

Brain Cancer

Disease Report

REPORT CATEGORY —



CANCER

Sample Client

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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

Brain cancer refers to tumors that start in the brain or spinal cord. These tumors can be primary (originating in the brain) or secondary (metastatic, originating elsewhere and spreading to the brain). Brain cancer is relatively rare compared to other cancers but can be particularly serious due to the critical functions of the brain [\[R\]](#).

Primary brain tumors originate in the brain and are categorized based on the type of cells involved. Common types include [\[R\]](#):

- Gliomas: Tumors arising from glial cells, such as glioblastomas, astrocytomas, and oligodendrogliomas.
- Meningiomas: Tumors originating from the meninges, the protective layers surrounding the brain and spinal cord.
- Pituitary adenomas: Tumors in the pituitary gland, which can affect hormone levels.
- Medulloblastomas: Tumors usually found in the cerebellum, most common in children.
- Ependymomas: Tumors that arise from the ependymal cells lining the ventricles of the brain and spinal cord.

Secondary brain tumors are metastatic tumors that have spread to the brain from other parts of the body such as the lungs, breast, or skin (melanoma).

Symptoms of brain cancer can vary based on the tumor's location, size, and rate of growth, but common signs include [\[R\]](#):

- Headaches: New or worsening headaches, often more severe in the morning.
- Seizures: New onset of seizures or changes in seizure patterns.
- Cognitive changes: Difficulty with memory, concentration, or language.
- Motor symptoms: Weakness or numbness in limbs, difficulty with balance or coordination.
- Vision or hearing problems: Changes in vision or hearing, such as double vision or loss of peripheral vision.
- Personality changes: Unexplained changes in mood or behavior.
- Nausea and vomiting: Often associated with increased intracranial pressure.

Risk Factors and Treatment

In most people with primary brain tumors, the cause isn't clear. Nevertheless, doctors have identified some factors that may raise the risk [\[R\]](#):

- Age: brain tumors can happen at any age, but they happen most often in older adults. Some brain tumors mostly affect adults but others happen most often in children.
- Race: some types are more common in specific ethnicities. For instance, gliomas are more common in Caucasians while meningiomas are more common in Black people.
- Exposure to radiation: people who have been exposed to ionizing radiation such as from radiation therapy or atomic bombs have an increased risk of brain tumors.
- Inherited syndromes: examples include the DNA changes that cause neurofibromatosis 1 and 2, tuberous sclerosis, Lynch syndrome, Li-Fraumeni syndrome, Von Hippel-Lindau disease, familial adenomatous polyposis, Cowden syndrome, and Gorlin syndrome.

Treatment depends on the type, location, and stage of the tumor, as well as the patient’s overall health. Common treatment options include: [\[R\]](#)

- Surgery: Often the primary treatment to remove as much of the tumor as possible while preserving brain function.
- Radiation therapy: Uses high-energy rays to target and kill cancer cells. It may be used after surgery or as a primary treatment for inoperable tumors.
- Chemotherapy: Drugs used to kill or stop the growth of cancer cells. This can be administered orally or intravenously and may be used in conjunction with other treatments.
- Targeted therapy: Drugs that target specific molecular changes in cancer cells, which may be used for certain types of brain tumors.
- Immunotherapy: Treatments that help the immune system recognize and fight cancer cells. This is still an area of active research for brain cancer.



Typical likelihood of brain cancer based on 1,670 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
STMN3	rs2297440	CC
MPZL2	rs12803321	GG
NPAS3	rs10131032	GG
STMN3	rs6010620	GG
TERT	rs10069690	CT
EGFR	rs723527	AA
FAM181B	rs11233250	CC
AKT3	rs12076373	GG
RAVER2	rs12752552	TT
HBZ	rs2562152	TT
C2ORF80	rs7572263	AA
MDM4	rs4252707	AA
TCF7L2	rs11599775	GG
PHLDA1	rs1275600	TT
LRIG1	rs11706832	CC
TREH	rs498872	GA
ACTRT3	rs3772190	GG
ZBTB16	rs648044	AG
HEATR3	rs10852606	CT
MAML2	rs7107785	TC
BAIAP2L2	rs2235573	AG
STN1	rs11598018	AC
TP53	rs78378222	TT
GSDMC	rs55705857	AA
EGFR	rs75061358	TT
CDKN2B	rs634537	TT
MYC	rs4295627	TT
ETFA	rs77633900	GG
TERT	rs2736100	AC
LMF1	rs3751667	CC

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

The prognosis for brain cancer varies widely based on factors such as the type and grade of the tumor, its location, and the patient’s overall health. Some brain tumors, particularly low-grade gliomas, can have a relatively favorable prognosis with appropriate treatment. Others, like glioblastomas, tend to be more aggressive and challenging to treat, though advances in treatment are ongoing.

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.

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	Avoid Formaldehyde Exposure	2	Avoid Organophosphate Pesticide Exposure		
3	Aerobic Exercise (Cardio)	1 hour	4	Avoid Air Pollution	
5	Tea		6	Avoid PAHs Exposure	
7	Vitamin C	2000 mg	8	Sleep for 7+ Hours	
9	Regular Sleep Schedule		10	Stress Management Therapy	1 hour
11	Cognitive-Behavioral Therapy (CBT)		12	Omega-3 (Fish Oil)	2000 mg
13	Exercise At Least One Hour a Day	1 hour	14	Meditation	30 minutes
15	Mindfulness Meditation	30 minutes	16	Dietary Iron	
17	Limit Copper Intake				

1



Avoid Formaldehyde Exposure

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

To minimize formaldehyde exposure, choose household products and building materials labeled low-VOC (Volatile Organic Compounds) or formaldehyde-free. Ensure proper ventilation in your living and working spaces, especially when using products known to contain formaldehyde like certain adhesives, cleaning agents, and cosmetics. Aim to reduce use of pressed wood products and seek out alternatives when possible.

Description

Avoiding exposure to formaldehyde, a chemical commonly found in building materials and certain products, is crucial to prevent respiratory problems and potential carcinogenic effects.

How it helps

A meta-analysis of 19 studies found a 78% increased risk of ALS and a 71% increased risk of brain cancer following high formaldehyde exposure. Bioinformatics analysis identified relevant genes and pathways, supporting the link between formaldehyde exposure and brain disease [R].

2



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

Prenatal pesticide exposure is linked to a higher neuroblastoma risk (OR 1.6), but post-birth exposure shows no significant association. Specific pesticides like diazinon, glyphosate, malathion, parathion, and tetrachlorvinphos are of concern [\[R\]](#).

3



Aerobic Exercise (Cardio)

IMPACT

3 / 5

EVIDENCE

2 / 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

In people with brain cancer, physical activity may improve symptom severity and interference, aerobic capacity, body composition, and quality of life. Aerobic exercise such as walking or running may also reduce brain cancer mortality [\[R, R, R\]](#).

Aerobic exercise may help by enhancing physical fitness, reducing fatigue, and improving mood, while improving cognitive function.

4



Avoid Air Pollution

IMPACT2 / 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

Five studies examined adult brain tumors concerning long-term exposure to various air pollutants. Significant correlations were found between brain tumor incidence and O3 and PM2.5 absorbance, while others showed no significant association [\[R\]](#).

In a study spanning 5,497,514 person-years, researchers found potential links between NO2, PM2.5, and BC exposure and brain tumors. PM elements showed inconsistent associations with CNS tumor incidence [\[R\]](#).

5



Tea

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Drink 1-3 cups of tea daily, choosing from green, black, or herbal varieties according to preference. It's beneficial to consume tea throughout the day, either hot or cold, for ongoing hydration and health benefits.

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 polyphenols 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 many active compounds. These include antioxidants like EGCG and amino acids like [L-theanine](#). Active components of tea help support [\[R, R, R, R, R, R\]](#):

- Heart health
- Cognition
- Immunity
- Relaxation

How it helps

A [meta-analysis of 11 studies](#) found an **inverse association** between tea consumption and brain cancer, but **only in American populations**. Another [meta-analysis \(12 studies and almost 2M participants\)](#) associated higher tea intake with **~20% lower risk of glioma** [\[R, R\]](#).

However, a [meta-analysis of 6 studies](#) **only found a trend** for tea to reduce glioma risk [\[R\]](#).

6



Avoid PAHs Exposure

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Minimize your exposure to Polycyclic Aromatic Hydrocarbons (PAHs) by avoiding or reducing consumption of charred, grilled, or smoked foods, not smoking or avoiding secondhand smoke, and limiting time spent in areas with heavy traffic or industrial fumes. Use exhaust fans in kitchens and ensure proper ventilation when cooking at high temperatures to reduce indoor levels of PAHs.

Description

PAHs or Polycyclic Aromatic Hydrocarbons are harmful substances found in smoke and grilled foods. Try to limit exposure to them for better health. For example, avoid inhaling smoke from cigarettes or barbeques and choose alternative cooking techniques over grilling. Minimizing PAHs can reduce the risk of several health issues, particularly lung and skin diseases.

How it helps

Parental preconception exposure to PAHs may increase the risk of brain cancer in children [\[R, R, R\]](#).

7



Vitamin C

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE

2000 mg

Description

[Vitamin C](#) is an essential nutrient. This means that our bodies can’t produce it on their own, so we have to get it from food or supplements [\[R\]](#).

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

A meta-analysis of 15 studies suggests vitamin C intake may reduce glioma risk, particularly in the American population, with no publication bias detected [\[R\]](#).

8



Sleep for 7+ Hours

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

[Sleep](#) supports your body and mind [\[R, R\]](#). More precisely, sleep helps:

- Support brain health [\[R, R\]](#)
- Maintain a healthy weight and appetite [\[R, R, R\]](#)
- Regulate blood pressure [\[R, R\]](#)
- Balance blood sugar [\[R, R\]](#)

Ways to sleep better include [\[R\]](#):

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that’s cool, dark, and quiet

How it helps

Adequate sleep helps in boosting the immune system and may improve cognitive function, which can be beneficial for patients undergoing cancer treatments.

9



Regular Sleep Schedule

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Go to bed and wake up at the same time every day, even on weekends and holidays. This helps regulate your body's internal clock, leading to better sleep quality. Aim for 7-9 hours of sleep per night.

Description

Maintaining a regular sleep schedule involves going to bed and waking up at consistent times each day. This practice helps regulate the body's internal clock and promotes better sleep quality, mood, and cognitive function.

How it helps

Maintaining a regular sleep schedule can improve sleep quality, reduce fatigue, and enhance overall well-being, which is crucial for patients dealing with brain cancer.

10



Stress Management Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Engage in stress management therapy sessions, such as cognitive-behavioral therapy (CBT), for at least 1 hour per week over a course of 8 to 12 weeks. Techniques can include mindfulness, deep breathing exercises, and identifying stressors to develop coping strategies.

TYPICAL STARTING DOSE

1 hour

Description

Stress management therapy refers to various techniques and approaches aimed at reducing and coping with stress. It can improve mental and physical well-being by helping individuals better manage the effects of stress on their health.

How it helps

Managing stress effectively can improve overall mental health and may improve quality of life for brain cancer patients.

11



Cognitive-Behavioral Therapy (CBT)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Schedule weekly sessions with a certified cognitive-behavioral therapist for a period of 5 to 20 weeks. Engage actively in exercises assigned by your therapist both during sessions and as homework to apply CBT strategies to daily life.

Description

Cognitive-behavioral therapy (CBT) is a psychotherapeutic approach that has been effective in treating various mental health conditions by helping individuals identify and change negative thought patterns and behaviors. It is widely used for conditions like depression, anxiety, and phobias.

Psychotherapy (talk therapy) involves talking about your health with a licensed therapist. It may improve the way you react to certain experiences [\[R\]](#).

Talk therapy is a great way to improve many conditions, including [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Depression
- Anxiety disorders
- PTSD
- OCD
- Substance use disorder
- Bipolar disorder

Cognitive-behavioral therapy (CBT) is a type of talk therapy. CBT aims to change the way you think about your life and yourself. Through CBT, a therapist can help you develop healthy coping mechanisms [\[R\]](#).

How it helps

CBT can help brain cancer patients manage emotional distress by changing negative thought patterns, which can improve coping mechanisms and mental health.

12



Omega-3 (Fish Oil)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

2000 mg

Description

Omega-3 fatty acids are essential fats found in fatty fish like salmon, flaxseeds, and walnuts. They are known for their potential cardiovascular and brain health benefits, including reducing the risk of heart disease and supporting cognitive function.

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Omega-3 fatty acids have been shown to have anti-inflammatory properties and may help reduce the growth of cancer cells. Some studies suggest they could improve the effectiveness of certain cancer treatments.

13



Exercise At Least One Hour a Day

IMPACT

0 / 5

EVIDENCE

0 / 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

Regular moderate exercise can help improve overall health, boost the immune system, and enhance mental well-being, which may be beneficial in coping with cancer treatment and recovery.

14



Meditation

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Set aside 10-20 minutes each day in a quiet space without distractions to practice meditation. Focus on your breath or perform guided meditation using an app or audio track.

TYPICAL STARTING DOSE

30 minutes

Description

Meditation is a mindfulness practice that can reduce stress, improve mental clarity, and promote relaxation. Regular meditation is associated with numerous mental and emotional health benefits, including reduced anxiety and enhanced emotional well-being.

Meditation is a relaxation technique that trains your mind to focus and redirect your thoughts. Some of the main types of meditation are [\[R\]](#):

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

People use meditation to improve [\[R\]](#), [\[R\]](#):

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

Meditation can help individuals with brain cancer manage stress, anxiety, and depression symptoms. It promotes mental well-being, can improve quality of life, and helps in coping with the physical and emotional challenges of the disease.

15



Mindfulness Meditation

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Practice mindfulness meditation for 10-20 minutes daily. Find a quiet, comfortable place to sit or lie down, then focus on your breath, observing thoughts and sensations without judgment. Consistency is key, so try to incorporate it into your daily routine, perhaps in the morning or before bed.

TYPICAL STARTING DOSE

30 minutes

Description

Mindfulness meditation involves focused attention on the breath or a specific point of focus to cultivate mindfulness and reduce stress. Regular meditation practice is associated with improved mental clarity, emotional regulation, and overall well-being.

How it helps

Mindfulness meditation can reduce stress and improve quality of life by helping patients manage anxiety, depression, and fatigue, common issues faced by brain cancer patients.

16



Dietary Iron

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

Description

Iron (Fe) is an essential mineral. It helps make [hemoglobin](#), a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Foods rich in iron include [\[R\]](#):

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

Women should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [\[R\]](#).

Groups at risk of iron deficiency include [\[R\]](#):

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

How it helps

Genetically higher iron levels may be causally associated with a decreased risk of brain cancer [\[R\]](#).

Please note: *Increased iron intake from meat is linked to higher odds of diabetes and heart disease. Try to find a balance between plant and animal iron sources* [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

17



Limit Copper Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Do not include copper supplements in your daily vitamin or supplement routine. Check the labels of any multivitamins or dietary supplements you are currently taking to ensure they do not contain copper. Ideally, you should also check copper levels in your tap water. If they are excessive, consider using a reliable water filter or drinking spring water.

Description

Taking too many copper supplements can cause a copper overdose in your body. This can be harmful, leading to issues like stomach pain, nausea, and even heart problems. For healthy individuals, the amount of copper obtained through a balanced diet is usually enough without needing supplementation. It's vital to maintain the natural balance of minerals in the body for good health.

Contaminated tap water can also be a source of excess copper.

How it helps

A large study in the UK Biobank using Mendelian randomization found a potential causal link between blood copper levels and several diseases, including brain cancer[[R](#)].

Next Steps

Remember, your genes only tell one important part of your health story!

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

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

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.