

Colorectal Cancer

Disease Report

REPORT CATEGORIES —



GUT HEALTH



LONGEVITY



CANCER

Sample Client

Report date: 15 January 2026

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Personal information

NAME

Sample Client

SEX AT BIRTH

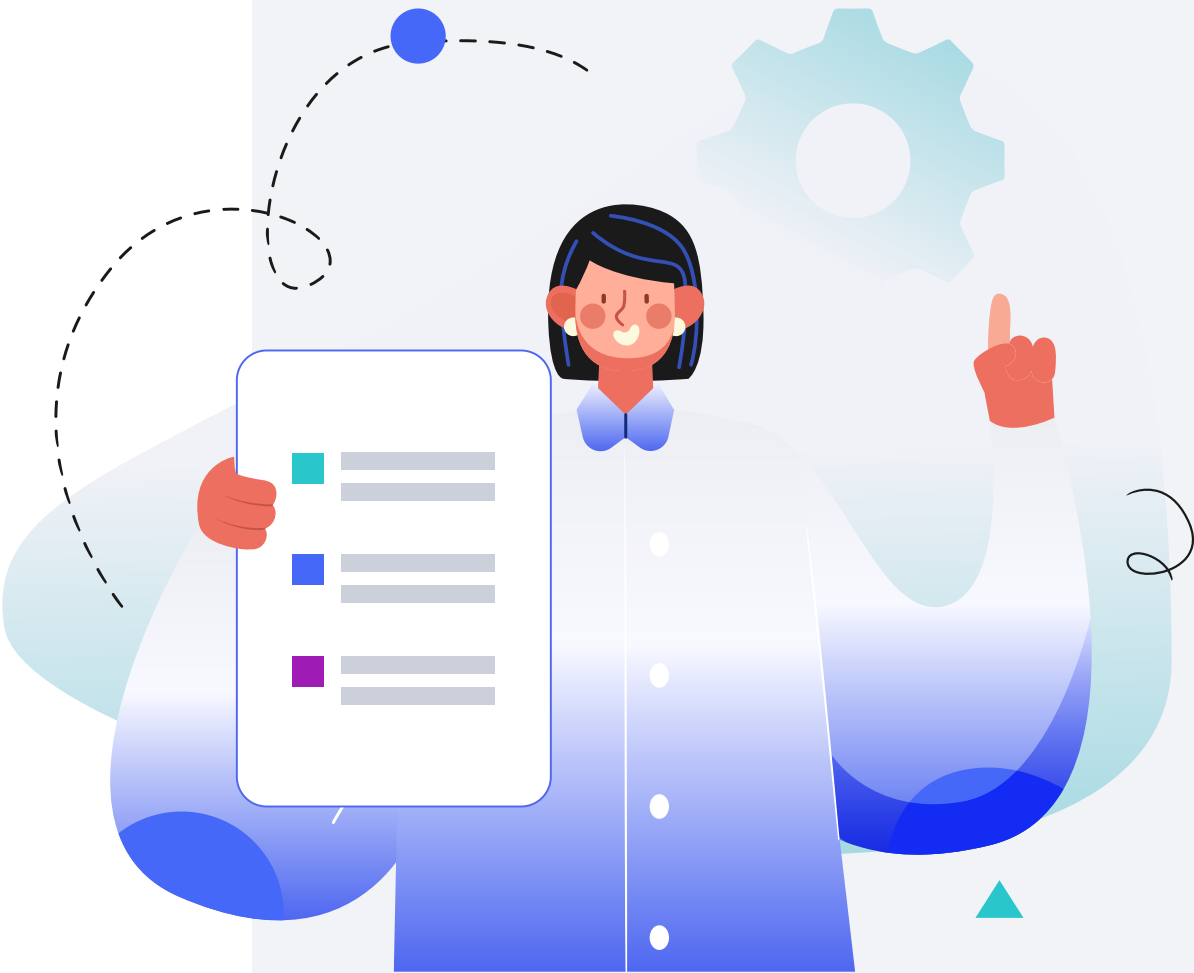
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
-
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
-
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
-
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
-
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

Colorectal cancer is a type of cancer that begins in the colon or rectum, which are parts of the large intestine and the digestive tract's lower section. It is one of the most commonly diagnosed cancers worldwide and the third most common one in the US [R].

Colorectal cancer may not present any symptoms in its early stages, which is why screening is crucial. Symptoms that may indicate colorectal cancer include [R]:

- Changes in bowel habits, such as constipation or diarrhea, that last longer than a few days.
- Rectal bleeding or blood in the stool.
- Persistent abdominal discomfort, such as cramps, gas, or pain.
- A feeling that the bowel doesn't empty completely.
- Weakness or fatigue.
- Unexplained weight loss.

Longevity Screener

Longevity Screener analyzes your DNA and biometric data to holistically determine your risk of developing serious medical conditions.

9x higher risk

Your odds of developing Colorectal Cancer are 9 times higher than someone with Normal risk.

⚠️

Your lifetime risk is **High**

✅

Your 10-year risk is **Normal**

Summary or results

Your results are indicating a High risk of developing Colorectal Cancer in your lifetime but a Normal risk within the next decade.

Monitor your risk by regularly checking your related labs and implementing the recommendations provided.

The risk of developing Colorectal cancer can be influenced by non-genetic factors such as Crohn's disease, elevated BMI, Type 2 diabetes, Type 1 diabetes, Ulcerative colitis.

What to do if you get a High risk

Analyze your labs

Analyze your lab results to establish a baseline and track any changes or improvements in your health markers over time.

Find out your out-of-optimal labs

We will pinpoint any values that fall outside the optimal range, allowing you to focus on what matters most.

Optimize labs

Aim to bring all your lab results to optimal levels through lifestyle changes, treatments, and ongoing monitoring for the best health outcomes.

Disclaimer

The Longevity Screener feature is designed to provide insights based on genetic predispositions and basic health data to help you understand factors that may influence your longevity. This tool is for informational purposes only and does not constitute medical advice, diagnosis, or treatment. Always consult with a qualified healthcare provider before making any decisions related to your health, lifestyle, or medical treatments. The information provided by the Longevity Screener is based on current scientific research and should be used as a supplementary tool in conjunction with professional medical advice.

☰

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Risk Factors and Treatment

While the exact cause of colorectal cancer is not fully understood, several factors increase the risk of developing this disease [\[R\]](#):

- Age: The majority of cases occur in people aged 50 and older, though incidence rates are rising among younger populations.
- Family history: Having a family history of colorectal cancer or polyps increases one's risk.
- Personal history: Those with a history of inflammatory bowel disease (like Crohn's disease or ulcerative colitis), or who have had colorectal cancer or adenomatous polyps before are at higher risk.
- Genetic syndromes: Genetic mutations passed through generations, such as familial adenomatous polyposis (FAP) and hereditary non-polyposis colorectal cancer (Lynch syndrome), significantly increase the risk.
- Lifestyle factors: A diet high in red or processed meats, physical inactivity, obesity, smoking, and heavy alcohol use are known risk factors.
- Racial and ethnic background: African Americans have a higher incidence rate of colorectal cancer than other racial groups in the United States.

Treatment for colorectal cancer depends on the stage of the disease, the location of the tumor, and the patient's overall health [\[R\]](#):

- Surgery: The primary treatment for localized cancer, surgery involves removing the tumor and surrounding tissue. For some cases, resection of part of the colon or rectum may be necessary.
- Chemotherapy: Used before or after surgery to shrink tumors and kill any cancer cells that may remain.
- Radiation therapy: Often used alongside chemotherapy, especially for rectal cancer, to reduce tumor size before surgery or eliminate remaining cells postoperatively.
- Targeted therapy: Drugs that target specific abnormalities in cancer cells. It's used for cancers that have specific gene mutations.
- Immunotherapy: Uses the body’s immune system to fight cancer. It’s typically reserved for advanced colorectal cancer.



MORE LIKELY

More likely to get colorectal cancer based on 1,049,410 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ZPLD1	rs116265807	GG
MYH3	rs1078643	AA
ACTL8	rs11203467	GG
COX7A2L	rs13426988	GG
MYL2	rs17550549	CC
PRICKLE1	rs11610543	GG
LRP1	rs7398375	CC
GRM7	rs2163735	GG
NUDT2	rs62558833	TT
CAMSAP1	rs74995296	CC
THSD4	rs4777372	CC
PTPN2	rs8083786	AA
PITX1	rs7722513	GC
CHRD12	rs3824999	GG
/	rs10795668	AG
SMAD7	rs4939827	TC
PITX1	rs35917784	AG
UTP23	rs6469654	GC
RHPN2	rs10411210	CT
PREX1	rs6066825	GA
MAF	rs140851213	DEL(A)T
CDKN1A	rs1321311	AC
USP44	rs11108175	AG
ABCC4	rs12855244	AG

Preventive measures include:

- Regular screening: Beginning at age 45 for average-risk adults, as recommended by the American Cancer Society.
- Diet and lifestyle: A diet rich in fruits, vegetables, and whole grains, limited red and processed meats, regular physical activity, maintaining a healthy weight, not smoking, and moderating alcohol intake can reduce risk.
- Genetic testing and counseling: Recommended for those with a family history indicative of genetic syndromes.

Colorectal cancer, when discovered early, is often treatable and frequently curable, highlighting the importance of regular screening and awareness of risk factors and symptoms.

Please note: This report is not diagnostic and can't be used to make any medical decisions. Most cancers are uncommon and have a strong environmental component. Even if your genetic predisposition is high, you will most likely not develop the disease. This report doesn't test for hereditary cancer syndromes or 'cancer genes'. These are usually caused by rare mutations that can't be analyzed by our test. If you're concerned about your risk of hereditary cancer, consider getting a specialized test at a reference laboratory.

GENE	SNP	GENOTYPE
SLC6A3	rs2735940	GA
COLCA2	rs3802842	CA
POU5F1B	rs6983267	TT
PARP11	rs12818766	GG
MICB	rs3830041	CC
BMP2	rs6085662	GG
TCF7L2	rs11196172	GG
TRAPPC4	rs11217091	TT
PLCB1	rs8117408	AA
BMP2	rs4813802	TT
VANGL1	rs2226738	TT
MAF	rs9930005	AA
MAP2K5	rs7171219	AA
ETS2	rs2242936	TT
CCDC195	rs35413825	GG
UBQLN1	rs12235741	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE	
1	Eat Fiber-Rich Foods	2	Strength Training1 hour
3	Aerobic Exercise (Cardio)1 hour	4	Exercise At Least One Hour a Day1 hour
5	Methylfolate400 mcg	6	Broccoli
7	Riboflavin (Vitamin B2)25 mg	8	Avoid Heterocyclic Amines
9	Cruciferous Vegetables	10	Broccoli Sprouts2 tbsp
11	Dietary Calcium	12	Avoid Organochlorine Pesticide Exposure
13	Avoid Organophosphate Pesticide Exposure	14	Avoid Air Pollution
15	Avoid Asbestos	16	Fruits And Vegetables
17	Garlic Supplement200 mg	18	Methionine200 mg
19	Maintain Optimal Vitamin D Levels1000 iu	20	Melatonin500 mcg
21	Dietary Magnesium	22	Apigenin50 mg
23	Betaine (TMG)500 mg	24	Berberine1000 mg
25	Vitamin C2000 mg	26	Dairy Products
27	CLA (Conjugated Linoleic Acid)3 g	28	Green Tea400 mg
29	Fucoidan300 mg	30	European Mistletoe
31	Lutein	32	Curcumin500 mg

33	Chlorophyll	100 mg	34	Wheat Germ	20 g
35	Selenium Supplements	50 mcg	36	Progressive Muscle Relaxation	10 minutes
37	Dietary Pentadecanoic Acid		38	Bananas	
39	Ginger	500 mg	40	Reishi	
41	N-acetylcysteine (NAC)	1200 mg	42	Molybdenum	
43	Black Raspberries		44	Cabbage	
45	Brazil Nuts		46	Turkey Tail Mushroom	1000 mg
47	Fisetin	100 mg	48	Kefir	
49	Berries		50	Avoid Acrylamide	
51	Dietary Oleic Acid		52	Limit Meat Intake	
53	Walking	30 minutes	54	Probiotic Dairy	
55	Dietary Folate		56	Grapes	
57	Whole Grains		58	Avoid Aflatoxins	
59	Alpha-Linolenic Acid (ALA)		60	Mediterranean Diet	

1



Eat Fiber-Rich Foods

IMPACT4 / 5

EVIDENCE4 / 5

How to implement

Incorporate foods high in fiber, such as fruits, vegetables, whole grains, and legumes, into your daily meals. Aim for a total dietary fiber intake of 25 to 30 grams per day, spread out over all meals.

Description

Fiber is a type of carb that your body can’t digest which supports digestion, heart health, and blood sugar control. You can get fiber by eating things like whole grains, fruits, nuts, seeds, and leafy greens.

Fiber is a type of carb that your body can’t digest. It supports digestion, heart health, blood sugar control, and more [\[R, R\]](#).

Adults should get 28 g of fiber every day. Most people in the US don’t get enough fiber [\[R, R\]](#).

You can get more fiber by eating [\[R, R\]](#):

- Whole grains
- Fruits
- Leafy greens
- Nuts and seeds
- Beans
- Broccoli

Fiber supplements, such as [psyllium husk](#), are available for people who don’t get enough fiber from their diets [\[R, R\]](#).

How it helps

Experts recommend eating a diet abundant in fiber-rich foods such as whole grains, fruits, and vegetables to reduce the risk of colorectal cancer [\[R\]](#).

In line with this, multiple studies have associated eating a diet rich in fiber with a decreased incidence of colorectal cancer. In contrast, a Western-type diet rich in processed meat may increase the risk [\[R, R, R, R, R, R, R, R, R\]](#).

Fiber helps maintain a healthy digestive system by promoting regular bowel movements. This may aid in the removal of carcinogens from the digestive tract.

2



Strength Training

IMPACT4 / 5

EVIDENCE4 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Multiple studies concluded that a sedentary lifestyle with a prolonged sitting time increases the risk of colorectal cancer while physical activity reduces it [R, R, R, R, R, R].

In line with this, experts recommend exercising for 30 minutes on most days to reduce the risk of colorectal cancer [R].

In cancer survivors, exercise interventions combining aerobic and strength training may improve physical fitness, body composition, fatigue, depression, and quality of life while reducing complications, hospital stay length, and mortality risk [R, R, R, R, R, R, R, R, R].

Strength training can help improve muscle mass and strength, which is often depleted during cancer treatment, leading to better physical function and overall health.

3



Aerobic Exercise (Cardio)

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Multiple studies concluded that a sedentary lifestyle with a prolonged sitting time increases the risk of colorectal cancer while physical activity reduces it [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#)].

In line with this, experts recommend exercising for 30 minutes on most days to reduce the risk of colorectal cancer [[R](#)].

In cancer survivors, exercise interventions combining aerobic and strength training may improve physical fitness, body composition, fatigue, depression, and quality of life while reducing complications, hospital stay length, and mortality risk [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)].

4



Exercise At Least One Hour a Day

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

[Exercise](#) can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

Multiple studies concluded that a sedentary lifestyle with a prolonged sitting time increases the risk of colorectal cancer while physical activity reduces it [\[R, R, R, R, R, R\]](#).

In line with this, experts recommend exercising for 30 minutes on most days to reduce the risk of colorectal cancer [\[R\]](#).

In cancer survivors, exercise interventions combining aerobic and strength training may improve physical fitness, body composition, fatigue, depression, and quality of life while reducing complications, hospital stay length, and mortality risk [\[R, R, R, R, R, R, R, R, R\]](#).

5



Methylfolate

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Take an L-methyl folate supplement (400-800 micrograms daily), ideally with a meal, to improve absorption. This dosage is recommended for adults, including pregnant women, to support overall health, especially to reduce the risk of neural tube defects in developing fetuses. Continue daily use as part of your regular supplement routine.

TYPICAL STARTING DOSE

400 mcg

Description

Folate, a B-vitamin, is crucial for DNA synthesis, cell growth, and the formation of red blood cells. Adequate folate intake supports overall health and reduces the risk of neural tube defects during pregnancy.

Vitamin B9 (*folate*) plays an essential role in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Making DNA
- Metabolism
- Energy production

SelfDecode recommends L-methylfolate as the preferred folate supplement for those who need one. It is superior to folic acid because it doesn't require activation, but the research is still ongoing [\[R\]](#), [\[R\]](#).

How it helps

A meta-analysis on folate and colorectal cancer risk found dietary folate reduced risk more than total folate. High folate intake was associated with reduced risk in 24 cohort studies. Folate may reduce risk in those with alcohol consumption but not non-drinkers. Colon cancer risk is reduced but not rectal cancer. Folic acid supplements had no significant effect, but total folate intake showed a reduction in risk. Red Blood Cell folate content had no significant effect [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

In a study involving 725,134 participants, dietary folate showed a slight reduction in colon cancer risk, while total folate intake exhibited a more significant decrease. However, circulating folate levels didn't show a clear association with colorectal cancer risk. Additionally, a separate study found that folic acid supplementation had a protective effect on colorectal cancer, especially in certain subgroups [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

A meta-analysis found the MTHFR C667T polymorphism reduced colorectal cancer risk in various populations, especially Asians and males. Lifestyle factors like smoking and high BMI increased serrated polyp risk, while folate and aspirin intake lowered it; no significant associations with physical activity or hormone replacement therapy were found [\[R\]](#), [\[R\]](#).

However, several analyses indicated that folic acid is not associated with colorectal cancer [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

6



Broccoli

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Incorporate at least one cup of chopped broccoli, either steamed or raw, into your daily diet. This can be as part of a meal or snack. Continue this practice daily for ongoing health benefits.

Description

Broccoli and broccoli sprouts are nutrient-dense vegetables packed with vitamins, minerals, and antioxidants. They are known for their potential to support a healthy immune system, protect against chronic diseases, and promote overall nutritional wellness.

Broccoli is high in vitamin K and C, as well as a number of other vitamins and minerals, and antioxidants like quercetin. A ½ cup serving provides 110 mcg of vitamin K or 92%DV.

How it helps

Two meta-analyses (the largest one with studies) found that consuming cruciferous vegetables reduces the risk of colorectal cancer by 19-22%. Particularly, broccoli reduces colorectal neoplasms by 25% [\[R\]](#), [\[R\]](#).

7



Riboflavin (Vitamin B2)

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Take a riboflavin (vitamin B2) supplement daily, with a dose ranging from 5mg to 400mg, depending on the specific health concern or advice from a healthcare provider. Swallow the supplement with water, preferably with a meal to enhance absorption. This regimen can be continued long-term or as directed by a healthcare professional.

TYPICAL STARTING DOSE
25 mg

Description

Riboflavin is a water-soluble B vitamin found in various foods like dairy products, leafy greens, and lean meats. It plays a crucial role in energy production, metabolism, building red blood cells, and maintaining healthy skin and eyes.

[Vitamin B2](#) helps our cells create energy. It’s also known as riboflavin [\[R\]](#), [\[R\]](#).

This vitamin is important for [\[R\]](#), [\[R\]](#):

- Brain, liver, and gut health
- Building red blood cells

Riboflavin deficiency is rare in the US. People with gut, eating, or hormonal disorders may be at a higher risk. Alcohol abuse and certain medications can also deplete this vitamin [\[R\]](#), [\[R\]](#).

Good sources of riboflavin include [\[R\]](#), [\[R\]](#):

- Eggs
- Dairy
- Lean and organ meats
- Green vegetables
- Fortified cereals

How it helps

In a meta-analysis of 47 articles, high intake of vitamin B9 (folate), D, B6, and B2 was linked to a reduced risk of colorectal cancer, with vitamin B9 showing the strongest association [\[R\]](#).

A meta-analysis of 14 studies and 2 blood concentration studies found that vitamin B2 intake and blood concentration were inversely associated with colorectal cancer risk. Increasing intake to 5 mg/day reduced risk by 10% [\[R\]](#).

In another meta-analysis of 8 articles, high vitamin B2 intake was associated with a reduced risk of colorectal cancer, with an odds ratio of 0.83. Sensitivity analysis confirmed this association [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Riboflavin intake may reduce the risk of colorectal cancer more in people with your [MTHFR](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
MTHFR	rs1801133	AA	

8



Avoid Heterocyclic Amines

IMPACT

3 / 5

EVIDENCE

4 / 5

Description

Heterocyclic amines (HCAs) are chemical compounds formed when meat, poultry, or fish are cooked at high temperatures, such as during grilling, frying, or barbecuing. They arise through the reaction of amino acids, sugars, and creatine present in muscle tissues.

The primary health concern associated with HCAs is their potential to increase cancer risk. Studies have shown that these compounds can be mutagenic and linked them to an increased risk of colorectal, pancreatic, and prostate cancers. Animal studies have demonstrated that exposure to high levels of HCAs can induce tumor formation in various organs.

To reduce exposure to HCAs, it is advisable to cook meats at lower temperatures, use methods such as baking or steaming, and avoid charring. Marinating meat before cooking can also decrease HCA formation.

How it helps

Dietary exposure to heterocyclic amines such as 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine,, 2-amino-3,8-dimethylimidazo[4,5-f] quinoxaline, 2-amino-3,4,8-trimethylimidazo[4,5-f] quinoxaline, and benzo(a) pyrene may increase the risk of colorectal cancer by 10-22%. The risk shows a dose-response effect [\[R, R\]](#).

9



Cruciferous Vegetables

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate a serving of cruciferous vegetables, such as broccoli, cauliflower, Brussels sprouts, kale, or cabbage, into at least one meal each day. A serving size is about a half cup cooked or one cup raw. Try to maintain this habit consistently over time for the best health outcomes.

Description

Cruciferous vegetables like broccoli, cauliflower, and kale are rich in vitamins, fiber, and antioxidants. Including them in your diet can promote overall health and may offer cancer-protective properties.

Cruciferous vegetables are a group of vegetables that belong to the Brassicaceae family. They are rich in fiber, vitamins, minerals, and other nutrients.

Some common cruciferous vegetables include broccoli, cauliflower, cabbage, kale, and brussels sprouts.

How it helps

A diet rich in cruciferous vegetables has been associated with a decreased risk of colorectal cancer. Broccoli and cabbage may be particularly effective [\[R, R, R, R\]](#).

Cruciferous vegetables like broccoli, cauliflower, and Brussels sprouts contain compounds that promote the elimination of carcinogens and inhibit cancer cell growth.

10



Broccoli Sprouts

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Consume 2-4 tablespoons of fresh broccoli sprouts daily. They can be added to salads, sandwiches, or smoothies to make them easier to consume. Continue this practice daily for at least 3 months to potentially see benefits.

TYPICAL STARTING DOSE

2 tbsp

Description

Broccoli and broccoli sprouts are nutrient-dense vegetables packed with vitamins, minerals, and antioxidants. They are known for their potential to support a healthy immune system, protect against chronic diseases, and promote overall nutritional wellness.

How it helps

A diet rich in cruciferous vegetables has been associated with a decreased risk of colorectal cancer. Broccoli and cabbage may be particularly effective [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Broccoli sprouts are high in sulforaphane, a compound with anti-cancer properties that can inhibit the growth of colorectal cancer cells.

11



Dietary Calcium

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Consume 1,000-1,200 mg of calcium daily through dietary sources such as dairy products (milk, yogurt, cheese), green leafy vegetables (kale, broccoli), and fortified foods (orange juice, plant-based milks). Adults under 50 need 1,000 mg per day, while those over 50 should aim for 1,200 mg per day.

Description

Dietary calcium is a mineral found in dairy products, leafy greens, and fortified foods. It is essential for bone health, muscle function, and nerve transmission.

Calcium is the most abundant mineral in the human body. It is vital for the bones, heart, muscles, and nervous system [\[R\]](#).

Your body gets calcium from food and needs vitamin D to help absorb it. Calcium can be found in a variety of foods, including [\[R\]](#):

- Dairy products
- Green, leafy vegetables
- Fish with edible soft bones (e.g., sardines)
- Calcium-fortified foods and beverages

How it helps

Elevated blood calcium levels have been associated with a decreased risk of colon cancer. Similarly, a high dietary intake of this mineral and calcium-rich foods such as dairy products may reduce the risk [\[R, R, R, R, R\]](#).

Supplementation with calcium may also decrease the risk of colorectal cancer. For every 300-mg/day increment, the risk may decrease by 9%. However, dietary calcium may be more effective. Moreover, not all studies found this association [\[R, R, R, R, R\]](#).

Supplementation with calcium may also reduce the risk of colorectal cancer recurrence in those with a history of colorectal adenoma [\[R\]](#).

12



Avoid Organochlorine Pesticide Exposure

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Minimize exposure by choosing organic fruits and vegetables, thoroughly washing produce before consumption, and avoiding areas where organochlorine pesticides are applied. Consider using air purifiers in homes close to agricultural areas to reduce indoor pesticide levels.

Description

Reducing organochlorine pesticide exposure involves minimizing contact with pesticides like DDT, which can accumulate in the body and potentially lead to adverse health effects, including disruption of hormonal functions and carcinogenicity.

How it helps

A meta-analysis of 32 studies on cancer occurrence among pesticide applicators associated most organochlorine pesticides with an increased risk of cancers, including colorectal [\[R\]](#).

13



Avoid Organophosphate Pesticide Exposure

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

To reduce organophosphate pesticide exposure, buy organic produce when possible, thoroughly wash and peel fruits and vegetables, avoid using chemical pesticides in your home and garden, and wear protective clothing and a mask if you must handle pesticides for agricultural or landscaping work.

Description

Reducing organophosphate exposure involves minimizing contact with pesticides and insecticides containing these chemicals, which can protect against potential health risks such as neurotoxicity and respiratory issues, particularly for individuals working in agriculture or pest control.

Organophosphates (OP) are the most widely used pesticides worldwide. They include [\[R\]](#):

- Parathion
- Malathion
- Chlorpyrifos
- Diazinon
- Phosmet

Chronic exposure to OPs has been linked to [\[R\]](#), [\[R\]](#):

- Fertility problems
- Cognitive problems
- Nerve damage
- Cancer and gene damage

How it helps

A meta-analysis of 58 studies on occupational exposures to organophosphate pesticides found positive associations between exposure to DDE, PCBs, solvents, and chlorinated solvents and cancer (including colorectal), with limited data on other exposures [\[R\]](#).

14



Avoid Air Pollution

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Stay indoors on days when air quality indexes (AQI) indicate high pollution levels, which are often reported by weather services or government environmental agencies. **Install air purifiers** in your home, especially in bedrooms, to reduce indoor pollutants. Limit outdoor exercise when air pollution warnings are issued, opting for indoor activities instead.

Description

Avoiding air pollution by reducing exposure to pollutants in the environment is essential for respiratory and overall health. It can help lower the risk of respiratory diseases, cardiovascular conditions, and other health issues associated with poor air quality.

While city life is convenient in a lot of ways, it comes with some health hazards. Cars, factories, and other sources increase air [pollution](#) [R].

Air pollution plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lung disease
- Heart disease
- Diabetes
- Asthma
- Skin conditions

How it helps

A meta-analysis of 20 studies from 14 countries found positive associations between PM2.5 exposure and GI cancers, particularly liver and colorectal cancers. Evidence is moderate but limited due to the small number of studies [\[R\]](#).

A multicountry study involving 227,044 individuals over 14.9 years found a strong link between gastric cancer and long-term exposure to PM2.5_S, while other particulate matter and elements showed no significant association. PM2.5_S may contribute to gastric cancer risk [\[R\]](#).

15

Avoid Asbestos

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Check for the presence of asbestos in materials in old buildings, especially those built before the 1980s, before doing any renovations or demolitions. Avoid disturbing materials that might contain asbestos, such as insulation, tiles, and roofing. If asbestos needs to be removed, hire professionals who specialize in asbestos abatement.

Description

Avoiding asbestos exposure is critical to prevent the development of asbestos-related diseases such as mesothelioma and lung cancer. Asbestos is a known carcinogen found in some construction materials and should be handled with extreme care or avoided altogether.

How it helps

Occupational asbestos exposure is associated with an 11-16% increased risk of colorectal cancer mortality. The risk is higher at higher doses or when lung cancer risk is elevated due to asbestos exposure [\[R\]](#), [\[R\]](#), [\[R\]](#).

16

Fruits And Vegetables

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Increase your intake of fruits and vegetables to at least five servings per day, aiming for a variety of types and colors to ensure a broad range of nutrients. Each serving size should roughly be the amount you can fit in one hand. Try to incorporate at least one serving of fruits or vegetables into every meal and snack throughout the day.

Description

A diet rich in fruits and vegetables provides essential nutrients, antioxidants, and dietary fiber. This combination supports overall health, helps maintain a healthy weight, and reduces the risk of chronic diseases such as heart disease and certain cancers.

How it helps

Experts recommend a diet rich in fruits and vegetables to help prevent colorectal cancer [\[R\]](#).

In line with this, multiple studies have found a reduced prevalence of colorectal cancer (especially distal colon cancer) in people whose diet is rich in fruits and vegetables. However, not all studies found protective effects for vegetables [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Moreover, adopting a semi-vegetarian or pesco-vegetarian diet has been associated with a decreased risk of colorectal cancer [\[R\]](#).

Fruits, vegetables, and whole grains contain vitamins, minerals, fiber, and antioxidants, which may play a role in cancer prevention. Choose a variety of fruits and vegetables so that you get an array of vitamins and nutrients.

17



Garlic Supplement

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a garlic supplement, such as a garlic extract or aged garlic supplement, in a dosage of 600-1,200 mg per day, divided into separate doses. This should be taken with meals to minimize digestive issues. Continue daily for at least 8-12 weeks to evaluate its effects on health markers like blood pressure or cholesterol.

TYPICAL STARTING DOSE

200 mg

Description

Garlic is a pungent herb known for its potential health benefits, including cardiovascular support and immune system enhancement. It contains bioactive compounds that may help reduce the risk of chronic diseases and support overall well-being.

[Garlic](#) is a delicious aromatic herb that adds flavor to your food. But did you know that garlic has been a part of traditional medicine for thousands of years? **From ancient Egypt and Rome to China, people have praised garlic for its many health benefits.** Today, we can trace many of those benefits to sulfur-rich compounds found in garlic. People take garlic to help control their blood pressure and cholesterol [\[R\]](#).

Please note: *Garlic can interact with blood thinners (like aspirin, Plavix, Coumadin). If you are on blood thinners, consult your doctor before supplementing with garlic [\[R\]](#).*

How it helps

High garlic intake may reduce the risk of colorectal cancer by 20-37% and colorectal polyps by 12%. However, the evidence is mixed. Moreover, the evidence that garlic supplements help prevent this type of cancer is inconclusive [\[R, R, R, R, R, R, R\]](#).

Garlic has compounds that can inhibit the growth of cancer cells and have anti-inflammatory effects in the colon.

Please note: *Garlic can interact with blood thinners (such as aspirin, Plavix, and Coumadin). In addition, garlic can irritate the stomach in some people. Talk to your doctor before taking garlic [\[R, R\]](#).*

18



Methionine

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a methionine supplement in the form of SAME at 200-400mg daily, with water, preferably on an empty stomach to enhance absorption. It's recommended to start with a lower dose and gradually increase as needed. Consult with a healthcare provider for personalized advice, especially if you have other medical conditions or are taking medications.

TYPICAL STARTING DOSE

200 mg

Description

Methionine is an essential amino acid found in various protein-rich foods. It plays a crucial role in protein synthesis and liver function and is important for overall health.

1. A **methionine supplement** can vary depending on which source is utilized to boost methionine levels. One or more of the following options can be taken to boost methionine levels:
- a. SAME or S-Adenosyl-Methionine can be taken in doses starting at 200 mg/day. It is sometimes recommended to take with the other two supplements to promote absorption.

b. TMG (Betaine) or trimethylglycine supplements are made from the byproducts of sugar beet processing. Typically, it is offered in 500-1000 mg capsules.

c. Methylfolate is the biologically active form of folate (vitamin B9) and typically offered in dosages of 7.5-15 mg.

Note: excessive levels of methylfolate can cause adverse reactions like anxiety and sore joints and muscles. Speak with your doctor before using a methionine supplement.

How it helps

Dietary methionine intake may decrease the risk of colorectal cancer by ~25%. The protective effects of methionine may be strongest in men and Western populations [\[R\]](#).

19

Maintain Optimal Vitamin D Levels

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs [vitamin D](#) for strong bones. Vitamin D also plays a role in [\[R\]](#):

- Mood
- Immunity
- Heart health
- Blood sugar control

[Sunlight](#) is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [\[R\]](#), [\[R\]](#).

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [\[R\]](#).

How it helps

A large meta-analysis associated low vitamin D levels with an increased risk of colorectal cancer [\[R\]](#).

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [\[R\]](#).

PERSONALIZED TO YOUR GENES

Supplementation with vitamin D may reduce the risk of colorectal cancer more in people with your [VDR](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
VDR	rs7968585	TT	

20



Melatonin

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 500 mcg of melatonin orally, about 30 minutes before bedtime, to help with sleep. It can be taken daily as needed.

TYPICAL STARTING DOSE
500 mcg

Description

Melatonin is a natural hormone produced by the pineal gland in the brain that helps regulate the sleep-wake cycle. It plays a crucial role in promoting sleep onset and maintaining a consistent sleep pattern, making it a commonly used supplement for managing sleep disorders and jet lag.

[Melatonin](#) is an important sleep hormone. Bright light at night may prevent your body from making enough melatonin [\[R\]](#), [\[R\]](#), [\[R\]](#).

Your body makes melatonin on its own. However, some people take melatonin supplements to help them sleep. It may help with jet lag in particular [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

A study of 9,147,428 participants associated melatonin supplementation with a reduced risk of colorectal cancer [\[R\]](#).

21

Dietary Magnesium

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Increase your intake of magnesium-rich foods such as leafy green vegetables, nuts, seeds, and whole grains. Aim to include these foods in your diet daily, following the recommended dietary allowance of 320 mg per day for women and 420 mg per day for men.

Description

Magnesium is a vital mineral involved in over 300 biochemical reactions in the body. It supports various functions, including muscle and nerve function, bone health, and blood sugar regulation.

Magnesium is an essential mineral. Your body needs it for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle, nerve, and bone function
- Blood sugar and blood pressure control
- DNA and protein production
- Strong immunity

Women need **310-320 mg** of magnesium per day, while men need **400-420 mg** [\[R\]](#).

Foods rich in magnesium include **nuts, seeds, and leafy greens**. Magnesium is also available as a supplement [\[R\]](#).

How it helps

Epidemiological research has associated a high intake of magnesium with a reduced incidence of colorectal cancer, especially colon cancer [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

22

Apigenin

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 50-100 mg of apigenin supplement daily, preferably with a meal to enhance absorption. This dosage is suggested based on studies for general health benefits and should be continued as long as it contributes positively to your well-being, or as directed by a healthcare professional.

TYPICAL STARTING DOSE

50 mg

Description

Apigenin is a flavonoid compound found in various plants, including parsley, chamomile, and celery. Its potential health benefits include anti-inflammatory and antioxidant properties.

How it helps

A meta-analysis of 12 studies associated a high dietary intake of flavones such as apigenin with ~22% lower risk of rectal, but not colon cancer [\[R\]](#).

23



Betaine (TMG)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

To take Betaine (TMG) as a supplement, consume 500-2000 mg daily, preferably with a meal to enhance absorption. It is recommended to start at the lower end of the dosage range and adjust based on personal tolerance and effectiveness. This supplement can be taken indefinitely for ongoing support of heart health and liver function.

TYPICAL STARTING DOSE

500 mg

Description

Betaine is a compound found in various foods and used in dietary supplements for its potential to support liver health and contribute to healthy homocysteine levels.

How it helps

A meta-analysis of 11 epidemiologic studies found that betaine consumption is linked to a lower cancer incidence. An increment of 100 mg/day of choline plus betaine intake may help reduce cancer incidence by 11% according to a dose-response analysis [R].

Another meta-analysis of 28 observational studies (9 case-control, 1 cross-sectional, and 18 cohort studies) found that high betaine levels were associated with a lower risk of cancer incidence, especially for colorectal cancer. There were no significant associations with cancer survivorship of choline or betaine levels [R].

24



Berberine

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of berberine two times a day before meals. Continue this regimen for up to three months, then evaluate its effects with your healthcare provider.

TYPICAL STARTING DOSE

1000 mg

Description

Berberine is a compound found in certain plants, known for its potential to support blood sugar control and heart health.

[Berberine](#) is an active compound of some plants used in traditional medicine, such as [\[R\]](#):

- European barberry
- Oregon grape
- Goldenseal
- Chinese goldthread
- Tree turmeric

Berberine is also available as a supplement. People use it to help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Diabetes
- High cholesterol
- High blood pressure
- PCOS

How it helps

In a placebo-controlled trial of 553 participants who had at least one but no more than six histologically confirmed colorectal adenomas that had undergone complete polypectomy, supplementation with berberine (0.3 g, 2x/day) reduced recurrence [\[R\]](#).

How to implement

TYPICAL STARTING DOSE

2000 mg

Description

Foods rich in Vitamin C include: [[R](#)]

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [R, R].

Vitamin C deficiency is called *scurvy*. In the past, many sailors suffered from it [R].

How it helps

Higher genetically predicted vitamin C levels have been linked to lower small intestine and colorectal cancer risk, but no significant association was found for liver cancer in meta-analysis [R].

Food and supplement intake of vitamins A, C, and E, as well as multivitamin use, is associated with reduced colon cancer risk [R].

A meta-analysis of 47 studies showed vitamin B9 (folate), D, B6, and B2 intake inversely associated with colorectal cancer risks [R].

Please note: Supplementing with vitamin C is linked to a slightly higher risk of kidney stones in men. Talk to your doctor before taking vitamin C [R, R].

26



Dairy Products

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Incorporate 2-3 servings of low-fat or fat-free dairy products into your daily diet. One serving could be 8 ounces of milk, 1 cup of yogurt, or 1.5 ounces of cheese. Choose options that are low in added sugars and consume as part of balanced meals or snacks throughout the day.

Description

Dairy products, such as milk, yogurt, and cheese, are rich sources of calcium and protein. They are essential for bone health, providing nutrients that support strong bones and teeth, as well as overall nutritional well-being.

Dairy products are made from milk. They include [\[R\]](#):

- Cheese
- Yogurt
- [Kefir](#)
- Butter
- Cream

Dairy products contain high levels of [calcium](#). Calcium helps build strong bones [\[R\]](#).

How it helps

A study of 60,708 women aged 40-76 years found a decreased risk of colorectal cancer among those who consumed 4 servings/day of high-fat dairy (including whole milk, full-fat cultured milk, cheese, cream, sour cream, and butter) [\[R\]](#).

How to implement

TYPICAL STARTING DOSE

3 g

Description

CLA is a fatty acid found in meat and dairy products and is often used as a dietary supplement. Some studies suggest that CLA may have potential benefits for weight management and body composition by promoting fat loss and muscle preservation.

[Conjugated linoleic acids](#) (CLA) are **polyunsaturated fats** (PUFAs). They're mainly found in meat and dairy. People also take them as supplements [R, R].

CLA supplements are often marketed as weight loss aids [R].

How it helps

A study of 60,708 women aged 40–76 years found a decreased risk of colorectal cancer among those with the highest intake of conjugated linoleic acid [R].

28



Green Tea

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume 400 mg of green tea extract daily. This can be taken in the form of capsules or tablets available that specify the amount of green tea extract. Ensure the supplement is taken according to the product's specific instructions, usually once a day with water.

TYPICAL STARTING DOSE

400 mg

Description

Tea is a beverage made by steeping the leaves of the *Camellia sinensis* plant in hot water. It comes in various types, including black, green, white, and herbal teas, and is known for its diverse flavors and potential health benefits due to antioxidants and other bioactive compounds.

[Green](#) and black tea are made from the same plant (*Camellia sinensis*). This plant is processed in different ways to make each type of tea [\[R\]](#) [\[R\]](#).

Tea contains antioxidants called **flavonoids**, which may help prevent [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#):

- Heart disease
- Cancer
- Diabetes

How it helps

An umbrella review of 64 studies identified colorectal cancer among those whose risk is reduced by tea intake [\[R\]](#).

However, a meta-analysis of 14 studies found no association between tea intake and colorectal cancer. Surprisingly, a meta-analysis of 13 studies even found a potentially increased risk of colorectal cancer in people drinking tea. Nevertheless, a meta-analysis of 29 studies found an inverse relationship between tea intake and colorectal cancer, especially in women and those drinking green tea. Another meta-analysis (20 studies) only found the inverse association significant in women [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#).

A meta-analysis of 13 studies found a weak lower tendency for colorectal cancer development with green tea consumption. However, 2 meta-analyses (the largest one with 25 studies) found the evidence insufficient [\[R\]](#) [\[R\]](#) [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Drinking green tea may reduce the risk of colorectal cancer more in people with your [PLA2G4A](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
PLA2G4A	rs6666834	CC	

29



Fucoidan

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 300 mg of fucoidan supplement once daily, preferably with a meal to aid absorption. Continue this regimen for a minimum of four weeks to evaluate its effects on your health.

TYPICAL STARTING DOSE

300 mg

Description

Fucoidan is a compound found in certain brown seaweeds and marine plants, and it is consumed for its immune system support and anti-inflammatory effects.

How it helps

In a non-placebo-controlled trial of 54 metastatic colorectal cancer patients, supplementation with low-molecular-weight fucoidan as an add-on to chemotarget agents improved the disease control rate (92.8% vs 69.2% in the control group). However, fucoidan had no significant effects on overall survival, progression-free survival, overall response rate, adverse effects, or quality of life [R].

30



European Mistletoe

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

European mistletoe extracts are typically administered subcutaneously, intravenously, or orally, with dosages tailored to individual patient needs and specific health conditions. Subcutaneous injections of mistletoe extracts are commonly administered several times per week, with doses typically starting at around 0.1 to 0.5 milligrams per injection and gradually increasing to higher doses as tolerated. Intravenous administration may involve similar dosing regimens but requires careful monitoring by healthcare professionals due to the potential for adverse reactions. Oral preparations of European mistletoe, such as capsules or tinctures, may also be used for certain health conditions.

Description

European mistletoe (*Viscum album*) is a semi-parasitic plant native to Europe and parts of Asia. It grows on various tree species. While often associated with festive decorations during the holiday season, European mistletoe has a long history of medicinal use dating back to ancient times.

In traditional medicine, European mistletoe has been employed for its purported health benefits in the treatment of conditions such as hypertension, arthritis, and epilepsy. However, its most well-known application is in the realm of complementary and alternative cancer therapies. Research suggests that mistletoe extracts may possess immunomodulatory, cytotoxic, and apoptotic effects. As such, mistletoe therapy, also known as *Viscum* therapy, is sometimes used alongside conventional cancer treatments as a complementary approach to support overall well-being and improve quality of life.

How it helps

Several trials found that supplementation with European mistletoe extract as an add-on to chemotherpay improves outcomes, survival, and quality of life in colorectal cancer patients [R, R, R].

31



Lutein

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Increase your intake of lutein by eating more dark, leafy greens such as spinach and kale, as well as other foods like corn, peas, and egg yolks. Aim to include these in your daily diet, consuming at least one serving of lutein-rich foods per meal. It can also be taken as a supplement.

Description

Lutein is an antioxidant pigment found in the eye, and may support eye health. It is commonly found in leafy green vegetables.

Lutein is an antioxidant pigment found in the eye. Many plants contain lutein, including [\[R\]](#), [\[R\]](#):

- Leafy greens (kale, spinach, leeks, lettuce)
- Cantaloupe
- Corn
- Peas
- Peppers
- Herbs (basil, parsley)

Lutein may help support eye health [\[R\]](#), [\[R\]](#).

How it helps

High lutein/zeaxanthin intake (top quartile) is associated with reduced colorectal cancer risk. G allele carriers (AG+GG) also had a lower risk. Combined, they showed significant risk reduction, especially for rectal cancer [\[R\]](#).

32



Curcumin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 500 mg curcumin supplement daily with food. To enhance absorption, take it with a meal that contains fats or oils since curcumin is fat-soluble.

TYPICAL STARTING DOSE
500 mg

Description

Curcumin is a compound found in turmeric known for its anti-inflammatory and antioxidant properties. It has been studied for its potential to reduce inflammation, support joint health, and contribute to overall well-being.

[Turmeric](#) is a yellow spice from India. It may reduce inflammation and [oxidative stress](#) [\[R\]](#).

The most important active compound in turmeric is **curcumin**. People use curcumin for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Joint pain
- Hay fever
- Mood
- High blood sugar
- Gut health
- Liver health

How it helps

Turmeric’s active compound curcumin prevented colorectal cancer in a clinical trial on people at risk (with multiple aberrant crypt foci, which may lead to polyps and cancer) [\[R\]](#).

Turmeric extract also stabilized colorectal cancer in 5 out of 15 patients in a clinical trial [\[R\]](#).

Please note: curcumin may interfere with iron absorption due to its iron-chelating properties, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using curcumin or turmeric supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

33



Chlorophyll

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take chlorophyll supplements once daily, with a dose ranging from 100 to 300 milligrams. Consume it with a glass of water, preferably in the morning to coincide with your digestive cycle. It's advisable to continue this regimen daily for at least 3 to 4 weeks to assess its benefits.

TYPICAL STARTING DOSE

100 mg

Description

Chlorophyll is a pigment found in plants that may have antioxidant and anti-inflammatory properties. Some proponents suggest that consuming chlorophyll supplements or chlorophyll-rich foods may support detoxification and overall health

How it helps

In a non-placebo-controlled trial of 16 healthy volunteers, supplementing a diet high in fried meat with chlorophyll tablets decreased DNA damage in colorectal cells by nearly 2-fold [\[R\]](#).

34



Wheat Germ

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 2 tablespoons (about 20 grams) of wheat germ daily. It can be sprinkled over yogurt, cereal, or smoothies. Consume consistently for at least 4 weeks to notice potential health benefits.

TYPICAL STARTING DOSE

20 g

Description

Wheat germ is a nutrient-rich byproduct of wheat processing. It is a good source of protein, fiber, vitamins and minerals.

Wheat germ can be added to a variety of foods such as smoothies, yogurt, oatmeal, or bread dough to boost their nutritional value. Some people also take it as a supplement.

How it helps

In a non-placebo-controlled trial of 30 participants, those supplementing with fermented wheat germ (trade-name AVEMAR) had no new metastases [\[R\]](#).

35



Selenium Supplements

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 50 mcg of selenium supplements once daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

50 mcg

Description

Selenium is a trace mineral found in Brazil nuts and many other foods as well as supplements. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

[Selenium](#) supports [\[R\]](#):

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Selenium supplements are available for people who can't meet their needs with a balanced diet [\[R\]](#).

How it helps

Limited, low-quality evidence suggests that selenium supplementation prevents colorectal cancer [\[R\]](#).

36



Progressive Muscle Relaxation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Set aside at least 10-15 minutes daily in a quiet, comfortable spot where you won't be disturbed. Start by tensing the muscles in your feet for 5 seconds, then relax for 30 seconds, and progressively work your way up through the major muscle groups of your body, tensing then relaxing each for 5 and 30 seconds respectively.

TYPICAL STARTING DOSE

10 minutes

Description

Progressive Muscle Relaxation is a relaxation technique involving the systematic tensing and releasing of muscle groups to reduce muscle tension, stress, and anxiety. Regular practice can lead to improved physical and mental relaxation.

Progressive muscle relaxation is a relaxation technique focused on releasing muscle tension. In this technique, you focus on tensing and relaxing different parts of your body, one after the other, to relieve stress [R](#), [R](#)].

It is common to start with the toes and slowly work your way up to the neck and head. Try to focus on a single muscle group at a time (for example, the calf muscles). Tense these muscles for 5-10 seconds, then relax for 20-30 seconds before moving on to the next muscle group [R](#), [R](#)].

How it helps

Practicing progressive muscle relaxation for 10 weeks reduced anxiety and improved quality of life in 2 non-placebo-controlled trial of 77 patients with colorectal cancer undergoing colostomy [R](#), [R](#)].

37



Dietary Pentadecanoic Acid

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

While there is no officially recommended daily intake for pentadecanoic acid, research suggests that **20–50 mg per day** may support health benefits such as improved metabolism, reduced inflammation, and enhanced cellular health. You can achieve this through a balanced diet rich in full-fat dairy and fatty fish or by taking supplements as directed. Always consult with a healthcare professional before starting supplementation, especially if you have specific health conditions or dietary restrictions.

Description

Pentadecanoic acid, also known as C15:0, is a 15-carbon saturated fatty acid that belongs to the group of odd-chain fatty acids. It is naturally found in [\[R\]](#):

- Full-fat dairy products (e.g., milk, butter, and cheese)
- Fatty fish (salmon, herring, mackerel, sardines, anchovies, tuna)
- Whole grains
- Seed oils (flaxseed, chia, hemp)
- Legumes (lentils, chickpeas)

Unlike even-chain fatty acids, pentadecanoic acid has unique biological properties that are being increasingly studied for its potential health benefits.

Supplementation with pentadecanoic acid has shown promise in supporting metabolic health by improving cholesterol levels, enhancing insulin sensitivity, and reducing inflammation. It may also promote cellular health by stabilizing cell membranes and improving mitochondrial function. Additionally, C15:0 has been linked to better immune system regulation, neuroprotection, and potentially reducing the risk of chronic diseases like diabetes and cardiovascular conditions. As an emerging "essential fatty acid," it is gaining attention for its role in promoting long-term health and wellness.

How it helps

High blood pentadecanoic acid levels have been associated with a decreased risk of colorectal cancer [\[R\]](#).

38



Bananas

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 1-2 bananas into your daily diet. Bananas can be eaten as a standalone snack, added to cereal, oatmeal, or smoothies, or used as an ingredient in baking. Aim to include them regularly for ongoing dietary benefits.

Description

Bananas are a nutrient-rich fruit packed with potassium, fiber, and essential vitamins. They are a convenient and healthy snack option that can help support heart health, digestive regularity, and overall well-being.

Bananas are a good source of vitamins B6 and C, as well as numerous minerals, including potassium, copper, and magnesium. A single banana provides 0.4 mg of vitamin B6 or 25%DV.

How it helps

A meta-analysis of 20 associations identified 13 significant ones, including banana's inverse association with colorectal cancer risk. Additional nutrients like phosphorus, magnesium, potassium, riboflavin, beta carotene, and total protein were also linked to lower risk [\[R\]](#).

39



Ginger

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 500 mg ginger supplement daily, preferably with a meal to enhance absorption and minimize potential stomach discomfort.

TYPICAL STARTING DOSE

500 mg

Description

Ginger is a versatile spice known for its potential anti-inflammatory and digestive benefits. It may help alleviate nausea, reduce muscle soreness, and support gastrointestinal comfort when consumed as part of a balanced diet.

[Ginger root](#) is a cooking spice and a traditional remedy. People mostly use it to relieve [\[R\]](#):

- Nausea
- Menstrual cramps
- Joint pain

How it helps

A 28-day pilot trial with 20 participants examined ginger's effects on colorectal mucosa. It showed potential to reduce proliferation and increase apoptosis and differentiation, supporting further research [\[R\]](#).

Ginger, at a dosage of 2.0 g/d, did not reduce eicosanoid levels in individuals at increased risk for colorectal cancer. However, it was well-tolerated and safe [\[R\]](#).

Ginger at 2.0 g/day may decrease certain inflammatory compounds (PGE2 and 5-HETE) in the colon mucosa but not others when normalized to protein levels. It shows potential for lowering eicosanoids, possibly by inhibiting synthesis from arachidonic acid [\[R\]](#).

40



Reishi

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a reishi mushroom supplement, ranging from 500mg to 1500mg once daily. It is best consumed with water and can be taken with or without food. Continue consistently for at least 2 to 3 months to observe potential benefits.

Description

Reishi (*Ganoderma lucidum*) is a type of medicinal mushroom consumed in various forms, including teas, extracts, and capsules. Native to Asia, reishi has been used for centuries in traditional Chinese medicine for its potential to boost the immune system, promote relaxation, and support overall well-being. Reishi contains various compounds, including triterpenes and polysaccharides.

How it helps

In a non-placebo-controlled trial of 123 colorectal cancer patients, supplementation with reishi mushroom extract (1.5 g/day) for 12 months decreased the total size of adenomas [\[R\]](#).

41



N-acetylcysteine (NAC)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 600 mg of N-Acetylcysteine (NAC) supplement daily with water. It can be taken at any time of the day, but try to take it at the same time each day for best results.

TYPICAL STARTING DOSE

1200 mg

Description

NAC is a supplement that contains a form of the amino acid cysteine, a protein building block that your body uses to make the antioxidant glutathione. It is used for its potential antioxidant properties and its ability to support lung, gut, and mental health.

[N-acetylcysteine](#) (NAC) is converted to cysteine in the body. Cysteine is a protein building block (amino acid) that helps make the antioxidant glutathione [\[R\]](#).

People take NAC to potentially support [\[R\]](#), [\[R\]](#):

- Mental health
- Ovarian health and pregnancy outcomes
- Lung health
- Gut health

How it helps

In a placebo-controlled trial of patients with previous adenomatous colonic polyps, supplementation with NAC (800 mg/day) for 12 weeks improved a biomarker that predicts the development of colorectal cancer (proliferative index) [\[R\]](#).

42



Molybdenum

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Adults should get about **45 micrograms** of molybdenum each day [R].

Foods rich in molybdenum include [R]:

- Black-eyed peas (288 mcg per serving)
- Beef liver (104 mcg per serving)
- Lima beans (104 mcg per serving)
- Yogurt (26 mcg per serving)
- Baked potato (16 mcg per serving)
- Wheat cereals (15 mcg per serving)

Description

[Molybdenum](#) (Mo) is a mineral that we need in very small amounts (trace mineral) [R].

Molybdenum helps process sulfur-containing amino acids such as [methionine](#) and [cysteine](#). It also helps make [uric acid](#) and is part of the tooth enamel [R, R].

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- Lima beans (104 mcg per serving)
- Yogurt (26 mcg per serving)
- Baked potato (16 mcg per serving)
- Wheat cereals (15 mcg per serving)

Water also contains some molybdenum, although the exact amount can vary greatly depending on the region [R].

People easily get all the molybdenum they need through food and water, so [molybdenum deficiency is extremely rare](#) [R].

How it helps

Observational research has found higher female rectal cancer rates and mortality in areas where soil molybdenum is low [R].

However, there is no evidence that increasing molybdenum intake helps reduce the risk of rectal cancer.

43



Black Raspberries

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 1 cup of fresh or frozen black raspberries into your daily diet. You can add them to smoothies, yogurt, cereal or enjoy them as a snack on their own.

Description

Black raspberries are a good source of antioxidants, which can help protect your cells from damage. They also contain anthocyanins, which have been shown to have anti-inflammatory and anti-cancer properties.

How it helps

Research on the impact of raspberries, specifically black raspberries, on colorectal cancer has yielded promising results:

- Black raspberries (BRBs) have been found to modulate biomarkers of tumor development in the human colon and rectum. A study showed that BRBs affected methylation of tumor suppressor genes, cell proliferation, apoptosis, angiogenesis, and expression of Wnt pathway genes, indicating a protective effect against tumor development [R].
- Another study revealed that the consumption of BRBs led to significant changes in over 400 metabolites, including increases in apoptosis markers and alterations in energy-generating pathways. This supports the hypothesis that BRBs might benefit colorectal cancer patients through the regulation of multiple metabolites [R].
- Oral consumption of freeze-dried black raspberries showed promise in mitigating colorectal cancer (CRC) markers in patients. Plasma changes in GM-CSF and IL-8 were correlated with improved cell proliferation and apoptosis, suggesting their potential as noninvasive indicators for monitoring CRC interventions [R].
- Animal Models: BRBs have been shown to inhibit intestinal tumor development and modulate various metabolic pathways. These effects are suggested to reflect the potential chemopreventive effects of BRBs in humans [R].
- Dietary intake of BRBs enhances natural killer cell infiltration into the colon and suppresses colorectal cancer progression. This highlights the potential of BRBs in enhancing tumor immunosurveillance [R].

These studies collectively suggest that black raspberries, through various mechanisms, may play a role in preventing or reducing colorectal cancer. However, more comprehensive human studies are needed to confirm these findings and to better understand the mechanisms involved.

44



Cabbage

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate fresh cabbage into your diet by adding it to salads, soups, stews, or as a side dish steamed or lightly sautéed. Aim for at least 2-3 servings of cabbage per week, where one serving is approximately one cup chopped or two leaves.

Description

Cabbage is a cruciferous vegetable rich in vitamins, fiber, and antioxidants. It's known for its potential to support digestive health, provide essential nutrients, and contribute to a balanced diet.

Cabbage is a great source of vitamins C and K, with decent amounts of other vitamins and minerals like folate and manganese. A ½ cup serving provides 16 mg of vitamin C or 18%DV.

How it helps

A meta-analysis of 24 case-control and 11 prospective studies found that higher cruciferous vegetable (CV) intake, including cabbage and broccoli, was associated with a lower risk of colorectal cancer (CRC) and colon cancer, especially in distal subsites. Further research is needed for specific CV types, preparation methods, and cancer site variations [\[R\]](#).

45



Brazil Nuts

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume 1-2 Brazil nuts daily to meet your selenium needs and potentially improve heart health and thyroid function. Do not exceed this amount to avoid selenium toxicity.

Description

Brazil nuts are a nutritious snack rich in selenium, a mineral essential for various bodily functions, including thyroid health and immune support.

Brazil nuts have an enormous amount of selenium along with other minerals like magnesium, phosphorus, and copper, and vitamins E and B1. A 1-ounce (6–8 nuts) serving provides 544 mcg of selenium or 989%DV.

How it helps

A study involving 32 volunteers over 50 years old found that Brazil nuts and green tea extract (GTE) separately increased selenoproteins, reduced inflammation, and affected gene regulation related to colorectal cancer. Combining them didn't yield extra benefits [\[R\]](#).

46



Turkey Tail Mushroom

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a turkey tail mushroom supplement in capsule or powder form, usually ranging between 1,000 to 3,000 mg per day. Divide this dosage into two to three separate doses to be taken with meals throughout the day. Continue this regimen daily for immune support or as directed by a healthcare provider.

TYPICAL STARTING DOSE
1000 mg

Description

Turkey tail mushrooms (*Trametes versicolor*) are a type of mushroom that grows on decaying wood in various parts of the world. They are valued for their potential health benefits due to the presence of compounds like polysaccharopeptide (PSP) and polysaccharide-K (PSK), which have been studied for their immune-boosting properties and potential use in supporting cancer treatment.

How it helps

A systematic review and meta-analysis of 13 clinical trials found Yun Zhi to significantly improve survival in cancer patients compared to standard treatment alone, particularly in breast, gastric, and colorectal carcinomas [\[R\]](#).

47



Fisetin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100 to 500 mg of fisetin supplement daily, with or without food. It is recommended to start with a lower dose to assess tolerance and then gradually increase as needed. Continue this regimen daily, especially if focusing on long-term health benefits like anti-inflammatory or anti-aging effects.

TYPICAL STARTING DOSE
100 mg

Description

Fisetin is a natural flavonoid found in certain fruits and vegetables, known for its potential antioxidant and anti-inflammatory properties. Some research suggests that fisetin may have neuroprotective effects and contribute to overall health.

How it helps

In a placebo-controlled trial of 37 colorectal cancer patients, supplementation with fisetin (100 mg/day) for 7 weeks lowered CRP, IL-8, and MMP-7 levels [\[R\]](#).

48



Kefir

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Incorporate kefir into your daily diet by drinking approximately 1-2 cups (240-480 ml) per day. It can be consumed on its own, blended into smoothies, or used as a base for salad dressings or soups. Continuous consumption over several weeks is recommended to observe its health benefits.

Description

Kefir is a fermented dairy product packed with probiotics, which can promote gut health and support digestion. Regular consumption of kefir is associated with improved digestive function and may enhance the immune system.

How it helps

In a study of 40 colorectal cancer patients, kefir did not reduce gastrointestinal complaints post-chemotherapy but lessened sleep disturbances. No overall difference in quality of life was observed between kefir and control groups [R].

49



Berries

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a variety of berries such as strawberries, blueberries, raspberries, and blackberries into your daily diet. Aim for at least one cup of fresh or frozen berries every day, either as a snack, part of your breakfast (such as in oatmeal or yogurt), or as a dessert.

Description

Berries, such as strawberries, blueberries, and raspberries, are packed with antioxidants, vitamins, and fiber. Regular consumption of berries may support heart health, improve cognitive function, and contribute to overall well-being.

How it helps

Berries are rich in vitamins, minerals, and antioxidants, particularly anthocyanins, which may help protect cells from damage and reduce inflammation, potentially lowering colorectal cancer risk.

50



Avoid Acrylamide

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Reduce your intake of fried, baked, or roasted high-carbohydrate foods, such as potato chips, fries, and toast, to minimal levels. Opt for boiling, steaming, or microwaving these foods instead. When cooking at high temperatures, aim to keep the temperature below 248 degrees Fahrenheit (120 degrees Celsius) to prevent the formation of acrylamide.

Description

Avoiding acrylamide involves minimizing exposure to this chemical compound, which can form in certain foods when cooked at high temperatures. Reducing acrylamide intake may lower the risk of potential health concerns associated with its consumption.

How it helps

Acrylamide is a chemical found in certain foods when they are cooked at high temperatures, such as frying, baking, or roasting. Studies suggest that high levels of acrylamide intake could be associated with an increased risk of colorectal cancer. Avoiding foods high in acrylamide, like french fries, potato chips, and other fried or baked goods, might reduce this risk.

51



Dietary Oleic Acid

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Increase your intake of foods rich in oleic acid, such as olive oil, avocados, and almonds. Aim to incorporate these foods into your daily diet, using olive oil for cooking or dressings, eating a handful of almonds as a snack, or including half an avocado in your meals.

Description

Oleic acid is a type of fat that your body can use for energy. It's found in many foods, like olive oil, avocados, and some nuts. Consuming food with oleic acid is good for your heart health because it can help lower bad cholesterol and increase good cholesterol levels in your body.

How it helps

Genetically higher oleic acid levels may be associated with a decreased risk of colorectal cancer [\[R\]](#).

52



Limit Meat Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Substitute red and processed meats with plant-based proteins, such as beans, lentils, and tofu, for at least two meals per week. Gradually increase the number of meat-free meals by incorporating more fruits, vegetables, and whole grains into your diet daily.

Description

Limiting meat intake involves consuming fewer animal-based products, often as part of a plant-based diet. This dietary choice can provide health benefits such as lower cholesterol levels, reduced risk of certain chronic diseases, and a decreased environmental footprint.

Proteins, fats, and carbs are macronutrients. You need these nutrients in large (‘macro’) amounts. They provide your body with the energy it needs to function properly [\[R\]](#).

You should choose high-quality foods that give you the “best” version of each macronutrient. For example, too much saturated fat and protein from certain animal sources may increase the risk of heart disease and infertility [\[R, R, R\]](#).

Consider replacing red meat with other high-protein foods, such as [\[R, R\]](#):

- Eggs
- Fish
- Soy
- Beans

How it helps

Reducing meat intake, especially processed and red meats, can lower the risk of colorectal cancer as these meats have been linked to increased inflammation and carcinogenic compounds in the gut.

53



Walking

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least 30 minutes of brisk walking into your daily routine, aiming for a minimum of five days a week. This can be done in one continuous session or broken into shorter periods, such as three 10-minute walks throughout the day.

TYPICAL STARTING DOSE

30 minutes

Description

Walking is a low-impact form of exercise that can contribute to cardiovascular fitness, weight management, and improved overall health. It is used to support physical activity goals, enhance mood, and promote better cardiovascular health.

How it helps

Regular walking can help improve overall physical health, reduce fatigue, and may improve survival rates for those undergoing cancer treatment.

54



Probiotic Dairy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate probiotic-rich dairy products, such as yogurt or kefir, into your diet daily. Aim to consume at least one serving, which typically ranges from 100 to 200 grams, per day.

Description

Probiotic dairy products, such as yogurt and kefir, contain live beneficial bacteria that support gut health and digestion, as well as the immune system, blood sugar, and mood. These products are rich in probiotics, calcium, and protein.

Probiotic bacteria are “good” bacteria found mainly in the large intestine. They support your body and mind by [\[R, R, R, R, R, R, R, R\]](#):

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Probiotics can be taken as supplements. They can also be added to dairy products like milk and yogurt [\[R, R\]](#).

How it helps

Probiotic dairy products can help improve gut health by balancing the gut microbiota, which may reduce inflammation and potentially lower the risk of colorectal cancer.

55



Dietary Folate

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Increase your intake of folate-rich foods such as leafy green vegetables, fruits, nuts, and legumes. Aim to consume these foods daily, incorporating them into various meals throughout the day to meet the recommended dietary allowance of 400 micrograms for adults.

Description

[Vitamin B9](#) (*folate*) plays an essential role in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Making DNA
- Metabolism
- Energy production

Rich sources of folate include [\[R\]](#), [\[R\]](#):

- Beef liver
- Spinach
- Black-eyed peas
- Asparagus
- Citrus fruits

While folate deficiency is rare, it can happen in people who don’t eat enough fruits and vegetables. Alcoholics and lactating women may also be at increased risk [\[R\]](#).

Adults should get **400 micrograms (mcg)** of folate per day. Pregnant or breastfeeding women should get **500-600 mcg per day**. Supplements are usually in the form of *folic acid* or [L-methylfolate](#) (5-MTHF) [\[R\]](#), [\[R\]](#).

How it helps

Folate, a type of B vitamin found in leafy greens, legumes, and fortified foods, is important for DNA synthesis and repair. Adequate folate intake has been linked to a reduced risk of colorectal cancer.

56



Grapes

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a serving of grapes, which is about 32 seedless grapes or approximately 1 cup, into your daily diet. You can eat them as a snack, add them to salads, or blend them into smoothies. Do this consistently for a period of at least 3 months to observe potential health benefits.

Description

Grapes are a nutrient-dense fruit rich in vitamins, fiber, and antioxidants like resveratrol. Regular consumption of grapes is associated with potential benefits for heart health, skin health, and overall well-being.

How it helps

A randomized controlled trial with 40 subjects found that daily grape consumption for 21 days altered circulating miRNA levels in healthy individuals. Notably, 18 miRNAs were down-regulated, and 2 were up-regulated, potentially influencing cancer-related pathways [\[R\]](#).

57



Whole Grains

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least three servings of whole grains into your daily diet. This can include consuming foods such as whole grain bread, brown rice, whole grain pasta, and oats. Aim to replace refined grains with whole grains at each meal for optimal benefits.

Description

Whole grains encompass a variety of grains like wheat, oats, and quinoa, where the entire grain kernel is intact. They are rich in fiber, vitamins, minerals, and antioxidants, supporting heart health and reducing the risk of chronic diseases.

Unlike refined grains, whole grains contain nutritious parts of the grain like bran and germ.

Whole grains provide many crucial nutrients, including:

- Fiber
- B-vitamins
- Iron
- Magnesium
- Phosphorus

Due to their high fiber content, whole grains don’t tend to spike blood sugar like refined grains do.

How it helps

Whole grains contain fiber, vitamins, and minerals that may help protect against colorectal cancer by improving colon health and potentially reducing cancer risk.

58



Avoid Aflatoxins

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Store grains and nuts in a dry, cool place to prevent mold growth. Check for moldy smells or discoloration in foods before eating, especially in peanuts, corn, and grains. Avoid purchasing damaged or discolored grains and nuts.

Description

Aflatoxins are toxic substances produced by molds that can contaminate various food products, particularly nuts and grains. Avoiding foods contaminated with aflatoxins is crucial to prevent potential health risks, including liver damage and cancer.

How it helps

Aflatoxins are toxic compounds produced by certain molds found on agricultural crops. They can contaminate foods like nuts and grains. High exposure to aflatoxins is linked to an increased risk of colorectal cancer. Limiting consumption of foods that might be contaminated with aflatoxins can help lower the risk.

59



Alpha-Linolenic Acid (ALA)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods high in alpha-linolenic acid (ALA) into your daily diet. This means eating about a tablespoon (14 grams) of flaxseeds or chia seeds, a quarter cup (30 grams) of walnuts, or using one tablespoon of flaxseed oil every day.

Description

Alpha-linolenic acid (ALA) is a type of omega-3 fatty acid found in plant-based sources like flaxseeds, chia seeds, and walnuts. It is essential for maintaining heart and brain health and is considered a healthy dietary fat.

How it helps

Genetically predicted higher ALA levels may be associated with reduced colorectal cancer risk [\[R\]](#).

Please note: *There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.*

60



Mediterranean Diet

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The [Mediterranean diet](#) is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats ([olive oil](#)).

The [Mediterranean diet](#) focuses on traditional cuisine from the Mediterranean regions. It’s rich in [\[R\]](#):

- [Olive oil](#)
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [\[R, R, R, R\]](#).

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [\[R\]](#).

How it helps

The Mediterranean diet, which includes high consumption of fruits, vegetables, whole grains, and healthy fats like olive oil, has been linked to lower inflammation and a reduced risk of colorectal cancer. This diet promotes overall digestive health.

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

