts surrounding one of the world's most misconstrued plants. Based on what I've uncovered in my own studies, I'm now fully convinced that cannabis was placed on Earth by God for our collective good – and I'm very excited to share with you all that I've been learning about this amazing gift from nature.

Hemp vs. Marijuana: What's the Difference?

I spent quite a bit of time researching the history of cannabis as part of my popular docu-series

"The Truth About Cancer: A Global Quest." One of the things I came to realize is that this sacred herb was highly treasured for both its practical and medicinal utility long before it was misrepresented and demonized by corrupt private interests and pandering governments.

Prior to the turn of the 20th Century, cannabis was viewed no more suspiciously than any other plant crop like tomatoes or corn. The American government actually *encouraged* farmers to grow cannabis. Its fibers are exceptionally strong and durable and convert quite nicely into rope, sails, paper, clothing, and various other textiles and materials.

Did you know hemp was considered so useful that in 1619 the Virginia Assembly passed legislation *requiring* all farmers to grow it for the betterment of the commonwealth? In fact, hemp was even allowed to be exchanged as legal tender in Pennsylvania, Virginia, and Maryland!



Hemp was critical to the establishment of the American colonies and was used to make rope, sails, paper, clothing, and more

The type of industrial cannabis commonly grown by our nation's forefathers is traditionally known as "hemp." And unlike its polemically charged cousin "marijuana," hemp can't be smoked for psychological effects. Many people still don't realize that there's a difference between industrial hemp and marijuana, the latter being a slang term with its own sordid history that I'll get into a little bit later.

But before I do, I think it's important to point out that our forefathers grew both hemp *and* marijuana, according to the historical record. America's first president, George Washington, wrote in his diary about how he separated his hemp plants during cultivation. This is exactly what growers today do to produce a particularly medicinal form of cannabis with higher levels of tetrahydrocannabinol (known as THC) – the primary psychoactive component in marijuana.

An excerpt from George Washington's diary dated August 1765 reveals that this icon of historical Americana not only grew his own hemp cannabis for industrial use, but also psychoactive cannabis in the form of marijuana:

"Began to separate the Male from the Female hemp ... rather too late," Washington noted in his diary, adding that the male plants were visibly "coarser" and had "larger" stalks than the female plants.

Biologically speaking, both male and female hemp plants come from the same parent species, *cannabis sativa*. The difference lies in their respective functions. The utilitarian hemp plants are predominantly male, while the mind-affecting "marijuana" plants are all female.

This is an important distinction. It provides not only a historical context for why figures like George Washington separated the two, but also a practical understanding of how the plant is used today. When male cannabis plants come into contact with female cannabis plants, they fertilize the females and cause them to produce seeds. The males also prevent the females from producing the flowers used to produce psychoactive cannabis, which is why growers keep the two separate when producing potent cannabis to be used as medicine.



Cannabis is an annual, flowering herb. Male plants are hemp, while only the female plants contain the psychoactive ingredient "marijuana" is known for

Was Cannabis Used by Our Founding Fathers?

The fact that George Washington separated his male and female cannabis plants suggests that he utilized cannabis in much the same way as today's dispensaries do – and he wasn't alone. Former President Andrew Jackson is said to have smoked cannabis, as did our Founding Father Thomas Jefferson. According to historians, Jefferson illegally smuggled cannabis seeds to America from Europe – although there is no evidence he ever used the ensuing crops for recreational purposes.

Other famous names linked to cannabis include Benjamin Franklin and John F. Kennedy, both of whom appear to have smoked and/or ingested psychoactive cannabis.

Many ancient cultures throughout other parts of the world – including those in Asia, Africa, and the Middle East – also embraced cannabis as a natural remedy for common health conditions such as inflammation, glaucoma, indigestion, headaches, insomnia, and all sorts of other ailments. And specifically in the United States, cannabis was regarded as science-based medicine up until about 1942, prior to which time it even held a prized spot in the well-respected *United States Pharmacopeia* (a compendium of drug information).

The Drive to Demonize Cannabis

All of this changed, however, when corrupt textile and pharmaceutical interests began poisoning the minds of the public with politically-charged, anti-cannabis rhetoric during the 1930s.

Since many of the Mexican immigrants who were arriving into the U.S. at that time had a penchant for cannabis use, corrupt individuals in government and private industry capitalized on sweeping racist sentiment. Officials spread lies about how cannabis supposedly provoked rape and other forms of violence.

This is how the name “marijuana,” an etymological derivative of “Maria-Juana,” first came to be – the word being a slang term for the “devil’s weed” that was supposedly used by amoral Mexicans and blacks to corrupt the white population... or so the narrative went.

This irrational fervor stoked the early fires of prohibition beginning in the 1910s, which eventually led to incremental changes in laws governing cannabis use all throughout the country. Massachusetts was the first state to officially ban cannabis cultivation and use. As the federal government grew ever larger, a national effort to ban cannabis quickly followed.

Harry J. Anslinger, who was appointed commissioner of the newly-created Federal Bureau of Narcotics in 1930, is credited as being “the architect of national prohibition.” His partner in crime, William Randolph Hearst, a lumber and paper industry baron (whose business interests were coincidentally being threatened by competition from the hemp industry), also played a critical role in vilifying and ultimately getting cannabis outlawed at the federal level.



Hemp was used for making paper for thousands of years. The Declaration of Independence and the U.S. Constitution are printed on hemp paper

“In 1937, the U.S. passed the first Federal law against cannabis, despite the objections of the American Medical Association (AMA),” explains Americans for Safe Access, an advocacy group currently working to undo the damage caused during this critical time in American history.

They go on to say that Dr. William C. Woodward, who was testifying on behalf of the AMA, told Congress that, *“The American Medical Association knows of no evidence that marijuana is a dangerous drug”* and warned that a prohibition *“loses sight of the fact that future investigation may show that there are substantial medical uses for Cannabis.”*

But none of this mattered in the end, as Anslinger, Hearst, and the rest of the anti-cannabis crusaders achieved their goal. Cannabis ended up being classified by the government as a Schedule I drug with no recognized medical use, landing it right alongside dangerous street drugs like cocaine and heroin in terms of its potential for abuse and harm.

Truth be told, this classification couldn't be more inaccurate. And yet, looking at cannabis through any other lens than negative is still a difficult feat for many people who've bought into the “Reefer Madness” lie that cannabis is dangerous, useless, and has no place in society. The good news, though, is that the political winds are finally starting to shift and cannabis is once again making its way back into mainstream society.

Healing Properties of Hemp Oil and Seeds

Before I get into the nitty-gritty of all that cannabis has to offer as far as health benefits (from here on out when I speak of “cannabis,” I'm referring to the THC-containing kind that people smoke), I want to delve into the health benefits of non-psychoactive industrial hemp. This plant is used to make food products like hemp seeds and hemp seed oil that are legally sold nationwide.

Not to be confused with cannabidiol (CBD) oil derived from cannabis, which I'll discuss later on,

hemp seed oil and the seeds from which they're derived are widely available at most grocery and health food stores. They're considered food products because they contain only trace amounts of THC. Many people consume them in smoothies, on salads, or as dietary supplements.

Though it still can't be legally *grown* in most places in the U.S. due to antiquated, prohibition-era laws that erroneously lumped it into the same category as psychoactive cannabis, hemp can be legally *purchased* and *consumed* throughout the U.S. and much of the rest of the world. Most hemp products sold in the U.S. today are imported from Canada, as Canada's cultivation laws do differentiate between industrial hemp and psychoactive cannabis.

Hemp seeds and hemp seed oil are among the richest plant-based sources of omega-3 fatty acids – including docosahexaenoic acid (DHA) – which has been shown to protect the heart, brain, and cardiovascular systems. Hemp seed oil is also a powerful antioxidant and anti-inflammatory food product that aids in boosting immune function.



Hemp seeds and hemp oil are legal to purchase in the U.S. and are rich in healthy omega-3 fats

Hemp Oil Soothes the Skin & Improves Blood Flow

People with skin problems may also benefit from consuming hemp oil. One study published in the *Journal of Dermatological Treatment* found that individuals with atopic dermatitis showed significant changes in their plasma fatty acid profiles and experienced improved clinical symptoms as a result of consuming hemp oil.

Hemp seeds are an excellent source of both fat and protein – roughly 25 percent of each seed is made up of “complete” protein, while another 30 percent is made up of high-quality fat. Plus there’s all the vitamin E, phosphorus, potassium, sodium, magnesium, calcium, zinc, iron, and sulfur contained in hemp seeds.

Healthy blood flow is a crucial part of human health, and hemp seeds serve an important role in this area as well. Rich in arginine (an amino acid that promotes vasodilation), hemp seeds fuel the body’s production of nitric oxide, which helps relax and expand blood vessels to reduce blood pressure and increase blood flow. In fact, hemp seeds contain *all* the essential amino acids, which is why they’re considered to be a complete protein. Hypothetically speaking, one could consume nothing but hemp seeds and still maintain pristine health due to the full-spectrum nutrients packed into every kernel.

Shelled hemp seeds are also an excellent source of fiber, both soluble and insoluble, which means smoother sailing for your digestive tract. With colon cancer rates on the rise, adding more hemp seeds to your diet is a great way to help prevent fecal buildup and keep your intestines in tip-top shape.

As I mentioned earlier, industrial hemp *is legal in all 50 states*, so you’re free to purchase it locally or order it online. I’m partial to the [Nutiva brand](#) of both hemp seeds and hemp seed oil because Nutiva products are certified organic; they’re available practically everywhere; and the company is a certified B corporation, meaning it maintains rigorous operations standards that include protecting workers, promoting environmental sustainability, and working towards a zero-waste production model.

Cannabis, the All-in-One Miracle Medicine

There’s also an array of health benefits to be derived from full-spectrum, female-plant cannabis, which is still outlawed federally. Because it’s been demonized for so long, psychoactive THC (which is abundant in cannabis), remains a bogeyman in many people’s minds. But this key compound holds its own special place in natural healing that you simply can’t get from non-psychoactive industrial hemp.



Cannabis has countless medicinal uses and has been used to treat conditions ranging from insomnia to cancer

A little background may be relevant here. Cannabinoids are a class of chemical compounds that act on the so-called “cannabinoid receptor proteins” in our body and brain. These receptor proteins can bind to and get activated by the “endocannabinoids.”

Endocannabinoids come from three sources:

1. They are produced naturally in the brain and nervous system (interestingly, they are also found in breast milk)
2. From phytocannabinoids, including THC, which are found in cannabis and some other plants
3. Synthetic cannabinoids that are manufactured artificially.

Like the many other cannabinoids found in cannabis, THC binds to cannabinoid receptors throughout the body – particularly in the brain – where it helps alleviate pain. THC feeds the body’s innate endocannabinoid system while either stimulating or sedating the brain and body. Cannabis strains of the *sativa* variety are typically associated with brain “highs,” while *indica* cannabis is most often associated with body relaxation.

There are also quite a few variations within these two categories, including sativa-indica hybrid strains that exert both body and brain effects. There are literally *hundreds* of different cannabis strains offering a wide variety of health benefits, and with suitability for both daytime and nighttime use so patients can focus, sleep, or do whatever it is they need to do at a particular moment in time.

Cannabis in general is packed with an array of special healing phytocannabinoids, of which there

are over 85 different types depending on the strain. Each phytocannabinoid offers its own unique therapeutic benefit, with the two most well-known being THC and CBD. But there are also many others like CBC, CBG, and CBN – as well as the “acid” forms of both THC and CBD, known as THCa and CBDA, respectively, which are found in raw cannabis leaves and buds.



There are hundreds of different cannabis strains offering different effects and healing benefits

“When cannabis is consumed, cannabinoids bind to receptor sites throughout our brain (receptors called CB-1) and body (CB-2),” explains the cannabis information resource Leafly. *“Different cannabinoids have different effects depending on which receptors they bind to. For example, THC binds to receptors in the brain whereas CBN (cannabinol) has a strong affinity for CB-2 receptors located throughout the body. By aiming the right cannabinoid at the right receptors, different types of relief are achievable.”*

In fact, Leafly has created a “Cannabis Wheel” [infographic](#) that offers a visual depiction of the various cannabinoids found in cannabis – and what each one does in the areas of chronic pain, sleep, gastrointestinal health, mood, behavior, and neurological balance.

What is CBD?

CBD is another cannabinoid that, unlike THC, **produces no psychoactive effects**. This is because CBD binds to cannabinoid receptors *throughout the body*, rather than only in the brain. This means CBD is able to effectively alleviate symptoms like nausea and vomiting, seizure activity, inflammation, neurodegenerative disorders, anxiety, depression, and psychosis, while also combating tumor and cancer cells.

CBD is just one of over 60 active cannabinoid compounds that feed the body's endocannabinoid system, which is made up of endogenous (originating within the body) cannabinoid receptors designed specifically for the cannabinoids found in cannabis. These receptors are found throughout the human brain, as well as in the central and peripheral nervous systems – and each receptor site is specifically suited for a certain type of cannabinoid.

Cannabis also contains aromatic oil compounds known as terpenes that, like cannabinoids, bind to cannabinoid receptors throughout the body and brain. Terpenes are the pungent oils secreted by cannabis trichomes, those crystal-like “hairs” that give cannabis buds their snow-covered gleam.



The trichomes (“hairs”) on the cannabis plant secrete pungent oils called terpenes

Terpenes are what furnish each cannabis strain with its own unique scent and flavor profile, and are similar in nature to those found in common plant-based essential oils that you might use in a diffuser to make your home smell pleasant. There are more than 100 different terpenes that have thus far been identified in cannabis, generating all sorts of pungent flavors and smells ranging from pine and citrus to berry and mint.

Terpenes interact synergistically with cannabinoids to produce what is called an “entourage effect,” enhancing the therapeutic potential of cannabinoids. Terpenes bind to the same receptor sites throughout the body and brain that cannabinoids do, regulating and altering their respective chemical outputs. Terpenes also help modulate how much THC passes through the blood-brain barrier, along with helping to mitigate brain neurotransmitter production, including both dopamine and serotonin.

Cannabis strains rich in the terpene beta-myrcene, for instance, tend to have a musky, earthy aroma and are commonly used to help induce sleep. Strains containing limonene tend to have a distinct citrus aroma, with this particular terpene helping to elevate mood and relieve stress. Other common terpenes found in cannabis include linalool, beta-caryophyllene, alpha-pinene, and humulene.

Leafly has produced another helpful “Terpene Wheel” [infographic](#) that offers a full breakdown of six of the most common cannabis terpenes, including their scent characteristics, biological function, other plants in which they’re found – and most importantly, the cannabis strains in which they’re most commonly present.

Don't Be Misled: Full-Spectrum CBD Oil Comes from Cannabis, Not Hemp

Perhaps you've heard the story of young Charlotte Figi, the Colorado girl whose nightmarish epileptic condition was effectively cured with a CBD-rich strain of cannabis known as "Charlotte's Web." Ever since her amazing story went public, people across the country have been seeking out CBD oil for their own conditions which – because of inconsistent, patchwork cannabis laws – has created a market for hemp-derived CBD oils that are legal in all 50 states.

While hemp does contain some CBD, CBD oils derived from hemp are *not* the same as CBD oils derived from full-spectrum cannabis, as the two plants have variant cannabinoid profiles. **True CBD oil derived from full-spectrum cannabis** (which is not yet legal in all 50 states), **is much more potent and healing than the hemp-derived kind.** Hence the dire need for major cannabis reform both at the state and federal levels.



Know what you're buying. CBD oil from cannabis is more potent and healing than CBD oil made from hemp

If you currently live in a state or country where cannabis is still illegal, either medically or recreationally, you may wish to contact your

legislators and urge them to introduce or support reform initiatives to end cannabis prohibition.

Building the Biblical Case for Cannabis

As a Christian myself, I recognize that some readers may be wondering whether or not cannabis use is congruent with their religious convictions. I'm excited to tell you that from a Biblical perspective I'm fully convinced that cannabis is safe, beneficial, and good for humanity. Here are a few Biblical passages that help make the case...

In Genesis 1:29, God offered up an edict to Adam in the Garden of Eden, declaring, *"I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat."* Cannabis is a seed-bearing plant that freely grows like a weed, so it falls into the category of plants given to mankind by God.

In Hebrew and Aramaic translations of the bible (Exodus 30:22-24), God instructs Moses about how to produce the holy anointing oil, one of the ingredients of which is "Q'aneh-Bosm" (also translated as "Kaneh-Bosem") which many Biblical scholars believe refers to cannabis. Phonetically speaking, this would appear to be accurate.

The Book of Revelation also speaks of a "tree of life" that *"yield[s] her fruit every month"* and whose leaves *"were for the healing of the nations."* There's been much debate over the identity of this mystical tree, with compelling arguments to suggest that this verse might just be talking about cannabis.

On the flip side, just a few chapters earlier in Revelation 18:23, the book's writer, John, speaks of all nations being deceived by the "sorceries" of

Babylon. The Greek word for sorceries, in this context, is *pharmakeia*, the root word from which we've derived the words pharmacy and pharmaceuticals. Now there's some food for thought!

Considering the diversity of health benefits to be gained from cannabis – and the fact that it's a seed-bearing plant blessed by God *and* the Biblical proof texts that suggest cannabis was one of the ingredients God mandated for use in the holy anointing oil, I'm fully convinced that cannabis is a true gift from God.

I hope you feel the same way, or at the very least now recognize that there's so much more to this sacred plant than you've likely been told.

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About Ty Bollinger



After losing several family members to cancer (including his mother and father), Ty Bollinger refused to accept the notion that chemotherapy, radiation, and surgery were the most effective treatments available for cancer patients. He began a quest to learn all he possibly could about alternative cancer treatments and the medical industry.

Ty has now made it his life's mission to share the most remarkable discovery he made on his quest: the vast majority of all diseases (including cancer) can be easily prevented and even cured without drugs or surgery.

Ty is a happily married husband, the father of four wonderful children, devoted Christian, best-selling author, medical researcher, talk radio host, health freedom advocate, former competitive bodybuilder, and also a certified public accountant.

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I hope you enjoyed this edition of your Heroes Against Cancer Community newsletter. And I especially hope this month's articles have made you think about how the government agencies that are supposed to be protecting us don't necessarily have our best interests at heart - especially when it comes to substances that can potentially heal us.

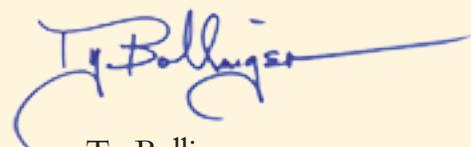
Coming up in next month's HACC newsletter we have an article about another healing substance that most North Americans have never tried (and most likely haven't even heard about). However, it's been used by Amazon tribes for ages in special ceremonies and is a topic I think you'll find intriguing.

A reminder that I will be speaking at the Cal Jam event in Southern California Mar 18-20. If you're able to attend, you can save \$20 off your entry price by using the

savings code BOLLINGER when you buy your ticket here: caljam.org/general-public

Coming up April 8-10, I'll be on the other side of North America as the keynote speaker at the Canada Total Health Expo in Toronto, Canada. After the event organizers saw *The Truth About Cancer: A Global Quest* in October, they totally changed up their plans for the event. They'll be showing an episode from the docu-series each day plus I'll be speaking every day at the event. I'd love to see all my Canadian friends in Toronto in April.

As we head into Valentine's Day week-end, I send you my heartfelt wishes for a healthy & happy February!



Ty Bollinger

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