



## Key Points

- By increasing nitric oxide, hesperidin reduces the damage from heart attacks
- Problems with industry research sponsored by drug companies
- Hesperidin stops cancer from spreading
- Quercetin impedes cancer at all stages without the toxicity of chemotherapy
- Several plant extracts reduce cellular injury caused by radiation
- Quercetin boosts brain mitochondria, increasing energy supply

### PLUS

- How cancer suppresses immunity

### ASK DR. BLAYLOCK

- What slows arthritis progression?

## Natural Compounds Protect Vital Organs and Inhibit Cancer

Traditional medicine's strength is treating acute ailments such as heart attacks, trauma, and conditions that require surgery. But most chronic conditions — including diabetes, liver failure, hypertension, chronic infections, degenerative neurological diseases, heart failure, and chronic kidney diseases — are poorly treated.

It is these conditions for which holistic medicine offers the greatest potential for treatment and even prevention of disease, which is all but ignored by traditional medicine.

Unfortunately, specialty areas of medicine (especially oncology) have turned a blind eye to the tremendous amount of research demonstrating the benefits of natural compounds.

Also ignored are the tremendous benefits of natural compounds working in synergy to remedy seemingly untreatable diseases. This means using two or more such compounds together to magnify their benefits.

Traditional medical practitioners often quote studies that report no benefits from natural treatments. But in almost all cases, those studies tested compounds alone, or in very small doses — almost as if they were designed to fail.

The studies also neglected to take into account that the effectiveness of natural compounds is dose- and time-dependent, meaning the higher the dose (in many but not all cases) and the longer the treatment is taken, the better the results.

In this month's issue of The Blaylock Wellness Report, I will tell you about two natural compounds that have incredible health benefits and are infinitely safer and more effective than many pharmaceutical drugs: hesperidin and quercetin.

### Hesperidin: Numerous Benefits for Brain Health

Hesperidin is found in high concentrations in certain citrus fruits, such as oranges, mandarins and grapefruits. Extensive studies have demonstrated a long list of benefits, including:

- Anti-inflammatory

- Antiarthritic
- Radioprotective
- Antioxidant
- Antiviral
- Brain protective
- Hypoglycemic
- Immune modulatory
- Antihypertensive
- Antiasthmatic

In addition, hesperidin has a high margin of safety. But caution should be used when taking hesperidin with some prescription medications because it affects drug metabolism in the liver, and can influence drug toxicities.

One of the most useful properties of hesperidin is its ability to calm the brain in cases of anxiety and panic attacks.<sup>1,2</sup> It also has significant antidepressant effects.<sup>3</sup> Anxiety is commonly associated with depression.

But hesperidin should not be combined with prescription drugs affecting behavior, such as sleeping pills or antidepressants.

I have successfully treated several insomnia sufferers with hesperidin. The usual dose is 500 mg taken 30 minutes before bedtime.

The same dose taken with each meal will reduce anxiety and depression without inducing daytime sleepiness.

Hesperidin also has been shown to have special properties that protect the brain against:

- Strokes
- Brain trauma
- Alzheimer's disease
- Parkinson's disease
- Huntington's disease<sup>4,6</sup>

In addition, hesperidin selectively increases nitric oxide produced by the inner lining cells of arteries (endothelia), thus improving blood flow in all vessels, including those of the brain and heart.<sup>7</sup>

Because hesperidin is a powerful antioxidant, it prevents oxidation damage by other nitric oxide-enhancing substances.

There are three enzymes that increase nitric oxide production in the body: one for the brain (nNOS); one for most other tissues (iNOS); and one for blood vessels (eNOS).

Hesperidin only activates the eNOS enzyme for blood vessels — which is exactly what you would want to do.

Interestingly, hesperidin suppresses the iNOS nitric oxide-generating enzyme, thus lowering tissue levels of nitric oxide. That helps protect against damage to the tissues.<sup>8</sup>

Studies have also shown that hesperidin enhanced survival of neurons (brain cells) and reduced pain.<sup>9,10</sup>

In one study, hesperidin was shown to increase special antioxidant enzymes — catalase and superoxide dismutase (SOD) — that protect the brain, as well as

**The Blaylock Wellness Report**® (#172) is a monthly publication of Newsmax Media, Inc., and Newsmax.com. It is published at a charge of \$56.95 for print delivery (\$49.95 for digital/online version) per year through Newsmax.com and NewsmaxHealth.com.

The owner, publisher, and editor are not responsible for errors and omissions. Rights of reproduction and distribution of this newsletter are reserved.

Any unauthorized reproduction or distribution of information contained herein, including storage in retrieval systems or posting on the Internet, is expressly forbidden without the consent of Newsmax Media, Inc.

**newsmax**health

**newsmax**media

**Please note:** All information presented in **The Blaylock Wellness Report** (including answers to reader questions) is for informational purposes only, and is not specifically applicable to any individual's medical problem(s), concerns, and/or needs. **No content is intended to be a substitute for professional medical advice, diagnosis, or treatment.** All information presented in **The Blaylock Wellness Report** should not be construed as medical consultation or instruction. You should take no action solely on the basis of this publication's contents. Readers are advised to consult a health professional about any issue regarding their health and well-being. **Any action you take on the basis of the information provided is solely at your own risk and expense.** The opinions expressed in **The Blaylock Wellness Report** do not necessarily reflect those of Newsmax Media, Inc.

For rights and permissions, contact Newsmax Media, Inc. at  
PO Box 20989, West Palm Beach, Florida 33416  
or [copyright@newsmax.com](mailto:copyright@newsmax.com).

**Author & Editor** Russell L. Blaylock, M.D.

**Contributing Editor** Matthew Kalash

**Art/Production Director** Phil Aron

For Subscription/Customer Service inquiries, call  
1-800-485-4350 or email [wellnessreport@newsmax.com](mailto:wellnessreport@newsmax.com).

Send email address changes to [wellnessreport@newsmax.com](mailto:wellnessreport@newsmax.com)

© 2018 Newsmax Media, Inc. All rights reserved.

**Newsmax and The Blaylock Wellness Report** are registered  
trademarks of Newsmax Media, Inc.

raising the levels of reduced glutathione, glutathione peroxidase, and glutathione reductase, which all protect the brain.<sup>11</sup>

## Reducing Damage From Heart Attacks and Heart Disease

But the brain isn't the only organ protected by hesperidin. Studies have also shown it to be very useful for protecting the heart against the effects of prolonged high blood pressure, which if left untreated can cause the heart to enlarge and eventually fail.<sup>12</sup>

The compound also protects against atrial fibrillation, an arrhythmia in which the heart beats rapidly and with incredible irregularity.

Atrial fibrillation is a major cause of death in people with heart disease.<sup>13</sup>

By selectively increasing nitric oxide levels within the blood vessels supplying the heart, hesperidin can reduce the damaging effects of heart attacks and chronic heart disease.

What this compound is doing is increasing blood flow to the heart muscle, especially the microcirculation supplied by the smallest blood vessels, called arterioles.

This collateral blood supply can mean the difference between a fatal heart attack or severe heart damage, and survival with a good outcome.

The increased blood flow also prevents scarring of the heart muscle (a process called remodeling) that can cause congestive heart failure and arrhythmias.

## Fighting Cancer With Hesperidin

In addition to aiding the brain and heart, hesperidin also has direct anticancer benefits against numerous types of cancer, including:

- Prostate
- Breast
- Gliomas (brain tumors)
- Bladder
- Esophageal
- Colon
- Leukemia
- Lymphomas
- Liver
- Stomach
- Thyroid
- Cervical

## The Problem of 'Ghosting' for Profit

Keep in mind that far too many studies supporting the effectiveness and safety of traditional pharmaceutical drugs are "ghostwritten," meaning they are fake articles prepared by a company specializing in spreading false information. Experts in various medical fields are then paid handsome sums to put their names on these fraudulent medical studies.

In other cases, medical experts receiving such payments from pharmaceutical companies will alter the data in their studies to give false reports of safety or effectiveness of the drug in question. Pharmaceutical companies have paid millions, and in some cases, billions, in fines when caught in this practice. Still, they see it as an acceptable cost of doing business.

After all, if a company makes \$50 billion in sales of a drug and is fined \$5 billion, that's an acceptable price to pay.

The compound has also been shown to inhibit carcinoid cancers, an especially treatment-resistant form of the disease.<sup>14</sup>

One of the most important ways hesperidin fights cancer is its ability to potently inhibit tumor invasion and metastasis — the two things that make cancer deadly.

Some of the most resistant types of breast cancer are the ones that express higher levels of the tumor growth factor HER2 (HER-2 TK). The drugs that suppress HER2 in these types of breast cancer have significant side effects and often fail to halt the tumor's growth.

But hesperidin, along with another flavonoid called naringenin, sensitize these HER2-positive cancer cells for death.<sup>15</sup>

Many common chemotherapy drugs — especially cisplatin — that are used to treat cancer also badly damage bodily organs, even the brain. Cisplatin can severely damage many organs, including:

- Liver
- Kidneys
- Heart
- Eyes
- Peripheral nerves

## Protection From Aluminum

Aluminum is increasingly being understood to play a major role in a number of chronic neurologic disorders, including autism, Alzheimer's dementia, Parkinson's disease, and ALS.

This very toxic metal tends to accumulate in special parts of the brain, and over time lead to these disorders.

Most vaccines contain aluminum, which has been shown to progressively travel to the brain after vaccination. Aluminum also binds easily with fluoride, producing an even more toxic compound called fluoroaluminum.

Hesperidin — along with curcumin, N-acetyl-L-cysteine (NAC), and selenium — protects the brain from aluminum damage and helps lower brain aluminum levels.

Interestingly, hesperidin protects the brain against aluminum toxicity by a mechanism that also kills cancer cells.

Hesperidin also protects the brain against a loss of learning and memory as seen in mouse models of Alzheimer's disease.<sup>19</sup>

It can also lead to hearing impairment and even deafness.

Hesperidin and several other natural flavonoid compounds have been shown to significantly protect these organs, nerves, and the brain against damage caused by cisplatin without interfering with the drug's cancer-killing effects.<sup>16-20</sup>

Hesperidin also protects spermatozoa from being damaged by cisplatin, which is critical for preventing treatment-related infertility.<sup>21</sup>

Additionally, like a number of other flavonoids hesperidin overcomes chemotherapy resistance — which is a major reason that treatments fail to work and the patient becomes sicker.<sup>22</sup>

## Boosting Blood Vessel Strength and Other Benefits

Varicose veins and related problems with vein strength, including hemorrhoids, are a growing problem as people become more sedentary and continue to eat poor diets.

One of the main links to these vein problems is a deficiency in vitamin C, which plays a major role in

the strength of blood vessels (especially veins). Some people need higher doses of vitamin C to maintain vessel health.

This condition appears to be hereditary. These individuals should take one to two grams of vitamin C three times a day on an empty stomach.

Other plant-derived compounds that help prevent vein problems include horse chestnut extract, zinc, hesperidin, and diosmin. Combining vitamin C, hesperidin, and diosmin affords the most powerful combination for preventing vein problems.

One of the worse problems caused by varicose veins is leakage of fluid from the veins into the surrounding tissues, resulting in edema around the feet and ankles. Eventually, skin may thicken and leave an ulcer that is difficult to heal.

These natural compounds help prevent that from happening.<sup>23</sup>

One study using three natural compounds — butcher's broom, vitamin C, and hesperidin methyl chalcone (the best absorbed from) — found that varicose vein symptoms such as heaviness of the legs, nighttime spasms in feet and legs, pain, and edema decreased significantly in 124 patients by the second week of usage, and disappeared completely by the eighth week.<sup>24</sup>

Other benefits of hesperidin include:

- Reducing osteoporosis
- Improving arthritis
- Reducing asthma attacks
- Preventing damage from prescription drugs (gentamicin and Tylenol)
- Lowering high blood sugar levels associated with diabetes
- Lowering elevated blood pressure

As noted, the best absorbed form is hesperidin

## Exclusive to Current Subscribers

Current subscribers have instant access to any and every past edition of **The Blaylock Wellness Report**.

Simply go here:

**[drblaylock.newsmax.com](http://drblaylock.newsmax.com)**

The password for every issue is provided in the introductory e-mail.

methyl chalcone. The most common beneficial dosage is one or two 500 mg capsules taken three times a day with meals.

### Quercetin Inhibits Cancer at All Stages

Quercetin is one of the most common flavonoids found in edible plants, with especially high levels occurring in capers, elderberry juice, cilantro, onions, teas, and kale.

Like raw powdered curcumin, quercetin is poorly absorbed and is mostly insoluble in water. Food-based quercetin is better absorbed than powdered forms. Mixed with extra-virgin olive oil or coconut oil, it is somewhat better absorbed.

The best absorbed form of curcumin is the nanosized form (such as Nano Curcumin made by the One Planet Nutrition Company).

Thus far, there is no commercially available form of nanosized quercetin, so the best solution is to mix it with coconut oil or extra-virgin olive oil.

Like curcumin, quercetin is a powerful anti-inflammatory, antioxidant, antiviral, neuroprotectant, and anticancer compound with a high safety margin. And like curcumin and hesperidin, it inhibits a number of cell-signaling pathways that fight cancer.

Quercetin inhibits cancer development, progression, proliferation (tumor growth), invasion of surrounding tissues, and metastasis — that is, it impedes cancer at all stages, and does so without the toxicity of chemotherapy.<sup>25,26</sup>

As we saw with hesperidin, quercetin also enhances the effectiveness of traditional chemotherapy and radiation treatments, at the same time as it protects surrounding noncancerous tissues and organs from damage.<sup>27-29</sup>

Usually, chemotherapy does not differentiate between normal cells and cancer cells — it poisons them all. And chemotherapy and radiation treatments induce intense inflammation in the body, which is — ironically — the main cause for cancer development.

That explains why there is such a high incidence of secondary cancers (as well as other health problems) in long-term cancer survivors.<sup>30</sup> These are distinct cancers caused by the treatments themselves.

Using natural anticancer compounds such as

## Reducing Damage Caused by Radiation Treatments

Several flavonoid plant extracts have been shown to reduce the cellular injury caused by exposure to radiation, which damages DNA and other cell components both directly and indirectly (by producing high levels of free radicals).

One of the significant effects of radiation exposure is damage to the immune cells of bone marrow. Studies have shown that hesperidin protects against such damage in human blood cells.

Such protection is important for people exposed to radiotherapy for treatment of cancer.

Hesperidin increases the damaging effect of radiation on cancer cells and protects normal cells. The compound not only selectively sensitizes cancer cells to radiation treatments, but also sensitizes cancer cells to chemotherapy treatments.

quercetin, curcumin, and hesperidin can prevent the development of these secondary cancers.

Despite these benefits afforded by natural compounds, oncologists rarely use them — mostly because of powerful influence by pharmaceutical companies on medical bureaucracies.

What oncologists fail to appreciate is that 80 percent of all chemotherapy drugs are derived from microorganisms or plant extracts.

The problem is that the pharmaceutical manufacturers chose the wrong natural plant extracts — the ones that are highly toxic to the entire body.

On the other hand, most natural anticancer compounds are highly selective — killing cancer cells, but protecting normal cells.

Newer studies are finding that traditional cancer treatments are not only extremely harmful, but rarely work against cancers that have already spread (metastasized).

The evidence indicates that traditional oncology has been attacking the problem in an antiquated manner, attempting to poison the cancer by poisoning the patient — often almost to death.

And in far too many cases, cancer patients die not as a result of their cancer, but from their treatment.

Quercetin has been shown to dramatically inhibit cancer cells from migrating, which is how

they spread.<sup>31</sup> It also inhibits their invasion of surrounding tissues.<sup>32</sup>

When a cancer begins to grow, it releases high levels of glutamate into its microenvironment, causing the surrounding normal cells to release compounds that feed the cancer and help it suppress anticancer immunity.

Glutamate (along with its precursor molecule glutamine) and glucose are the major fuels for most types of cancer.

Quercetin has been shown to inhibit the ability of cancer cells to use glucose for energy.<sup>33</sup>

In addition, it powerfully inhibits the enzymes that cancer cells use to invade surrounding tissues. (These are called MMP-2 and MMP-9). It also stimulates a process where the cells literally eat the cancer cells alive (a process called autophagy).<sup>34</sup>

By controlling cell signaling, quercetin causes cancer cells to slow their reproduction (cell division), prevents them from making new blood vessels essential for tumor growth and spread (angiogenesis), and inhibits an assortment of growth factors.

Quercetin also drives cancer cells to commit suicide, a process called apoptosis.

One study found that combining even low doses of quercetin with ellagic acid synergistically enhances the killing of human leukemia cells.<sup>35</sup>

I once used quercetin in conjunction with traditional treatments on a young girl suffering from leukemia with remarkable success. It also prevented chemotherapy damage to her memory and learning ability.

She is now a grown woman who excelled in school as well as sports.

Like hesperidin, quercetin protects against chemotherapy and radiation damage to the liver, kidneys, and brain.<sup>36</sup>

It can also overcome chemotherapy drug

resistance by the cancer, which is a major cause for chemotherapy failure.

Despite all these important effects, with a high degree of safety, oncologists rarely use this natural compound. This is a crime.

## Enhancing Brain Energy

Immunoexcitotoxicity, which is driven by microglial activation, is a central mechanism common to most brain disorders and injuries.

Microglia are the brain's special immune cells. When activated, they can release high levels of destructive excitotoxins (including glutamate and aspartate), inflammatory chemicals (cytokines, chemokines, and prostaglandins), and other destructive molecules.

Quercetin suppresses this microglial activation and reduces the damage from immunoexcitotoxicity.<sup>37-39</sup>

Its powerful anti-inflammatory effects also make it quite useful against autoimmune diseases of the nervous system, including multiple sclerosis, lupus and autoimmune encephalitis.<sup>40</sup>

It can also reduce the inflammatory damage caused by brain infections such as viral encephalitis and meningitis.

As we age, our ability to generate energy in brain cells decreases progressively. Most cell energy is generated by mitochondria, and quercetin has been shown to increase the number of mitochondria in cells — thus improving the brain's energy supply.<sup>41</sup>

Combining quercetin with other natural anti-inflammatory compounds — such as Nano Curcumin, baicalein, naringenin, luteolin, ellagic acid, and ferulic acid — synergistically increases protection.

In addition, several of these compounds stimulate brain repair, especially for synapses and neurites — both of which are brain cell connections.

Quercetin also protects the brain against degenerative diseases such as Alzheimer's dementia, Parkinson's

**A note from Dr. Blaylock:** Advertisements for various supplements may appear in the newsletter or attached to the newsletter. I have nothing to do with these advertisements and do not endorse them. The only supplements I endorse are those that I list in the newsletter. This is not to say that I object to the supplements; it's just that I am not familiar with the supplements being advertised.

Please note that this advice is generic and not specific to any individual. You should consult with your doctor before undertaking any medical or nutritional course of action.

disease, and multiple sclerosis, as well as limiting damage from brain injuries such as stroke and trauma.<sup>42-44</sup>

### More Benefits of Quercetin

Studies have demonstrated that quercetin is effective for treating chronic prostatitis and chronic pelvic pain syndrome, especially in very resistant cases.<sup>45, 46</sup>

It also plays a major role in inhibiting prostate cancer growth and invasion, and is a powerful inhibitor of prostate cancer development.<sup>47-49</sup>

When combined with EGCG (from green tea), quercetin also inhibits prostate cancer stem cells,<sup>50</sup> which appear to be the driving force for all cancers. No cancer can be cured unless these stem cells are either killed or made dormant.

Quercetin has also been shown to treat allergic reactions, including seasonal allergies, asthma, and sinusitis.<sup>51-53</sup> This is because the compound is a powerful inhibitor of mast cells, which play a major role in allergic reactions of all types.<sup>54</sup>

In addition, quercetin switches immune cytokine reactivity in favor of the Th1 reaction, which impedes asthma reactions and strengthens the immune system for its normal functions.<sup>55</sup>

If that's not enough, quercetin also inhibits major inflammatory processes such as the 5-LOX enzyme. That's something pharmaceutical anti-inflammatories such as ibuprofen can't do.<sup>56</sup>

Its anti-inflammatory effects also make quercetin a strong weapon against atherosclerosis, and hence it can help prevent heart attacks, strokes, and peripheral artery disease.

A number of studies have demonstrated that quercetin fights atherosclerosis by inhibiting oxidation of LDL cholesterol and other polyunsaturated fats within arteries.<sup>57, 58</sup>

Interestingly, quercetin increases blood flow through the heart's coronary arteries, thus improving the blood supply to the heart muscle.<sup>59</sup>

Quercetin also helps combat heart disease, especially heart failure and arrhythmias.<sup>60</sup> And it has been shown to improve cardiac damage caused by metabolic syndrome — which is on the rise not just among adults, but also young children.

One important way quercetin protects the heart and brain is by shielding tissues and organs from iron overload toxicity.<sup>61</sup>

As we age, our bodies begin to accumulate excessive amounts of iron, which triggers intense free radical production and lipid peroxidation, thus damaging organs (especially the heart, blood vessels, and the brain) and other tissues.

Not surprisingly, quercetin has been shown to be highly beneficial in autoimmune myocarditis, where the immune system attacks the heart muscle.<sup>62</sup> And by lowering blood pressure, quercetin also prevents and improves hypertensive heart failure.<sup>63</sup>

Quercetin also prevents bone loss, especially in postmenopausal women.<sup>64, 65</sup> ■

#### REFERENCES

1. Viswanatha GL et al. *ISRN Pharmacol* 2012;2012:479570.
2. Martinez MC et al. *Pharmacol Biochem Behav* 2009;92:291-6.
3. El-Marasy SA et al. *Can J Physiol Pharmacol* 2014;92:945-52.
4. Menze ET et al. *Neurotoxicology* 2012; 33(5):1265-75.
5. Gaur V, Kumar A. *Pharmacol Rep* 2010;62(4):635-48.
6. Huang SM et al. *Mol Nutr Food Res* 2012;56(4):601-9.
7. Ikemura M et al. *Physiother Res* 2012;26(9):1272-7.
8. Sakata K et al. *Cancer Lett* 2003;199(2):139-45.
9. Nones JE et al. *Neurochem Res* 2011;36(10):1776-84.
10. Loscalzo LM et al. *Pharmacol Biochem Behav* 2011;99(3): 333-41.
11. Choi EJ, Ahn WS. *Arch Pharm Res* 2008;31(11):1457-62.
12. Deng W et al. *J Mol Histol* 2013;44(5):575-85.
13. Ganghi C et al. *Free Radic Res* 2009;43(9):817-27.
14. Zarebczan B et al. *Am J Surg* 2011;201(3):329-32.
15. Chandrika BB et al. *Life Sci* 2016;160:47-56.
16. Omar HA et al. *Pharmacol Rep* 2016;68(2):349-56.
17. Oguzturk H et al. *Niger J Clin Pract* 2016;19(1):99-103.
18. Kamisli S et al. *Toxicol Ind Health* 2015;31(9):841-51.
19. Abdel-Rheem IT, Abdel-Ghany AA. *J Egypt Natl Cancer Inst* 2009;21(2):175-84.
20. Wolfram J et al. *Curr Drug Deliv* 2016;13(5):711-9.
21. Kaya K et al. *Andrologia* 2015;47(7):793-800.
22. Febriansah R et al. *Asian Pac J Trop Biomed* 2014;4(3):228-33.
23. Guex JJ et al. *Pneumology* 2009;24(4):157-65.
24. Aguilar Peralta GR et al. *Int Angiol* 2007;26(4):378-84.
25. Pan HC et al. *Neurochem Int* 2015;89:60-71.
26. Chen KC et al. *J Food Drug Anal* 2018;26(3):1180-91.
27. Li S et al. *Phytother Res* 2018;32(8):1530-36.
28. Lee SH et al. *Clin Lung Cancer* 2015;16(6):e235-43.
29. Li SZ et al. *Anticancer Agents Med Chem* 2015;15(9):1185-9.
30. PDQ Pediatric Treatment Editorial Board. Late Effects of Treatment for Childhood Cancer (PDQ), published Aug 17, 2018.
31. Lai WW et al. *Anticancer Res* 2013;33(5):1941-50.
32. Lu J et al. *Med Sci Monit* 2018;24:2583-89.
33. Jai L et al. *Life Sci* 2018;abstract.
34. Lou M et al. *Biomed Pharmacother* 2016;83:1-9.
35. Mertens-Talcott SU et al. *J Nutr* 2003;133:2668-74.
36. Brito AF et al. *Curr Med Chem* 2015;22(26):3025-39.
37. Chuang DY et al. *Neuromolecular Med* 2016;18(3):415-25.
38. Blaylock R, Maroon J. *Surg Neurol Int* 2012;3:19.
39. Ha HJ et al. *Biol Pharm Bull* 2003;26(4):544-6.
40. Shal B et al. *Front Pharmacol* 2018;9:548.
41. Jung UJ, Kim SR. *J Med Food* 2018;21(5):421-32.
42. Ghosh A et al. *PLoS One* 2013;8(4):e57735.
43. Muthian G, Bright JJ. *J Clin Immunol* 2004;24(5):542-52.
44. Davis JM et al. *Am J Physiol Regul Integ Comp Physiol* 2009;296:R1071-R1077.
45. Shoskes DA, Nickel JC. *Urol Clin North Am* 2011;38(3):279-84.
46. Shokes DA et al. *Urology* 1999;54(6):960-3.
47. Yang F et al. *Qncol Rep* 2015;33(6):2659-68.
48. Xing N et al. *Carcinogenesis* 2001;22(3):409-14.
49. Sharmila G et al. *Clin Nutr* 2014;33(4):718-26.
50. Tang S-N et al. *J Mol Signaling* 2010;5:14.
51. Helms S, Miller A. *Altern Med Rev* 2006;11(3):196-207.
52. Micek J et al. *Molecules* 2016;21(5):E623.
53. Weng Z et al. *PLoS One* 2012;7(3):e33805.
54. Kandre-Grzybowska K et al. *Brit J Pharmacol* 2006;148:208-15.
55. Park HJ et al. *Int Immunopharmacol* 2009;9(3):261-7.
56. Kwon OS et al. *Arch Pharm Res* 2011;34(9):1561-9.
57. Bhaskar S et al. *Nutrition* 2013;29(1):219-29.
58. Bhaskar S et al. *Immunobiology* 2011;216(3):367-73.
59. Suri S et al. *Brit J Pharmacol* 2010;159:566-75.
60. Zhang Y et al. *Nat Product Res* 2011;25(12):1150-60.
61. Milton Prabu S et al. *Eur Rev Med Pharmacological Sci* 2013;17(5):582-95.
62. Milenkovic M et al. *J Pharmacy Pharmacol Sci* 2010;13(3):311-19.
63. Egert S et al. *Brit J Nutr* 2009;102(7):1965-74.
64. Woo J-T et al. *Biol Pharm Bull* 2004;27(4):504-9.
65. Panchal SK et al. *J Nutr* 2012;142(6):1026-32.

# Health and Nutrition Updates

## How Cancer Suppresses Immunity — and the Miracle Enzymes That Can Help

I have written often about cancer, explaining that the disease operates as if it has a mind of its own, devising ways to assure its own survival by using a person's body to preserve cancer cells.

One of the most important ways a cancer does this is by suppressing the host's immune system, especially the part of the immune system that is responsible for killing and preventing cancer cells from growing — that is, innate cellular immunity.

Normally, these immune cells travel among the cells in our body, killing cells that are at a high risk of becoming cancerous. We call this immune surveillance.

Exactly how the cancer suppressed this innate cellular immunity had remained a mystery until rather recently. After years of extensive research, scientists determined that cancer stem cells and even surrounding normal cells are induced to release special substances that cause the immune cells surrounding the cancer — in what's called its microenvironment — to switch from cancer killing to actually protecting the cancer against harm.

The tumor actually attracts special immune cells into its microenvironment (called tumor-associated macrophages, or TAMs), and then causes these immune cells to make the switch, thus supplying the tumor with all the protection it needs.

In fact, this switching system is something the body uses to protect itself under certain conditions.

For instance, when harmful invading microbes enter the body, macrophages and T cells switch to the killer mode and quickly eliminate the invaders.

When those invaders have all been killed, the immune system switches the immune cells to an anti-inflammatory mode, which protects the cells in the area of attack — thus terminating the body's immune attack.

There are other situations in which the body's tissues need just the opposite of an immune attack. Under such conditions, we need cells and their secretions (cytokines) to reduce inflammation.

We see this with autoimmune diseases and injuries. In an effort to stop the uncontrolled immune attack on our tissues and organs, the immune system switches to a protective anti-inflammatory mode. If it is successful, a person can overcome the disease.

We call this switching process an M1 to M2 switch, with M1 being an aggressive immune attack against infections and cancers and M2 being protective of the cancers and infections.

Within the microenvironment of a cancer, the macrophages are in the M2 mode — making them cancer-protecting immune cells.

The cancer also sends messenger molecules to recruit other cells to the tumor that can switch, just like macrophages. These cells are called lymphocytes.

The cancer killer or cytotoxic lymphocytes (also called cytotoxic T cells) are Th1 immune cells. These cytotoxic T cells can infiltrate a tumor and kill it.

But the cancer releases special chemical signals that cause the bone marrow and spleen to send special immune suppressing cells called regulatory T cells, or Tregs.

Together, the M2 macrophages (TAMs) and Tregs protect the cancer from being destroyed by a person's immune system. This makes the cancer very aggressive and encourages tumor invasion and eventual metastasis.

Studies have shown that cancer patients with markers for this protective immune switching have a much worse prognosis than those with a more normal immune system.

We also know that cancerous tumors can cause their own cells to invade the tissues surrounding the tumor, and eventually enter blood vessels and lymphatic vessels.

Within the lymphatic vessels, the cells migrate from the primary tumor site to local lymph nodes, which normally would block further movement of the cancer cells and kill these tumor cells using cytotoxic T cells and M1 macrophages.

But the tumor releases the same chemicals into the lymphatic vessels, which then end up in the lymph node, where the cancer once again causes immune

cells to switch to tumor-protecting mode (Tregs and M2 macrophages).

As a result, the tumor cells grow unimpeded in the lymph nodes. From there, the tumor spreads — that is, it metastasizes.

One of the main chemicals the tumor uses to suppress immunity is called transforming growth factor-beta, or TGF- $\beta$ . Blocking this chemical allows the immune system to switch back to its killer mode and eliminate tumors.

In fact, this process is why most attempts to use the immune system to fight cancer — as with vaccines — has failed or only worked poorly.

After I retired from neurosurgery, I opened a nutritional practice to utilize the information I had been learning through research. I had the opportunity to work with several cancer patients who had been labeled “terminal” by their traditional oncologists. Some had gone through very high doses of chemotherapy and other destructive treatments, but gained no benefit in controlling their cancer.

One day, I was discussing the treatment ideas I had with a sweet lady who had Stage IV breast cancer. She had been told by her oncologist there was nothing further he could do.

He suggested that she go home and enjoy the few months she had left to live.

She told me that she had heard from some other Stage IV cancer survivors who had taken a special digestive enzyme on an empty stomach and survived for long periods — even decades.

I asked what this miracle enzyme was, and she told me it was called Wobenzym — a product used by sports enthusiast to treat their injuries. Wobenzym is a mixture of protein-digesting enzymes (also called proteolytic enzymes).

What she told me made perfect sense. I had written a paper on the immunological treatment of cancer in 1976, when I was a neurosurgery resident. In the paper, I described something in cancer patients called “blocking antibodies,” that could cling to the surface of tumor cells, protecting them from anticancer immune cell attacks.

It stood to reason that these proteolytic enzymes could dissolve the blocking enzymes, allowing the cancer-killer immune cells to then attack and kill the cancer cells.

Newer research disclosed an even more powerful benefit: The enzymes dramatically lower TGF- $\beta$ , the immune-suppressing chemical released by the cancer cells. This allows the immune cells to switch back to cancer-killing mode.

By lowering TGF- $\beta$ , the proteolytic enzymes allowed the draining lymph nodes to also assume a cancer killer mode.

A number of newer research studies discovered that another proteolytic enzyme called bromelain — which is derived from pineapples — has the same beneficial effect of restoring cancer-killing immunity.

Both Wobenzym and bromelain must be taken on an empty stomach, so that the enzyme will be absorbed into the bloodstream and not used to digest foods.

Wobenzym actually contains bromelain, and studies have shown that it is the bromelain that makes it beneficial.

It has been discovered that curcumin also switches the immune system from protecting cancer tumors (immunosuppressive) to cancer-killing mode (immune-stimulated).

So in combination, these natural compounds powerfully restore the immune system’s ability to search out and kill cancer cells.

This combination can also be used in conjunction with other immune stimulants such as beta-glucan and mushroom extracts. Bromelain and Nano Curcumin restore the cancer-killing immunity and the beta-glucan directs these renewed cancer-killing immune cells to the cancer cells.

New immune checkpoint inhibitor treatments, which remove immune cells from a patient and activate them toward the patient’s cancer, cost hundreds of thousands of dollars per treatment, but work poorly (because they do nothing to restore the body’s anticancer immunity) and have significant side effects.

Once the injected activated immune cells die, any further benefits are lost. And eventually, the TGF- $\beta$  released by the cancer cells and even normal cells in the tumor microenvironment, will also switch these injected cells to an immunosuppressed condition.

A number of other natural compounds also suppress TGF- $\beta$ , the immune suppressing secretion. These include baicalein, EGCG, curcumin,

quercetin, tocotrienol, ginkgo biloba, apigenin, and ellagic acid.

The benefits of these simple and inexpensive immune-restoring treatments go beyond just treating cancer. They would also be useful in treating dangerous infections such as the so-called “flesh eating” bacteria, overwhelming sepsis, and antibiotic-resistant infections.

### Try Humming for Healthier Sinuses

Several studies suggest that strong humming can cure chronic sinusitis. Research, led by Dr. George Eby and published in the journal “Medical Hypotheses,” found that humming for 60 to 120 times per deep breath four times a day cured his patients in as little as four days.

He hypothesized that humming increased the nitric oxide levels within the nasal sinuses and blood, and that nitric oxide could kill the fungi and other organisms responsible for the sinus problem.

In the “European Journal of Clinical Investigation,” researchers from the Karolinska Institute actually measured the nitric oxide levels in the sinuses and found that levels were elevated as much as 15 times following humming, and that it did clear obstructed sinuses due to allergic conditions.

The nitric oxide is only temporally elevated, just enough to clear the sinus problem, but not enough to cause problems seen with prolonged elevations.

But they found that some people did not respond to the humming treatment with a clearing of their sinusitis. These nonresponders had an obstruction of their nasal passages, which kept it from working.

Interestingly, Dr. Eby also found that in some patients the humming treatment could cure heart palpitations.

### Aluminum Linked to Neurological Diseases

Aluminum is a toxic metal that is found all over our environment. Ingested aluminum is mostly blocked from absorption in the gastrointestinal tract, but because many people have a leaky gut barrier, aluminum found in foods and drinks is becoming a major source of toxicity.

When combined with organic acids, glutamate, or fluoride, aluminum absorption is greatly enhanced. Citrus fruits (lemons, oranges, and grapefruits) are frequently mixed with aluminum-containing water. People who add lemon to their tea or municipal

water expose themselves to high levels of aluminum absorption. Black tea naturally has very high aluminum and fluoride levels, and is a common source of fluoroaluminum (a fluoride and aluminum complex) contamination and toxicity. Black tea with lemon is especially dangerous for the brain and other organs.

When I drink black tea, I always take a capsule of saffron and a Nano Curcumin, and never use lemon.

Soy also contains high levels of aluminum, and soy baby formula has been recognized by pediatricians as dangerous for babies’ brain development.

Aluminum-containing antiperspirants have been linked to higher incidences of Alzheimer’s dementia and possibly breast cancer.

Most vaccines contain aluminum. When injected, this aluminum travels to the brain. There, it binds with brain cell structures and is very difficult to remove. Over time, these levels accumulate and become very high.

High levels of brain aluminum are found in Alzheimer’s patients — especially in the areas most affected by the disease. There is also a close correlation with Parkinson’s disease, multiple sclerosis, and ALS.

Within the brain, aluminum interferes with a number of critical enzymes, alters DNA function, and interferes with mitochondrial energy production. Most importantly, aluminum triggers the prolonged activation of brain microglia, which is a major mechanism in neurodegenerative brain disorders. When chronically activated, microglia trigger prolonged immunoexcitotoxicity.

A number of natural compounds can either greatly reduce the toxicity of aluminum and/or remove it from the brain. Nano Curcumin, hesperidin, triphala, taurine, bacopa, quercetin, and saffron are the most effective. Triphala also reduces fluoride toxicity, as do quercetin, blackberry extract, and EGCG.

Another way aluminum gets access to the brain is through the nose. Breathing substances that contain aluminum — such as certain pesticides and industrial products — allows entry into the brain’s most sensitive areas (the entorhinal cortex and hippocampus).

Studies have shown that toxic metals can travel along the olfactory nerves in the nose and enter the brain. There is no blood-brain barrier at this level. We should avoid all nasal sprays that with aluminum, even certain nasal moisturizing sprays. ■



## Ask Dr. Blaylock

### Attention Readers:

Dr. Blaylock welcomes any questions or comments you would like to share.

Each month, he will select a few to be published and answered in the newsletter.

Please remember that he cannot answer every question.

When submitting a question or comment, please include full name, city, and state.

Please e-mail the doctor at: [askblaylock@newsmax.com](mailto:askblaylock@newsmax.com).

### How Do You Treat Pancreatic Cancer?

**Q:** My wife was diagnosed with pancreatic cancer and had surgery to remove the tumor followed by chemotherapy. Her scans were still clear for two years, but recently the cancer came back. What natural compounds could benefit her?

— Frank B., Summerville, S.C.

**A:** I will pray for your wife. It is unfortunate that practicing oncologists do not study the literature concerning natural anticancer compounds.

The most impressive natural treatments I have seen involve Nano Curcumin, baicalein (baicalin), quercetin, ashwagandha, ellagic acid, beta-glucan, and Wobenzym, which I describe on page 9 of this issue of The Blaylock Wellness Report.

All of these natural anticancer compounds not only make the traditional treatments more effective, but they greatly reduce the side effects and damage caused by the chemotherapy.

It is also essential to remove all glutamate additives from the diet.

Keep in mind that calcium drives cancer invasion and metastasis — so calcium supplements and foods high in calcium should be avoided.

### What Slows Arthritis Progression?

**Q:** My wife is 71 and in good health, but her osteoarthritis is worsening. What supplements can she take to slow the progression of her arthritis?

— Charles M., Colorado Springs, Colo.

**A:** Avoiding meats, eating mostly vegetables, and avoiding fluoride will help significantly.

As for supplements, Nano Curcumin Plus, isoquercetin, and baicalein would be the most beneficial. Baicalein and baicalin have similar

effects. Baicalin is what is called the aglycone form of baicalein — meaning it has a glycoside chemical group attached to it.

You can get Baicalin in capsule form as the product called Chinese skullcap, which contains a number of other anti-inflammatory compounds, including wagonin and apigenin.

Baicalin is also available as a power in a product called LiftMode. It is water-soluble and has an acceptable mild taste.

### Is Curcumin Safe With Breast Cancer?

**Q:** I was recently diagnosed with breast cancer that was identified as being “positive” instead of “negative.” My oncologist recommended I cease taking curcumin because it is an estrogen stimulant. Is curcumin unsafe for all breast cancers?

— Judie E., Fallbrook, Calif.

**A:** Curcumin, especially Nano Curcumin, is one of the most powerful weapons against breast cancer I have ever seen, and it’s entirely safe.

It has a mild estrogenic effect, which also makes it excellent against estrogen-positive breast cancer because it displaces the much more powerful form of estrogen from the estrogen receptor on the cancer cells.

That is one of the ways other powerful anti-breast cancer compounds, such as quercetin, also work.

But curcumin also inhibits a great number of cell-signaling pathways essential to breast cancer growth, invasion and metastasis.

And it reverses resistance to chemotherapy treatments. It is the type of substance known as a chemosensitizer, which means it makes chemotherapy much more effective.

I have treated a number of advanced breast

cancer patients with curcumin, and many have shown incredible eradications of their tumors — even brain metastasis.

Many advanced breast cancer patients have shown very prolonged survival taking curcumin, even decades after they were abandoned by their oncologists.

### Should I Take Plavix?

**Q:** I recently had a heart attack. I was given two drug-eluting stents and was prescribed Plavix. I would prefer the natural supplements that inhibit platelet aggregation. What is your opinion?

— Paul C., Bend, Ore.

**A:** In my view, Plavix is a very dangerous drug, as it is known to damage bone marrow and can, in some cases, lead to leukemia or fatal bone marrow collapse.

A great many natural compounds have anticoagulant properties, some stronger than others. Magnesium is important in such cases because it improves blood flow and has a slight anticoagulant effect.

Curcumin, ginger, cayenne pepper extract, fish oils, garlic, and grape seed extract all have slight anticoagulant effects.

Ashwagandha has slight anti-coagulant effects and shows anti-stress effects as well as anti-inflammatory effects.

Most important, besides magnesium, is keeping well-hydrated.

### Should My Daughter Take Bacopa?

**Q:** Our 19-year-old daughter suffers seizures and takes 500 mg of Depakote daily. I'm interested in having her try bacopa. Would it be effective?

— Carol B., Brampton, Ont.

**A:** If your daughter is doing well with the Depakote, I would not change anything.

One possibility that you may consider is that by using natural compounds you could lower the doses of conventional antiseizure meds, thus reducing the risk of complications.

The most important thing is that she is not having any further seizures and is tolerating the medication well. ■

To renew or subscribe to The Blaylock Wellness Report go to:  
[NewsmaxHealth.com/Newsletters](http://NewsmaxHealth.com/Newsletters) or call 1-800-485-4350

## About Dr. Blaylock

Dr. Russell Blaylock is a nationally recognized, board-certified neurosurgeon, health practitioner, author, and lecturer. He attended the Louisiana State University School of Medicine in New Orleans and completed his internship and neurosurgical residency at the Medical University of South Carolina in Charleston, S.C. For 25 years, he has practiced neurosurgery in addition to having a nutritional practice. He recently retired from his neurosurgical duties to devote his full attention to nutritional studies and research. Dr. Blaylock has authored four books on nutrition and wellness, including "Excitotoxins: The Taste That Kills," "Health and Nutrition Secrets That Can Save Your Life," "Natural Strategies for Cancer Patients," and his most recent work, "Cellular and Molecular Biology of Autism Spectrum Disorders," edited by Anna Strunecka. An in-demand guest for radio and television programs, he lectures extensively to both lay and professional medical audiences on a variety of nutrition related subjects.

He is the 2004 recipient of the Integrity in Science Award granted by the Weston A. Price Foundation. He serves as an assistant editor-in-chief for the journal "Surgical Neurology International." He was also a lecturer for the Foundation on Anti-Aging and Regenerative Medicine. At present, he is a reviewer for the journal "Food & Chemical Toxicology" and other journals.

Dr. Blaylock previously served as clinical assistant professor of neurosurgery at the University of Mississippi Medical Center in Jackson, Miss.

# The Millionaire's Blueprint

Imagine an ordinary guy who starts with \$9,000 and builds it into a fortune exceeding \$7 million — all by investing in dividend stocks!

It's a true story — and this man's name is Bill Spetrino.

In fact, in recent years Bill began sharing his investment picks in a newsletter called *The Dividend Machine*.

Since *The Dividend Machine* launched in 2009, Bill's model portfolio is up an eye-popping 154%.

Bill has been so successful, the respected *Hulbert Digest* rated his newsletter #1 in their Low Risk category.

Now, usually an investor would have to place risky bets to make these types of profits.

But Bill, after many years, developed a system to radically grow wealth while limiting risk.

Today, Bill is an evangelist for his investment ideas. He wants to share them with you.

That's why he just recently authored a new book, *The Great American Dividend Machine*.

His book has already become a #1 Amazon best-seller.

It typically retails for \$24.95.

Because you are a loyal Newsmax subscriber, we will send you this book for just \$4.95 as part of a special offer.

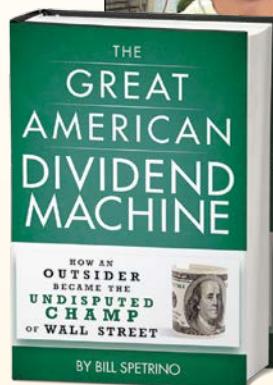
On the face of it, Bill Spetrino looks like an ordinary middle-class guy.

Bill discovered a simple forgotten investment secret about 20 years ago, and using that secret, he has amassed a fortune.

And now, for the first time ever, Bill has written down this simple forgotten secret he



Bill Spetrino, author of *The Great American Dividend Machine*, at his home.



used to achieve absolute financial security.

Today, he is sharing this exact secret with you in his

new book *The Great American Dividend Machine*.

The book reveals Bill's rock-solid blueprint for achieving absolute financial security that anyone can implement within a week.

*The Great American Dividend Machine* gives readers an insider's look at Bill's proprietary system for constructing a portfolio of "warhorse" stocks, and also reveals . . .

- 5 key concepts to understand before you start investing . . .
- How to look beyond a company's cash flow, P/E ratio, and earnings and analyze its "human capital" to determine its true investment potential.
- 10 principles you must follow for investing success, and why each one works . . .
- 22 ways to jumpstart your dividend machine (and then how to supercharge your results) . . .

Claim your copy of *The Great American Dividend Machine* today!

**Order Your Book Today — Only \$4<sup>95</sup>**

**Go Online: [Newsmax.com/GreatAmerican](http://Newsmax.com/GreatAmerican)**

**Call Toll-Free: 1-800-448-9270**

\*See website for terms, conditions, and eligibility for this offer.