

Vitamin D Helps Lower Your Risk of Colorectal Cancer

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STORY AT-A-GLANCE

- Research involving over 1.3 million people shows that higher blood levels of vitamin D are linked to up to 58% lower risk of colorectal cancer, especially in women
- A whopping 80% of adults are either deficient or insufficient in vitamin D, which significantly increases their risk of developing colorectal cancer over time
- Vitamin D helps slow cancer cell growth, support gut health, and reduce inflammation — factors that are all important in preventing tumor formation in the colon
- Getting regular sun exposure or supplementing with vitamin D has been shown to reduce the risk of polyps and tumors, even in people with a genetic risk for colon cancer
- Testing your vitamin D levels and correcting deficiencies through sunlight, supplements, or food is one of the most powerful and low-cost ways to reduce your colon cancer risk

Colorectal cancer is one of the most prevalent types of cancer today, particularly in Western countries where modern, processed-food diets have become the norm. Every year, 1.2 million cases of colorectal cancer are diagnosed worldwide, and around 930,000 people succumb to this disease.¹ It's the second most common cancer affecting men, and ranks as the third most common cancer in women.²

Some of the early symptoms of colorectal cancer include abdominal discomfort, blood in the stool, fatigue, and unexplained weight loss. However, these symptoms are usually dismissed until the disease has progressed, and it's too late.

Now, research has highlighted a powerful yet often overlooked factor that will help protect against this lethal disease — vitamin D.

Data Shows Vitamin D Plays a Bigger Role in Colon Cancer Prevention

A comprehensive analysis published in the journal *Nutrients* in April 2025 has discovered a fascinating but substantial link between vitamin D and colorectal cancer (CRC). The researchers reviewed and analyzed data from 50 separate studies involving over 1.3 million participants to determine how much vitamin D impacts your risk of developing colorectal cancer.³

- **This large-scale review looked at diverse populations** — The data covered various groups and nationalities, including women in the U.S. Midwest, Danish adults with a family history of cancer, and Canadians living in high-altitude areas. The participants had different health statuses as well — some had colorectal cancer, or a documented vitamin D deficiency. Others were also given a vitamin D supplement.
- **While the participants varied in health status and genetic risk, a consistent pattern emerged** — The researchers found that the lower your vitamin D levels, the higher your risk of developing colon cancer. On the flip side, people with adequate or optimal levels of vitamin D had dramatically lower rates of cancer.

"Maintaining optimal vitamin D levels and adequate dietary intake is crucial in preventing CRC and improving patient prognosis," the researchers said.

- **Unfortunately, majority of people today have very low levels of this vital nutrient** — A study that looked at the vitamin D status of more than 5,600 adults found that 37.6% had vitamin D insufficiency (blood levels between 20 and 30 ng/mL), while 42% were severely deficient (blood levels lower than 20 ng/mL) in this nutrient.⁴

Mónika Fekete, Ph.D., a professor in the Institute of Preventive Medicine and Public Health at Semmelweis University and the study's lead author, commented:

*"While vitamin D is not a substitute for screening or a healthy lifestyle, it is an important and relatively modifiable factor worth paying attention to – especially in individuals at higher risk of deficiency, such as older adults, people with limited sun exposure, those with darker skin, or individuals with chronic illnesses."*⁵

More Notable Highlights from the Featured Study

This research makes it clear that if you're not paying attention to your vitamin D status, you're missing out on one of the simplest and most powerful tools available to reduce your risk of colon cancer. Below are some of the compelling findings from the featured analysis that point to vitamin D as a key factor in reducing your risk of colorectal cancer.

- **A landmark 1996 study** found that women with the highest vitamin D intake had a 58% lower risk than those with the lowest intake.⁶
- **A 2021 meta-analysis** found a 39% lower risk of colorectal cancer in people with higher blood levels of vitamin D. The researchers also noted that when vitamin D levels were monitored over time, those who maintained higher levels had a 20% lower chance of developing colorectal cancer down the line.⁷
- **A Canadian study** found that supplementing with vitamin D reduced the incidence of precancerous polyps – by 33% for all polyps and 43% for high-risk ones. These polyps often go on to become cancer if not addressed early, so this kind of intervention has massive implications.⁸
- **The Iowa Women's Health study** found that women who took vitamin D with calcium saw a 15% drop in colorectal cancer risk compared to those who didn't take any supplements.⁹
- **The Danish "Diet, Cancer and Health" study** (one of the major ones included) found that vitamin D offered even stronger protection in people with a high genetic risk of colon cancer. That means if you've got a family history of this disease, optimizing

your vitamin D status isn't just helpful — it could be life-saving.¹⁰

How Does Vitamin D Affect Your Colorectal Cancer Risk?

Vitamin D is a fat-soluble nutrient your body naturally synthesizes when your skin is exposed to sunlight. As I've noted in previous articles, it plays an essential role in your [bone health](#), [immunity](#), and [brain function](#), including mood regulation.

- **Vitamin D's role in cancer protection** — Vitamin D acts by attaching to vitamin D receptors (VDR) found in your cells, including your colon cells. When this occurs, a series of signals are released that affect how your cells grow, develop, and survive.¹¹ However, having poor vitamin D levels weakens these protective effects, allowing abnormal colon cells to survive and multiply instead.¹²
- **Another vital purpose of vitamin D** — Animal studies have also found that vitamin D helps delay some age-related changes by activating another important pathway via the vitamin D receptor. This pathway involves a molecule called Nrf2, which plays a crucial role in protecting your body from oxidative stress and DNA damage — two factors that are commonly linked to the development of cancer.¹³
- **Vitamin D also supports the health of your intestinal lining** — The colon is constantly regenerating itself, and this requires precise communication between your cells. Vitamin D ensures that this process runs smoothly. According to one research:

"Vitamin D and its nuclear receptor (VDR) regulate intestinal barrier integrity, and control innate and adaptive immunity in the gut. Metabolites from the gut microbiota may also regulate expression of VDR, while vitamin D may influence the gut microbiota and exert anti-inflammatory and immune-modulating effects."¹⁴

Vitamin D Has Protective Effects Against Other Cancers, Too

In general, cancer now ranks as the second-leading cause of death worldwide, after cardiovascular disease.¹⁵ As the featured analysis and the supporting studies it investigated discovered, it's clear that optimizing your vitamin D levels is a key strategy to reduce cancer deaths. However, health officials rarely acknowledge its importance. In fact, there are multiple ways by which vitamin D helps protect against cancer, such as:¹⁶

- **Inhibiting cancer cell growth** — It targets different stages of cancer development and progression. This includes the initiation, growth, and spread of cancer cells.
- **Preventing cancer spread** — It has antimetastatic effects, meaning it stops cancer cells from spreading from the original tumor site to other areas of the body. This is useful for improving survival rates, as metastasis is often responsible for many cancer fatalities.
- **Stopping tumor formation** — Vitamin D is anti-tumorigenic; it helps prevent tumors from forming or growing by inducing cancer cell death, blocking cell cycle progression, or blocking pathways that trigger tumor growth.

A 2023 review published in the Journal of Steroid Biochemistry and Molecular Biology highlighted some of the types of cancer that vitamin D could help prevent, such as:¹⁷

- Breast
- Prostate
- Bladder
- Glioblastoma
- Melanoma
- Squamous cell carcinoma
- Ovarian
- Multiple myeloma
- Osteosarcoma

- Head and neck

The study also highlighted the role of genetic differences in the VDR that could influence breast cancer risk. Read more about the findings here — "[More Evidence Showing Vitamin D Combats Cancer](#)."

Sunlight — Mother Nature's Vitamin D Factory

While some amounts of vitamin D are found in foods like fatty fish, liver, and egg yolks, the ultimate way to boost your levels of this nutrient is through mindful and appropriate sun exposure.

- **When sunlight hits your skin, it produces a type of vitamin D called cholecalciferol** — It's far different from vitamin D2, which is what you get from plant sources like mushrooms and yeast. D3 is actually more effective at increasing blood levels. On a typical sunny day, your body may produce up to 25,000 international units (IU) of vitamin D.¹⁸
- **How much sun is enough?** Ideally, you need to expose your bare skin to direct sunlight daily. Gauge how long to stay under the sun safely by doing this simple test — Pay close attention to your skin for any sign of pinkness. The goal is to stay just below the point where your skin starts to turn slightly pink. If your skin turns red, it's a sign of damage, not benefit — get out of the direct sun immediately.
- **Your body cannot get too much vitamin D from sun exposure** — Your body stops making vitamin D when you've got enough, so you can't overdo it from sunlight alone. However, if you have darker skin, you'll need to spend more time in the sun to produce the same amount of vitamin D as someone with lighter skin.
- **An important caveat about sun exposure** — If you're still consuming a processed food diet loaded with vegetable oils or seed oils, then sun exposure will work against you. This is because seed oils are packed with [linoleic acid \(LA\)](#), which then accumulates in your skin.

When the LA in your skin interacts with the UV rays from the sun, it triggers inflammation and DNA damage. To avoid this, I recommend avoiding direct sunlight during peak hours until you've eliminated seed oils for at least six months.

- **Additional reminders on sun exposure** — In some cases, it's impossible to completely avoid peak sunlight during the period when you're purging LA from your diet. If this is the case, it's best to follow protective measures:
 - **Take 12 milligrams of astaxanthin daily** — This will enhance your skin's UV resistance.
 - **Apply niacinamide (vitamin B3) cream** before and after sun exposure.
 - **Take a baby aspirin** — This will help prevent LA from converting to harmful oxidized linoleic acid metabolites (OXLAMs). Ideally, take the aspirin 30 minutes to one hour before sun exposure.
- **A strategy to speed up LA removal from your skin** — One interesting discovery I made was that there's a way to quicken up the pace by which your body purges LA embedded in your skin. This is by ingesting a special fat called pentadecanoic acid or C15:0, found in raw, grass fed milk.

I recommend getting at least 2 grams of C15:0 per day, which will significantly speed up LA clearance from your body from two to three years to 12 to 18 months. My article, "[The Fast-Track Path to Clearing Vegetable Oils from Your Skin](#)" will give you more insightful details about C15:0.

However, not everyone has access to sunlight at all times. For example, people who live in far northern regions have very few months of peak sunlight. In this case, a vitamin D3 supplement is the best alternative.

Get Tested to Ensure You're Meeting the Ideal Levels for Cancer Prevention

Measuring your vitamin D level, ideally twice a year, is the only way to determine if you're getting enough sun exposure and/or taking the right amount of vitamin D3 supplement.

- **What's the optimal level for cancer prevention?** Ideally, you need to aim for between 60 ng/mL and 80 ng/mL. The cutoff for sufficiency is around 40 ng/mL. In Europe, the measurements you're looking for are 150 to 200 nmol/L and 100 nmol/L, respectively.
- **Adjust your levels depending on your test results** — Once you've confirmed your vitamin D levels via testing, adjust your sun exposure and/or vitamin D3 supplementation accordingly. Then, remember to retest in three to four months to make sure you've reached your target level.
- **Optimize other nutrients to help meet your levels** — Remember to balance your vitamin D3 with calcium, magnesium, and vitamin K2 through your healthy diet.
- **If you're supplementing with vitamin D3, here's a tip** — Take it with a meal that has some healthy fat, like grass fed butter or tallow. Since vitamin D is fat-soluble, this will help your body absorb it.

Your Gut Health — Another Vital Factor to Reduce Your Colon Cancer Risk

Vitamin D, or the lack of it, is indeed a key factor that increases your risk of colon cancer, but there's another major aspect that many people are ignoring until it's too late — their gut health.

There's actually a significant connection between the state of your gut microbiome and colorectal cancer risk, particularly the composition of the food you eat. Your gut is a fascinating, complex ecosystem teeming with trillions of bacteria, both helpful and harmful. These tiny residents play a crucial role in digestion, nutrient absorption, and even your immune system.

But when you consume a poor, nutritionally deficient diet loaded with ultraprocessed junk foods high in vegetable oils and LA, not only are you hampering the growth of good bacteria, but you're also nourishing the pathogenic bugs. This disruption in the gut microbiome leads to an inflammatory environment, increasing the risk of colon cancer.¹⁹

Hence, you need to take the necessary steps to protect your gut health. Read my article "[Unveiling the Link Between Ultraprocessed Foods and Colon Cancer](#)" for more information.

Frequently Asked Questions (FAQs) About Vitamin D for Colorectal Cancer Prevention

Q: How does vitamin D help protect against colorectal cancer?

A: Vitamin D plays a direct role in cell regulation. It slows the growth of abnormal cells, encourages unhealthy cells to die, reduces inflammation in the gut, and helps maintain the health of the intestinal lining — all of which are key in preventing cancer from developing or progressing.

Q: What vitamin D level is considered protective against colon cancer?

A: For cancer prevention, aim for blood levels of 60 to 80 ng/mL. Levels below 30 ng/mL are considered low, and anything under 20 ng/mL is classified as deficient. Most adults fall below these thresholds, putting them at unnecessary risk.

Q: Does vitamin D reduce the risk of colon polyps, too?

A: Yes. One Canadian study found that supplementing with vitamin D reduced all colon polyps by 33%, and high-risk polyps by 43%. These types of growths are often

precursors to cancer, so reducing them is a major step in prevention.

Q: Is sun exposure enough to meet my vitamin D needs?

A: Sunlight is the most effective way to make vitamin D naturally, but only if you're not loaded with seed oils, which cause skin damage. If sun exposure isn't possible — due to location, skin tone, or season — a vitamin D3 supplement is recommended.

Q: Who is most at risk for vitamin D deficiency and colorectal cancer?

A: Older adults, people with darker skin, those with chronic illness, or anyone with limited sun exposure are more likely to be deficient. If you have a family history of colorectal cancer, optimizing your vitamin D levels becomes even more important.

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