

Breast Cancer

Disease Report

REPORT CATEGORY —



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

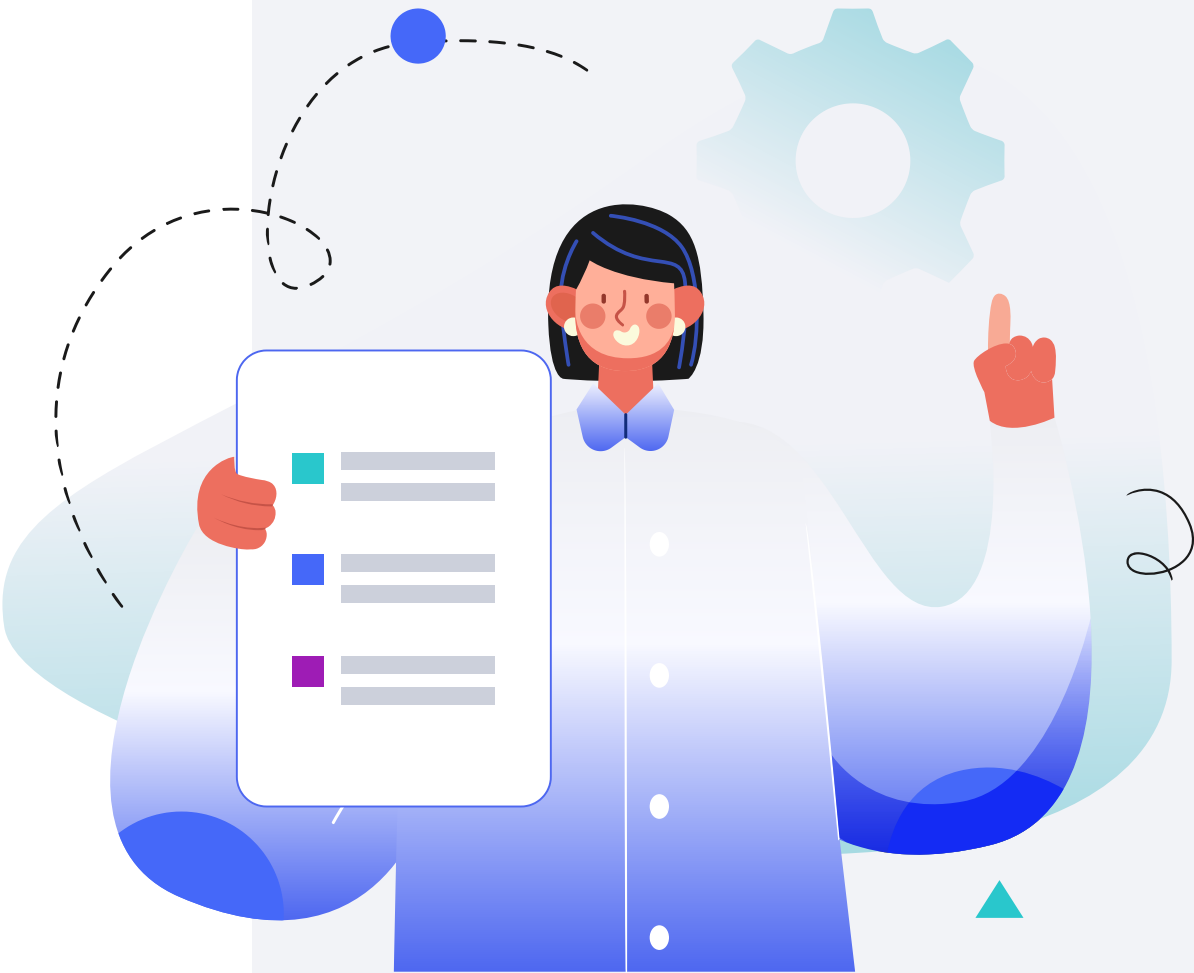
Male

HEIGHT

5ft 5" 165cm

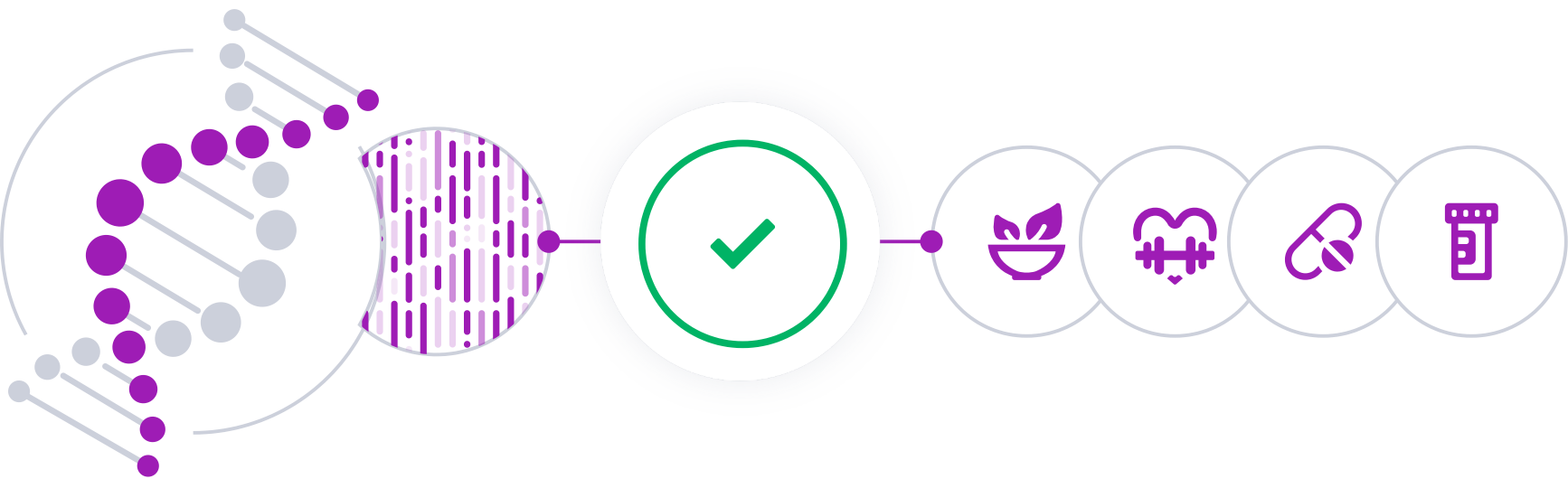
WEIGHT

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.

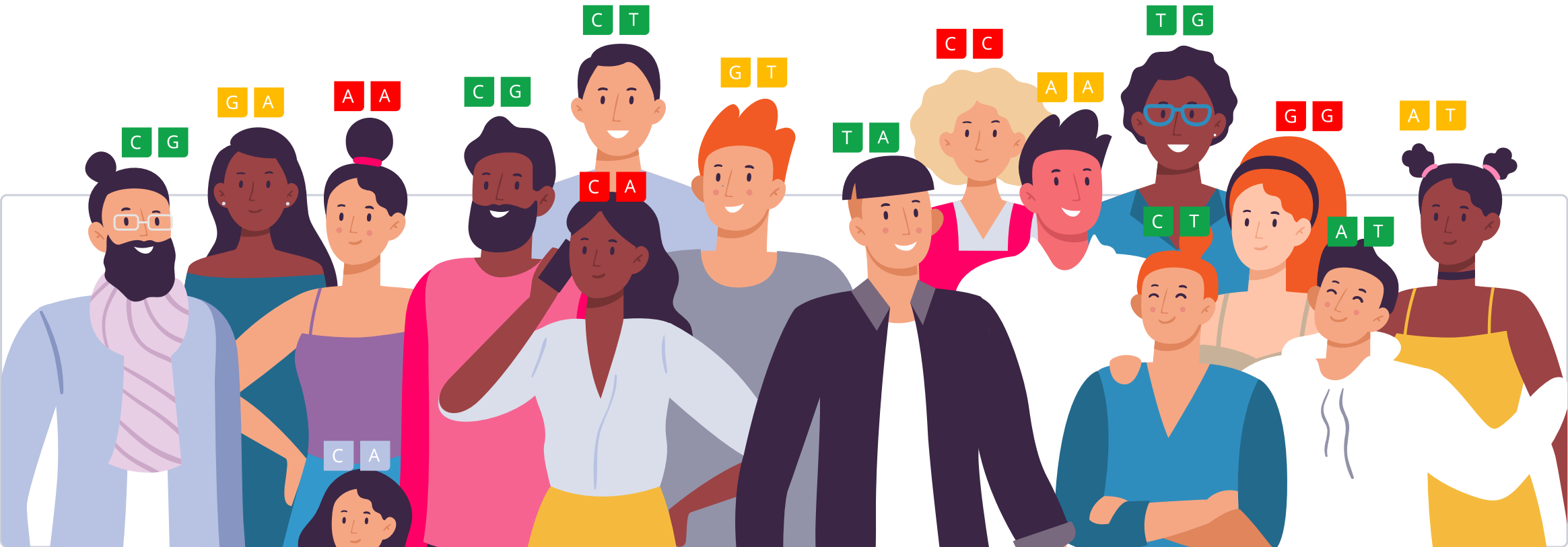


Similarly, our Trait Reports look at how your DNA influences your traits.



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

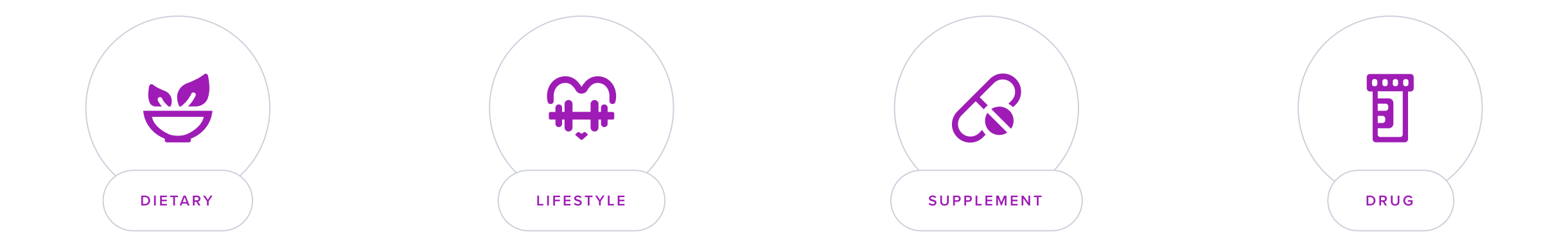
You have 2 risk alleles

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

Breast cancer is a malignant tumor that originates in the cells of the breast. It is one of the most common cancers among women, though it can also occur in men. Breast cancer survival rates have been increasing. Much of this is due to the widespread support for breast cancer awareness and advances in breast cancer screening [\[R\]](#).

Types of breast cancer include:

- **Invasive ductal carcinoma (IDC):** the most common type, starting in the ducts of the breast and spreading to surrounding tissue.
- **Invasive lobular carcinoma (ILC):** begins in the lobules, where milk is produced, and can spread to nearby tissues.
- **Ductal carcinoma in situ (DCIS):** a non-invasive form where cancer cells are confined to the ducts and have not spread to surrounding tissue.
- **Lobular carcinoma in situ (LCIS):** a non-invasive condition where abnormal cells are found in the lobules, but it is not considered cancerous yet. It can increase the risk of developing invasive breast cancer.
- **Triple-negative breast cancer:** lacks estrogen receptors, progesterone receptors, and HER2 protein. It is generally more aggressive and may be harder to treat.
- **HER2-positive breast cancer:** has high levels of the HER2 protein, which promotes the growth of cancer cells.
- **Inflammatory breast cancer (IBC):** a rare and aggressive form where cancer cells block lymph vessels in the skin of the breast, leading to swelling and redness.
- **Paget's disease of the nipple:** a rare type that starts in the ducts of the nipple and can spread to the skin and area of the nipple.

Signs and symptoms of breast cancer may include [\[R\]](#):

- A breast lump or thickened area of skin that feels different from the surrounding tissue
- A nipple that looks flattened or turns inward
- Changes in the color of the breast skin. In people with white skin, the breast skin may look pink or red. In people with brown and Black skin, the breast skin may look darker than the other skin on the chest or it may look red or purple
- Change in the size, shape, or appearance of a breast
- Changes to the skin over the breast, such as skin that looks dimpled or looks like an orange peel
- Peeling, scaling, crusting, or flaking of the skin on the breast

Longevity Screener

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

✓

Your lifetime risk is **Normal**

✓

Your 10-year risk is **Normal**

Summary or results

Your results are indicating a Normal risk of developing Breast Cancer in your lifetime and within the next decade.

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

The risk of developing Breast cancer can be influenced by non-genetic factors such as elevated BMI.

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.

Risk Factors and Treatment

Several factors can increase the risk of developing breast cancer [\[R\]](#):

- Gender: women are at higher risk, though men can also develop breast cancer.
- Age: the risk increases with age, particularly after age 55.
- Genetics: a family history of breast cancer or inherited mutations in genes like *BRCA1* or *BRCA2* increase the risk.
- Hormone replacement therapy use
- Personal history: Having had breast cancer or certain benign breast conditions increases risk.
- Lifestyle factors: Factors such as smoking, obesity, alcohol consumption, and lack of physical activity increase the risk.
- Beginning the period at a younger age or menopause at a later age
- Dense breast tissue: having dense breasts can make it harder to detect breast cancer on a mammogram
- Having never been pregnant or given birth after 30 years old
- Radiation exposure to the chest

Treatment options depend on the type and stage of breast cancer, as well as the patient’s overall health. It may include [\[R\]](#):

- Surgery: lumpectomy (removal of the tumor and a small margin of surrounding tissue) or mastectomy (removal of one or both breasts, either partially or completely).
- Radiation therapy: using high-energy rays to target and kill cancer cells, usually following surgery to eliminate remaining cancer cells.
- Chemotherapy: systemic treatment using drugs to kill cancer cells, often used before surgery (neoadjuvant) or after surgery (adjuvant).
- Hormone therapy: for hormone receptor-positive cancers, treatments that block or lower estrogen levels (e.g., tamoxifen, aromatase inhibitors).
- Targeted therapy: drugs that target specific characteristics of cancer cells, such as HER2-positive therapies (e.g., trastuzumab).



TYPICAL LIKELIHOOD

Typical likelihood of breast cancer based on 1,033,693 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MAP3K1	rs62355901	CC
FGFR2	rs45631563	AA
MAP3K1	rs62355902	TT
NOD2	rs140035696	GA
GAREM1	rs117618124	TT
PTHLH	rs7297051	CC
ZNF365	rs10995201	AA
FGFR2	rs2981578	TC
ADAM29	rs6828523	CC
INHBB	rs4849887	CC
ZFP36L1	rs999737	CC
/	rs67958007	TT
/	rs71557345	GG
PRSS45P	rs6796502	GG
/	rs1292011	AA
SETBP1	rs6507583	AA
HIVEP3	rs79724016	TT
EMB	rs72749841	TT
ZFPM2	rs12546444	AA
CUX1	rs71559437	GG
CLPTM1L	rs3215401	AA
SRGAP2C	rs11249433	AG
SLC4A7	rs4973768	CT
MCM8	rs16991615	AG
KCNU1	rs13365225	AG
EBF1	rs1432679	CT
CCDC170	rs3757322	GT
PITPNB	rs62235635	GG
/	rs62235681	AA
TTC28	rs62237615	TT
PITPNB	rs62237573	CC
CCND1	rs78540526	CC

- Immunotherapy: uses the body's immune system to fight cancer, though it's more commonly used for other cancers and in clinical trials for breast cancer.

The prognosis for breast cancer depends on factors like the type and stage of the cancer, the grade of the tumor, and how well it responds to treatment. Early-stage breast cancer generally has a good prognosis, with high survival rates. Advanced stages may require more aggressive treatment and have a more variable outlook.

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
CCND1	rs34507830	CC
CMC1	rs73822569	AA
NIPSNAP1	rs183421746	GG
NIPSNAP1	rs188460188	GG
RAI1	rs187408367	GG
ZNRF3	rs62235753	CC
DNAJC1	rs72806318	GG
DNAJC1	rs72810771	CC
DRG2	rs140494697	GG
EBLN1	rs16922097	AA
SPAG6	rs72814839	TT
NIPSNAP1	rs185004002	CC
CNTD1	rs151329939	GG
PDS5B	rs113855064	TT
SEC14L4	rs187201341	AA
ATP6V0A1	rs138672638	TT
CCDC170	rs60954078	AA
KREMEN1	rs13054095	AA

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	Aerobic Exercise (Cardio)	1 hour	2	Exercise At Least One Hour a Day	1 hour
3	Limit Calorie Intake		4	Avoid Secondhand Smoke	
5	Relaxation Techniques	30 minutes	6	Methylfolate	400 mcg
7	Cruciferous Vegetables		8	Yoga	30 minutes
9	Mediterranean Diet		10	Acupuncture	1 hour
11	Green Tea	400 mg	12	Dietary Antioxidants	
13	Mindfulness	30 minutes	14	Carrots	
15	Progressive Muscle Relaxation	10 minutes	16	Avoid Air Pollution	
17	Avoid PCBs		18	Avoid Organochlorine Pesticide Exposure	
19	Fruits And Vegetables		20	Limit Red Meat Intake	
21	Avoid PAHs Exposure		22	Avoid Sugary Foods & Drinks	
23	Eat Fiber-Rich Foods		24	Anti-Inflammatory Diet	
25	Regular Sleep Schedule		26	Dairy Products	
27	Avoid PBDE		28	Dietary Pyridoxine (Vitamin B6)	
29	Avoid PFAS Exposure		30	Dietary Omega-3 Fatty Acids	
31	Dietary Selenium		32	Art Therapy	1 hour

33	Massage	30 minutes
34	Choose Healthy Fats	
35	Expressive Writing	15 minutes
36	Extra Virgin Olive Oil (EVOO)	
37	Tai Chi	1 hour
38	Melatonin	500 mcg
39	Maintain Optimal Vitamin D Levels	1000 iu
40	Dance	30 minutes
41	Avoid Organic Solvents	
42	Soy	
43	Vitamin C	2000 mg
44	Pilates	30 minutes
45	Avoid Triclosan	
46	Whole Grains	
47	Beta-Glucans	
48	Gentle Yoga	20 minutes
49	Turkey Tail Mushroom	1000 mg
50	Music Therapy	30 minutes
51	European Mistletoe	
52	Avoid BPA (Bisphenol A) Exposure	
53	Riboflavin (Vitamin B2)	25 mg
54	Methionine	200 mg
55	Compression Therapy	
56	Avoid Heterocyclic Amines	
57	Reduce EMF Exposure	
58	Indole-3-Carbinol	200 mg
59	Skullcap	1 g
60	Chicory and Fumitory	
61	Low-Level Laser Therapy (LLLT)	30 seconds
62	Myofascial Release	5 minutes
63	Black Chokeberry	
64	Maitake Mushroom	
65	Laughter Therapy	30 minutes
66	Broccoli Sprouts	2 tbsp
67	Coenzyme Q10 (CoQ10)	100 mg
68	Gamma-Linolenic Acid (GLA)	200 mg
69	Paleo Diet	
70	Transcendental Meditation	20 minutes
71	DIM (Diindolylmethane)	100 mg
72	Kelp	500 mg

73	Onion		74	Fasting Mimicking Diet	
75	Pyridoxine (Vitamin B6)	50 mg	76	Vitamin E	200 iu
77	Avoid Acrylamide		78	Chicory	
79	Vegetables		80	Shiitake Mushroom	500 mg
81	Limit Asparagine Intake		82	Strength Training	1 hour
83	Fumitory		84	Turnips	

1



Aerobic Exercise (Cardio)

IMPACT

4 / 5

EVIDENCE

5 / 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

Aerobic exercise can help reduce fatigue, improve mood, and enhance overall quality of life for breast cancer survivors. Studies suggest it may also help reduce the risk of cancer recurrence and improve survival rates by boosting physical fitness and reducing inflammation.

Sedentary women may be at increased risk of breast cancer [\[R, R, R, R, R\]](#).

In line with this, regular physical activity, **especially cardio**, can help lower the risk of this condition. The protective effects of exercise may be strongest in normal-weight, premenopausal women. Exercise may be especially effective at preventing estrogen and progesterone receptor-negative breast cancer [\[R, R, R, R, R, R, R, R\]](#).

In breast cancer patients, exercise may help reduce mortality. Moreover, exercise may reduce fatigue, musculoskeletal symptoms, and lymphedema while improving cardiorespiratory fitness, body composition, inflammation, insulin function, bone health, mood, and quality of life [\[R, R, R, R, R, R, R, R, R, R, R, R\]](#).

2



Exercise At Least One Hour a Day

IMPACT

4 / 5

EVIDENCE

5 / 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

Sedentary women may be at increased risk of breast cancer [\[R, R, R, R, R\]](#).

In line with this, regular physical activity can help lower the risk of this condition. The protective effects of exercise may be strongest in normal-weight, premenopausal women. Exercise may be especially effective at preventing estrogen and progesterone receptor-negative breast cancer [\[R, R, R, R, R, R, R, R\]](#).

In breast cancer patients, exercise may help reduce mortality. Moreover, exercise may reduce fatigue, musculoskeletal symptoms, and lymphedema while improving cardiorespiratory fitness, body composition, inflammation, insulin function, bone health, mood, and quality of life [\[R, R, R, R, R, R, R, R, R, R, R, R, R\]](#).

EVIDENCE

5 / 5

Consume fewer calories than your body needs for maintenance. Calculate your daily caloric needs using an online calculator based on your sex, age, weight, height, and activity level, then reduce that number by 500-1000 calories per day to safely lose 1-2 pounds per week. Adjust the caloric intake as needed based on your progress.

People often limit their calorie intake to help them lose weight [R, R].
However, moderate calorie restriction may also help you stay healthier and age better [R, R, R, R, R].

There are different ways to take in fewer calories. You can:

- **Eat low-calorie foods**, such as those rich in proteins, fiber, and water. Avoid fatty and sugary foods, which tend to be high in calories [R].
- Try **intermittent fasting**, which involves changing how often you eat [R].

If you are restricting your calories, make sure your diet remains healthy and balanced. Experts also recommend being physically active, to prevent the loss of muscle and bone mass.

Being overweight or obese is a well-known risk factor for breast cancer. The risk may be higher in postmenopausal women [R, R, R, R, R, R, R, R].

In breast cancer survivors, excess body weight is associated with increased risk of secondary cancer in the breast (by 37-40%), endometrium (by 96%), and colon (by 89%) [R].

Other weight-related factors that may increase the risk of breast cancer include:

- Adult weight gain [R, R, R]
- High fat mass [R]
- High waist circumference [R, R]
- High waist-to-hip ratio [R, R]

Obese breast cancer patients may have worse survival and increased risk of metastasis. They may also respond worse to chemotherapy [R, R, R, R, R, R, R].

Weight-loss interventions may reduce the risk of breast cancer and some complications in breast cancer survivors [R, R, R, R, R].

Limiting calorie intake through strategies such as intermittent fasting is one of the best ways to combat excess weight.

4



Avoid Secondhand Smoke

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Implementing a smoke-free lifestyle involves communicating your needs to family, friends, and coworkers, requesting they respect your choice by smoking away from you. At home, establish strict no-smoking policies indoors. When out, choose smoke-free venues and accommodations. Advocate for smoke-free environments in your community and support legislation that promotes public health by reducing exposure to secondhand smoke. Utilize air purifiers at home to reduce any residual particles.

Description

Avoiding secondhand smoke is crucial for maintaining good health. Exposure to secondhand smoke can lead to respiratory problems, cardiovascular disease, and an increased risk of lung cancer, even in non-smokers. Protecting oneself from secondhand smoke involves staying away from smoking areas, ensuring smoke-free environments at home and work, and advocating for smoke-free policies in public spaces.

How it helps

Women who smoke may have a 10-26% higher risk of breast cancer. The risk may increase with the amount of cigarettes smoked per day and the duration of smoking [\[R, R, R\]](#).

Secondhand exposure to cigarette smoke may also increase breast cancer risk. However, the evidence is mixed [\[R, R, R, R, R\]](#).

In those diagnosed with breast cancer, smoking may increase the risk of death from both breast cancer and all causes [\[R, R, R, R\]](#).

5



Relaxation Techniques

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Incorporate relaxation techniques such as deep breathing exercises, meditation, or yoga into your daily routine. Spend at least 15-30 minutes each day practicing one of these techniques, preferably in a quiet, comfortable space without interruptions.

TYPICAL STARTING DOSE

30 minutes

Description

Relaxation techniques encompass various methods like deep breathing, yoga, meditation, and progressive muscle relaxation, aimed at reducing stress and promoting mental and physical relaxation. Practicing these techniques regularly can help manage stress, improve mental clarity, and enhance overall emotional well-being.

We all get stressed from time to time.

[Stress](#) can help you deal with a challenge or avoid danger. However, **it’s not healthy to be stressed for a long time** [\[R, R\]](#).

Relaxation techniques such as [yoga](#) and [meditation](#) can relieve stress in different ways. Most of them focus on breathing and help you get rid of negative thoughts and emotions [\[R\]](#).

People use relaxation techniques to improve conditions like [\[R, R, R\]](#):

- Anxiety
- Depression
- Chronic pain

Progressive muscle relaxation is another relaxation technique. In this technique, you focus on tensing and relaxing different parts of your body. It is common to start with the toes and slowly work your way up to the neck and head [\[R, R\]](#).

Autogenic training is a relaxation technique that a person may carry out on their own. It uses exercises that take the mind’s attention to bodily sensations such as warmth and heaviness [\[R, R\]](#).

How it helps

Stressful life events increase the risk of breast cancer. Additionally, **almost 42%** of breast cancer patients suffer from anxiety [\[R, R, R\]](#).

Practicing relaxation techniques may improve stress, anxiety, depression, sleep, and quality of life in breast cancer patients. Techniques that may help include:

- Yoga [\[R, R, R, R, R, R, R, R, R\]](#)
- Mindfulness [\[R, R, R, R, R, R, R, R, R\]](#)
- Progressive muscle relaxation [\[R, R, R\]](#)

6



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

Meta-analyses suggest folate intake may reduce certain breast cancer risks, particularly in premenopausal women with higher alcohol consumption, but not all-cause mortality. A nonlinear, J-shaped relationship indicates a threshold effect on risk [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Research indicates that higher folate intake may lower breast cancer risk, especially in premenopausal women. The MTHFR C677T polymorphism is notably associated with increased breast cancer risk in Asian and Turkish populations, but not in Punjabi populations, suggesting ethnic differences may affect this link. A nested case-control study within a tamoxifen trial also supports the association between the MTHFR 677TT genotype and breast cancer risk, particularly in premenopausal women. Further studies are needed to clarify the clinical implications of folate and the MTHFR gene in breast cancer prevention and treatment [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

However, some studies found no effect of folate on the treatment or prevention of breast cancer [\[R\]](#), [\[R\]](#), [\[R\]](#).

7



Cruciferous Vegetables

IMPACT

4 / 5

EVIDENCE

2 / 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 high intake of cruciferous vegetables may decrease the risk of breast cancer by 17% [\[R\]](#).

Compounds in cruciferous vegetables such as diindolylmethane and indole-3-carbinol may be responsible for their protective effects [\[R\]](#), [\[R\]](#), [\[R\]](#).

8



Yoga

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

30 minutes

Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

How it helps

Yoga has proven beneficial for breast cancer patients, improving quality of life, reducing fatigue, and alleviating mood distress. Studies show yoga enhances physical, emotional, and spiritual well-being, supporting recovery and therapy adherence. It's especially effective in managing post-treatment symptoms, promoting relaxation and psychological relief [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

9



Mediterranean Diet

IMPACT3 / 5

EVIDENCE4 / 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

Adherence to the Mediterranean diet has been associated with a reduced risk of breast cancer, especially estrogen receptor-negative cancers. The Mediterranean diet may help prevent invasive ductal and invasive lobular carcinomas. Interestingly, this diet has been associated with a decreased mammographic breast density (a risk factor for breast cancer) [\[R, R, R, R, R\]](#).

Similarly, a high intake of its key component olive oil has also been associated with a reduced risk of breast cancer [\[R\]](#).

In breast cancer survivors, this diet may reduce mortality and improve quality of life [\[R, R\]](#).

This diet's emphasis on plant-based foods and healthy fats may contribute to its protective effect.

10



Acupuncture

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Visit a licensed acupuncturist for a session, typically lasting between 30 to 60 minutes, once or twice a week. Depending on your specific condition, a course of treatment might range from a few weeks to several months.

TYPICAL STARTING DOSE

1 hour

Description

Acupuncture is a part of traditional Chinese medicine. It involves inserting thin needles at specific points on the body. People use it to relieve pain and allergies, as well as reduce nausea and improve sleep.

[Acupuncture](#) is a part of traditional Chinese medicine. It involves **inserting thin needles at specific points on the body**. People use it to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Relieve pain
- Improve sleep quality
- Relieve allergies
- Reduce nausea

How it helps

Acupuncture may help with breast cancer fatigue [\[R\]](#).

After breast cancer treatment, acupuncture may help with some of its adverse effects such as:

- Menopausal-like symptoms [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Lymphedema [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Joint pain [\[R\]](#), [\[R\]](#)
- Increased white blood cells (leukopenia) [\[R\]](#)

11



Green Tea

IMPACT

3 / 5

EVIDENCE

3 / 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

Six meta-analyses (the largest one with 16 studies) concluded that green tea intake reduces breast cancer incidence by 16-28% and recurrence by 36% [\[R, R, R, R, R, R\]](#).

Green tea is rich in antioxidants, especially catechins, which have been found to inhibit the growth of breast cancer cells in laboratory studies.

Please note: polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea [\[R\]](#).

12



Dietary Antioxidants

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Incorporate foods rich in antioxidants, such as fruits (berries, oranges, plums), vegetables (spinach, kale, bell peppers), nuts (walnuts, almonds), and seeds (flaxseeds, chia seeds) into your daily meals. Aim for at least 5 servings of fruits and vegetables per day, ensuring a variety of colors to cover different antioxidants.

Description

Dietary antioxidants are compounds found in foods that help neutralize harmful molecules called free radicals, potentially reducing the risk of oxidative stress-related diseases and supporting overall health. Examples include vitamins C and E, beta-carotene, and polyphenols.

Our cells sometimes produce molecules called **reactive oxygen species (ROS)** [\[R\]](#).

High levels of ROS can cause [oxidative stress](#) and damage our cells. Oxidative stress plays a role in many health conditions, including [\[R\]](#):

- High blood sugar
- Type 2 diabetes
- Heart disease

Antioxidants are substances that help combat ROS [\[R\]](#).

Antioxidants are found in many plants. Good sources include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Fruits like tomatoes, berries, and pomegranates
- Vegetables like onions, spinach, and celery
- Chocolate
- Olive oil
- Wine

How it helps

A high intake of dietary antioxidants may reduce the risk of breast cancer. Antioxidants such as flavonoids and carotenoids may help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

For instance, a high intake of carrots may decrease the risk of breast cancer by 26% [\[R\]](#).

In line with this, women with the highest blood levels of carotenoids may be at decreased risk of breast cancer [\[R\]](#), [\[R\]](#).

13



Mindfulness

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Set aside 5-10 minutes each day to practice mindfulness meditation. Find a quiet place, assume a comfortable seated position, close your eyes, focus on your breathing, and observe your thoughts and sensations without judgment.

TYPICAL STARTING DOSE

30 minutes

Description

Mindfulness involves paying focused and non-judgmental attention to the present moment. It can reduce stress, improve emotional regulation, and enhance overall mental clarity and well-being.

Mindfulness is the practice of being aware of the present moment. When practicing mindfulness, a person acknowledges their thoughts, feelings, and sensations without any judgment [R].

Mindfulness and other types of [meditation](#) may improve [R]:

- Weight and anxiety
- Low mood
- Sleep disturbances
- Pain
- High blood pressure

How it helps

Similarly, 9 meta-analyses (the largest one with 45 trials) concluded that mindfulness-based interventions have moderate to large short-term effects on mindfulness, stress, depression, anxiety, distress, fear of recurrence, fatigue, sleep quality, emotional well-being, cognitive function, quality of life, and physical health and function [R, R, R, R, R, R, R, R, R].

14



Carrots

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate at least one medium-sized carrot (about 61 grams) into your daily diet by either eating it raw, steamed, or as part of salads, soups, and stews to support eye health and provide essential nutrients.

Description

Carrots are a nutritious vegetable known for their high vitamin A content and numerous health benefits. They support eye health, provide essential nutrients, and contribute to a well-rounded diet.

Carrots are an excellent source of vitamin A, as well as biotin, vitamins K1 and B6, potassium, and antioxidants. A ½ cup serving provides 459 mcg of vitamin A or 51%DV.

How it helps

Carrots may help through their high content of carotenoids.

This study investigated the impact of daily consumption of BetaSweet and Balero carrot juice on carotenoid levels in breast cancer survivors. Both juices increased carotenoids and reduced oxidative stress but not inflammation [\[R\]](#).

A meta-analysis of 10 articles with 13,747 cases found that higher dietary carrot intake is associated with a 21% reduced risk of breast cancer. Heterogeneity was observed, with stronger results in case-control studies. No significant differences were found in other subgroup analyses (geographical region, study quality, exposure assessment) [\[R\]](#).

15



Progressive Muscle Relaxation

IMPACT

3 / 5

EVIDENCE

3 / 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

In breast cancer patients, progressive muscle relaxation may improve hot flashes, body image, depression, anxiety, chemotherapy-induced nausea and vomiting, sleep quality, and length of hospital stay [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)].

16



Avoid Air Pollution

IMPACT

3 / 5

EVIDENCE

3 / 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

People who live in a city have a slightly higher risk of breast cancer compared to those who live in a rural area [\[R\]](#).

In line with this, exposure to air pollution may increase the risk of breast cancer [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

17

Avoid PCBs

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

To avoid PCBs (Polychlorinated Biphenyls), do not use old electrical equipment manufactured before 1977, avoid consuming fish from contaminated waters, especially larger species such as shark and swordfish which are higher in the food chain, and check for and properly dispose of any old fluorescent lighting fixtures that may contain PCBs. Pay attention to local advisories regarding the safety of locally caught fish and wildlife.

Description

PCBs are toxic chemicals that can cause cancer, reproductive problems, and developmental problems. Avoiding exposure to PCBs is important for protecting your health.

Polychlorinated biphenyls (PCBs) are man-made chemicals. They were used in the industry until their **ban in 1979**. PCBs are considered **persistent organic pollutants** (POPS) due to their slow degradation in the environment. They may also **accumulate** in the food chain and the human body [\[R\]](#), [\[R\]](#).

We may be exposed to PCBs through contaminated [\[R\]](#), [\[R\]](#):

- **Food** (e.g., fish, meat, rice)
- Soil
- Air

PCBs may have toxic effects on [\[R\]](#), [\[R\]](#):

- Immunity
- Nervous system
- Reproductive system
- Hormone levels

They may also increase the risk of cancer and reduce lifespan [\[R\]](#), [\[R\]](#).

How it helps

This meta-analysis of 25 studies involving 12,866 participants from eight countries suggests that exposure to group II and group III PCBs is associated with an increased risk of breast cancer. Further research in developing countries with higher PCB levels is recommended [\[R\]](#).

A meta-analysis of 16 studies explored the relationship between polychlorinated biphenyls (PCBs) and breast cancer. It found PCB 99, PCB 183, and PCB 187 significantly increased breast cancer risk, possibly through CYP2B enzyme induction [\[R\]](#).

18



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 22 studies found no significant link between p,p'-DDE exposure and breast cancer risk. The odds ratio was 0.97 (CI 0.87-1.09), with no heterogeneity or publication bias detected. Further research on developmental exposure and metabolizing enzymes is needed [R].

Early-life exposure to high levels of p,p'-DDT significantly increased breast cancer risk in women born after 1931 who were under 14 years old in 1945 when DDT use became widespread. No such risk was observed in those not exposed before age 14 [R].

However, a meta-analysis of 46 studies on DDT/DDE exposure and breast cancer risk through June 2012 found slightly elevated but statistically insignificant odds ratios for DDT (1.02) and DDE (1.05). Difference of means analysis showed higher DDE levels in cases (11.30 ng/g lipid). Overall, the evidence did not support a link between DDT/DDE exposure and breast cancer [R].

Another meta-analysis of 21 case-control studies on cyclodiene insecticides and breast cancer found no statistically significant association, except for heptachlor. Heterogeneity and methodological limitations were noted [R].

19



Fruits And Vegetables

IMPACT

3 / 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

High intake of fruits and vegetables decreases the risk of breast cancer by 6-8% and 4-33%, respectively, according to 7 meta-analyses. The risk decreased by 4% for every 200-g/day increment of fruits and vegetables combined, by 3% for every 100-g/day increment of fruits, and by 3% for every 100-g/day increment of vegetables. Vegetables (but not fruits) specifically decreased the risk of estrogen receptor-negative breast cancer (by 22%). When stratified by breast cancer type, total fruit and vegetable intake were associated with 11% and 26% lower risk of estrogen and progesterone receptor-positive and -negative tumors, respectively, while fruits reduced the risk of estrogen and progesterone receptor-negative tumors by 27% [\[R, R, R, R, R, R, R\]](#).

20



Limit Red Meat Intake

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Limit your red meat consumption to no more than three portions per week, with each portion being about 3-4 ounces (85-113 grams), roughly the size of a deck of cards. Opt for leaner cuts of meat and consider replacing some red meat meals with poultry, fish, or plant-based protein sources.

Description

Limiting red meat intake involves reducing the frequency and portion sizes of beef, pork, and lamb in your diet. The recommendation encourages choosing alternative protein sources such as poultry, fish, beans, and legumes. It emphasizes moderation to improve health outcomes—including lower risks of heart disease and cancer--and promotes a balanced and varied diet.

How it helps

A high intake of red and processed meat increases the risk of breast cancer by 5-10% and 7-21%, respectively, according to 5 meta-analyses. Processed meat may increase the risk more in postmenopausal women. The risk increases by 7-13% for every 120-g/day increment in red meat and by 9-18% for every 50-g/day increment in processed meat [\[R, R, R, R, R\]](#).

However, a meta-analysis of 118 studies concluded that the effects of red and processed meat on breast cancer incidence and mortality are very small and the evidence is low to very low [\[R\]](#).

21



Avoid PAHs Exposure

IMPACT

3 / 5

EVIDENCE

3 / 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

High exposure to PAHs may increase the risk of breast cancer. Smokers, those with a family history, and carriers of certain gene variants may be at even higher risk, while dietary fruits and vegetables may partially counteract the negative effects of PAHs [\[R\]](#).

22



Avoid Sugary Foods & Drinks

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

To avoid sugary foods, eliminate or significantly reduce consumption of foods and beverages high in added sugars such as sodas, candies, baked goods, and sugary cereals from your diet. Instead, opt for natural sugar sources like fruits. Aim to do this daily for ongoing health benefits.

Description

High-sugar foods like baked goods, sweets, and sugary drinks, can spike your blood sugar levels. Consuming a lot of these types of foods can contribute to to health issues like diabetes, obesity, insomnia, and heart disease.

High-sugar foods and refined carbs have a high glycemic index (GI). This means they tend to spike your blood sugar levels. They include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Sugary drinks
- Baked goods
- Sweets
- White bread
- White rice
- Pasta

Eating a lot of sugary foods can contribute to:

- Diabetes [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Weight gain and obesity [\[R\]](#), [\[R\]](#)
- Insomnia [\[R\]](#)
- Heart disease [\[R\]](#)

You may also want to avoid processed sugars and sugary drinks. They may have a role in increasing IL-1B [\[R\]](#), [\[R\]](#).

How it helps

Eating a diet with a high glycemic load may increase the risk of breast cancer [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

In line with this, sugar consumption increases the risk of breast cancer while dietary fiber lowers it. In breast cancer survivors, dietary fiber may reduce the risk of death [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

23



Eat Fiber-Rich Foods

IMPACT3 / 5

EVIDENCE3 / 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

A high dietary fiber may reduce the risk of breast cancer (especially in premenopausal women) by 6-12% and breast cancer mortality by 12% according to 5 meta-analyses. For every 10-g/day increment in dietary fiber intake, the risk decreases by 3-14%. In women with breast cancer, high fiber consumption reduces the risk of all-cause mortality by 58% and breast cancer-related mortality by 38% according to a meta-analysis of 7 studies and 11,295 patients [\[R, R, R, R, R, R\]](#).

24



Anti-Inflammatory Diet

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Incorporate foods rich in omega-3 fatty acids, such as salmon and flaxseeds, fruits, vegetables, nuts, and whole grains into your daily meals. Avoid processed foods, red meats, and refined sugars. Aim for a balanced diet consisting mostly of plant-based foods and lean protein sources, adjusting portions sizes to meet your individual nutritional needs and health goals.

Description

An anti-inflammatory diet focuses on reducing inflammation in the body by emphasizing foods rich in anti-inflammatory compounds, such as fruits, vegetables, fatty fish, nuts, and seeds, while minimizing processed foods and those high in added sugars and trans fats.

Anti-inflammatory diets use healthy foods to reduce inflammation. These diets are generally high in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Colorful fruits and vegetables
- Nuts and seeds
- Fish
- Olive oil
- Tea

They also tend to restrict [\[R\]](#), [\[R\]](#):

- Processed food
- Sugar and refined carbs
- Red meat

The [Mediterranean diet](#) and the DASH diet are good examples of anti-inflammatory diets [\[R\]](#), [\[R\]](#).

How it helps

Eating a diet with a high inflammatory index has been associated with an increased risk (up to 37%) of breast cancer [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

In breast cancer survivors, an inflammatory diet increases the risk of death [\[R\]](#).

25



Regular Sleep Schedule

IMPACT3 / 5

EVIDENCE2 / 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

Working the night shift increases the risk of breast cancer by 19-51%. The risk may be stronger in premenopausal women, especially in those with high intensity and long duration of night shift work. However, the evidence is mixed [R, R, R, R, R, R, R, R, R, R].

In breast cancer survivors, working the night shift increases the risk of recurrence and cardiovascular death [R].

26



Dairy Products

IMPACT3 / 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

Four meta-analyses associated high intake of dairy products with a 5-17% reduced risk of breast cancer, while milk reduced it by 9-20%. Dairy products were especially protective against estrogen or progesterone receptor-positive tumors, while cottage cheese and ricotta most effectively prevented estrogen receptor-negative tumors. However, a meta-analysis of 8 studies found no association between milk or yogurt intake and breast cancer risk [\[R, R, R, R, R\]](#).

27



Avoid PBDE

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

To avoid PBDEs, replace old furniture that might contain these chemicals, vacuum and dust your home regularly to reduce dust particles that might contain PBDEs, and use products labeled as PBDE-free. Ensure you check labels on electronics, furnishings, and textiles for mention of being PBDE-free.

Description

Polybrominated Diphenyl Ethers (PBDEs) are commonly found in flame retardants used in household items. These chemicals are linked to health issues like hormone disruption and neurodevelopmental problems. Opt for PBDE-free products, improve ventilation, and frequently clean to minimize dust, which can contain PBDE particles, promoting a healthier living environment.

How it helps

A systematic review of 131 studies found that exposure to various environmental endocrine-disrupting chemicals (EDCs) may increase the risk of breast cancer, mainly assessed through biomarker measurements [\[R\]](#).

A study in Southern China analyzed PBDE levels in breast adipose tissue (183 cases). PBDEs correlated with clinical factors, hormone receptor expression, and predicted shorter progression-free survival (PFS) [\[R\]](#).

28



Dietary Pyridoxine (Vitamin B6)

IMPACT3 / 5

EVIDENCE2 / 5

How to implement

Increase your intake of vitamin B6 by eating more foods rich in this nutrient, such as bananas, chickpeas, tuna, salmon, chicken breast, and spinach. Aim for a balanced diet that includes these foods regularly, about 2-3 servings of B6-rich foods per day, to help meet the general daily requirement of 1.3mg for adults.

Description

Vitamin B6 is involved in over 100 enzyme reactions in the body and plays a role in brain development, immune function, and hormone regulation. It is found in foods like poultry, fish, potatoes, and bananas.

[Vitamin B6](#) (*pyridoxine*) is important for nervous and immune system health [\[R\]](#).

Good sources of vitamin B6 include [\[R\]](#):

- Poultry
- Fish
- Potatoes
- Chickpeas
- Bananas
- Fortified cereals

How it helps

Both high blood levels and dietary intake of vitamin B6 may reduce the risk of breast cancer. The effects may be strongest for estrogen and progesterone receptor-negative breast cancer [\[R, R\]](#).

 PERSONALIZED TO YOUR GENES

People with your [MTHFR](#) gene variant may have a higher risk of breast cancer if their vitamin B6 intake is low [\[R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
MTHFR	rs1801133	AA	

29



Avoid PFAS Exposure

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

To avoid PFAS exposure, choose products that are labeled PFAS-free, especially when selecting cookware, cosmetics, and clothing. Reduce the consumption of packaged and fast foods since the packaging often contains PFAS. Use a water filter that is certified to remove PFAS compounds for your drinking and cooking water.

Description

Avoiding per- and polyfluoroalkyl substances (PFAS) exposure means avoiding products and environments contaminated with these chemicals, which can help prevent potential health issues like hormonal disruption and adverse effects on liver and immune function.

How it helps

High exposure to PFAS may increase the risk of breast cancer. PFOA may increase the risk of estrogen receptor-negative, progesterone receptor-negative, human epidermal growth factor receptor 2-positive breast cancers, PFAS may increase the risk of estrogen receptor-positive tumors, and PFUnDA and PFHxS may only increase the risk of hormone-negative tumors. However, the evidence is mixed [\[R, R, R, R, R, R, R\]](#).

30



Dietary Omega-3 Fatty Acids

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

[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. **EPA and DHA are vital for mental and heart health** [\[R\]](#), [\[R\]](#), [\[R\]](#).

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

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, 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

A meta-analysis of 13 studies associated high levels of circulating omega-3 fatty acids with 19% reduced breast cancer risk. Another meta-analysis (32 studies and 1,445,732 participants) found protective effects (42% reduced risk), but only for marine omega-3 fatty acids. A high ratio of omega-3:omega-6 fatty acids may also reduce the risk (by 11-18%), especially in Asian women. For every 10-unit increment of the ratio, the risk decreases by 6% according to 2 meta-analyses. However, a meta-analysis of 47 trials and 108,194 participants found that increasing omega-3 fatty acid intake doesn't reduce cancer risk or mortality [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Higher intake of omega-3 fatty acids from fish reduces the risk of breast cancer by 14-25% according to 2 meta-analyses. However, another meta-analysis found no association between fish consumption and breast cancer risk [\[R\]](#), [\[R\]](#), [\[R\]](#).

Alternatively, the PUFA linoleic acid reduces the risk of breast cancer by 2-5%, with the risk decreasing by 1% for every 10-g/day increment, according to a meta-analysis of 8 studies and 358,955 women [\[R\]](#).

31



Dietary Selenium

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate selenium-rich foods into your daily diet, such as Brazil nuts, seafood, and organ meats. Eating 1-2 Brazil nuts a day can meet the daily selenium requirement for most adults.

Description

Selenium is a trace mineral found in various foods, including nuts, seeds, and seafood. 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. Good sources of selenium include [\[R\]](#):

- Brazil nuts
- Fish
- Meat
- Eggs
- Rice
- Oatmeal

How it helps

A meta-analysis analyzed 69 studies and found that high selenium exposure seemed to protect against cancer overall, and breast cancer in particular. Selenium in blood and toenails was associated with cancer prevention, but supplements didn't show the same effect [\[R\]](#).

32



Art Therapy

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Participate in art therapy sessions, which can include activities such as painting, sculpting, or drawing, for 1-2 hours per week. These sessions can be done either in group settings guided by a trained art therapist or individually, depending on your comfort level and goals. It is beneficial to engage in this practice consistently for several months to observe the therapeutic benefits.

TYPICAL STARTING DOSE

1 hour

Description

Art therapy is a type of therapy that encourages free self-expression and reflection through [\[R\]](#):

- Painting
- Drawing
- Clay modeling

It may be combined with mindfulness. Mindfulness is the practice of being aware of the present moment without any judgment [\[R\]](#).

Art therapy is used to improve [\[R\]](#):

- Self-esteem
- Self-awareness
- Emotional resilience
- Social skills

How it helps

Two meta-analyses (the most recent one with 19 studies) concluded that art therapy improves depression and quality of life, but not anxiety, in women with breast cancer [\[R\]](#), [\[R\]](#).

Types of art therapy that may help include:

- Expressive writing [\[R\]](#), [\[R\]](#)
- Music therapy [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)

33



Massage

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Schedule a massage session, ideally with a licensed therapist, for 30-60 minutes, once a week. Choose a type of massage that suits your specific needs, such as Swedish for relaxation or deep tissue for muscle tension.

TYPICAL STARTING DOSE

30 minutes

Description

Massage therapy involves the manipulation of soft tissues to relax muscles, reduce stress, and alleviate pain. It can improve circulation, promote relaxation, and provide relief from various physical and mental health concerns.

If you’ve ever had a professional [massage](#), then you probably know how much good it can do. Massages may help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Anxiety
- Pain
- Fatigue

Reflexology is a type of massage. It involves applying pressure to specific parts of your feet or hands. In theory, by pressing on these areas, you can relieve tension from other parts of the body [\[R\]](#).

Acupressure is a similar technique, in which pressure points are used to help with stress and pain [\[R\]](#), [\[R\]](#).

How it helps

Three meta-analyses (the largest one with 18 trials and 950 participants) concluded that massage therapy improves chronic musculoskeletal pain, anxiety, and breast cancer treatment-related negative emotions and fatigue [\[R\]](#), [\[R\]](#), [\[R\]](#).

Adding manual lymphatic drainage to standard treatment such as compression bandaging further improves swelling and arm function according to 2 meta-analyses (the largest one with 6 trials) [\[R\]](#), [\[R\]](#).

34



Choose Healthy Fats

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate sources of unsaturated fats such as olive oil, avocados, nuts, seeds, and fatty fish into your daily diet. Aim for at least two servings of fatty fish per week and use olive oil for cooking and salad dressings. Replace saturated fats found in red meat, butter, and processed foods with these healthier options whenever possible.

Description

Choosing healthy fats, such as those found in avocados, nuts, and fatty fish, can support cardiovascular health, reduce inflammation, and promote overall well-being. A diet balanced in healthy fats can help manage cholesterol levels and reduce the risk of heart disease.

Based on their structure, the fats in our diet can be broadly divided into *saturated* and *unsaturated* fat. Trans fat is a type of unsaturated fat [\[R, R, R\]](#).

In large amounts, trans fat and saturated fat may have a negative impact on your heart and reproductive health. Processed foods and animal products like red meat and dairy are rich in these fats [\[R, R, R, R, R\]](#).

Some types of unsaturated fat can protect your heart and support fertility. **Experts say you should add more unsaturated fats to your diet.** Some good sources include [\[R, R, R\]](#):

- Nuts
- Seeds
- Fish

Unsaturated fats include polyunsaturated fats or PUFAs (omega-3 and omega-6) and monounsaturated fats or MUFAs [\[R, R\]](#).

How it helps

Eating a high amount of saturated fat may increase the risk of breast cancer by 18-36%. Similarly, breast cancer patients who eat a high-saturated fat diet may have an increased mortality while adopting a low-fat diet may help reduce the risk of recurrence and death. However, the evidence not all studies found these associations [\[R, R, R, R, R, R, R, R\]](#).

Dietary trans fats don't seem associated with breast cancer risk, but high levels may increase the risk in postmenopausal women [\[R\]](#).

In contrast, both high blood levels and dietary intake of omega-3 fatty acids may reduce the risk of breast cancer. However, the evidence is mixed [\[R, R, R, R, R, R, R, R\]](#).

A high intake of olive oil may also reduce the risk of breast cancer [\[R, R, R, R, R, R\]](#).

35



Expressive Writing

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Set aside 15-20 minutes on 3-4 days each week to write about your deepest thoughts and feelings related to traumatic, stressful, or emotional events. It's important to find a quiet, private space where you won't be disturbed. This practice should be continued for at least four weeks to potentially begin noticing benefits in emotional well-being.

TYPICAL STARTING DOSE

15 minutes

Description

Expressive writing involves the practice of writing about one's thoughts and feelings to promote emotional processing and stress reduction. It has been shown to have potential psychological benefits, including improved mood and mental clarity.

Expressive writing consists of free writing about thoughts and feelings related to important [\[R, R\]](#):

- Emotional issues
- Stressful events
- Traumatic experiences

It may include information about [\[R, R\]](#):

- Childhood experiences
- Expectations
- Relationships with others
- The past, the present, and the future

After writing, the writer should reflect on their work [\[R, R\]](#).

Expressive writing may be unpleasant at first, but it aims at improving your ability to cope with negative emotions [\[R, R\]](#).

How it helps

Expressive writing improves quality of life in breast cancer patients according to a meta-analysis of 23 trials. Another meta-analysis (11 trials and 1,178 participants) found expressive writing reduces negative somatic symptoms [\[R, R\]](#).

36



Extra Virgin Olive Oil (EVOO)

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate 1-2 tablespoons of extra virgin olive oil into your daily diet. Use it as a dressing for salads, vegetables, or incorporate it into cooking, but avoid using it at high temperatures to preserve its health benefits.

Description

Extra virgin olive oil is a high-quality olive oil obtained from the first pressing of olives. It is rich in monounsaturated fats and antioxidants, like polyphenols, and is associated with various health benefits, including heart health and anti-inflammatory properties.

[Olive oil](#) is fat from the olive, a traditional tree of the Mediterranean Basin [\[R\]](#).

Olive oil has anti-inflammatory and antioxidant properties. It may also reduce the risk of [\[R\]](#), [\[R\]](#):

- Heart disease
- Diabetes
- Cancer

Olive oil is also the primary fat source in the [Mediterranean diet](#), which may improve brain and heart health [\[R\]](#).

How it helps

High intake of olive oil may reduce the risk of breast cancer by up to half according to 6 meta-analyses (the most recent one with 10 studies) [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

37



Tai Chi

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

TYPICAL STARTING DOSE

1 hour

Description

Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

Tai chi involves gentle movements and breathing to strengthen and relax the mind and body. Practicing tai chi may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

How it helps

Tai chi improves physical function, pain, anxiety, sleep, fatigue, and quality of life in breast cancer patients according to 3 meta-analyses (the largest with 22 studies). However, a meta-analysis of 5 trials and 407 patients found it ineffective at improving quality of life [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

38



Melatonin

IMPACT2 / 5

EVIDENCE3 / 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

Low blood levels of melatonin have been associated with an increased risk of breast cancer [\[R\]](#).

In breast cancer patients, supplementation with melatonin as an add-on to conventional therapy may help stabilize the disease, reduce adverse effects, improve cognitive function and mood, reduce fatigue, improve sleep, and increase quality of life [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

39



Maintain Optimal Vitamin D Levels

IMPACT

2 / 5

EVIDENCE

3 / 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

High blood levels of vitamin D have been associated with a decreased risk of breast cancer, while insufficiency or deficiency of this vitamin may increase the risk [\[R, R, R, R, R, R, R, R, R, R\]](#).

In breast cancer patients, low vitamin D levels may increase the risk of recurrence and death [\[R, R, R, R, R, R, R\]](#).

However, it's unclear whether supplementation with vitamin D reduces the risk of breast cancer [\[R, R, R\]](#).

40



Dance

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Engage in dance activities for at least 30 minutes, three times per week. You can choose any form of dance you enjoy, such as ballroom, hip hop, or salsa, and you can dance at home, in a studio, or in a group class setting.

TYPICAL STARTING DOSE

30 minutes

Description

Dancing involves moving your body to music. Many people take dance classes to learn various styles of dance and improve their skills. Examples include:

- Ballet
- Zumba
- Belly dancing
- Hip hop
- Salsa

Dancing is a fun, creative, and relaxing activity. It can also provide a range of health benefits, improving your heart health, brain health, fitness, and more.

How it helps

Six studies with 385 breast cancer patients aged 55.7 on average, undergoing 3-24 weeks of dance/movement therapy (DMT), showed improved mental health, quality of life, and reduced stress. DMT can complement standard cancer treatment for these women [\[R\]](#).

41



Avoid Organic Solvents

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Refrain from using products containing organic solvents such as paints, varnishes, paint strippers, cleaning supplies, glues, and adhesives. Seek out water-based or solvent-free alternatives and ensure proper ventilation when unavoidable exposure occurs.

Description

Avoiding exposure to organic solvents, often found in cleaning products and industrial settings, can reduce the risk of potential health issues such as respiratory problems and skin irritation. Implementing safety measures and proper ventilation helps minimize contact with these chemicals.

How it helps

Occupational exposure to organic solvents increases the risk of breast cancer by 18% according to a meta-analysis of 24 studies. The risk was higher in postmenopausal women and studies carried out in Europe [\[R\]](#).

42



Soy

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate soy-based products such as tofu, soy milk, and edamame into your daily diet. Aim for at least one serving per day, equivalent to about a cup of soy milk, a half-cup of cooked soybeans, or a 3-ounce piece of tofu.

Description

Soy is a legume native to East Asia, and its health benefits include being a source of plant-based protein, fiber, and various vitamins and minerals. It is known for its potential to support heart health, reduce cholesterol levels, and provide essential nutrients in vegetarian and vegan diets.

Soy is a common food in many cuisines around the world, especially Asian cuisines [\[R\]](#).

It’s a great source of [\[R\]](#), [\[R\]](#):

- Plant-based protein
- Fiber
- Omega-3 fats
- Antioxidants (isoflavones)

Soy-based foods include [\[R\]](#):

- Soy beverages
- Tofu
- Tempeh
- Edamame
- Miso
- Natto

Soy protein and soy isoflavones are also available as supplements.

How it helps

A high dietary intake of isoflavones has been associated with a decreased risk of breast cancer, as well as with lower recurrence and death rates in breast cancer survivors [\[R\]](#), [\[R\]](#), [\[R\]](#).

A major source of dietary phytoestrogens, especially in Asian countries, is soy. Multiple studies have found protective effects of dietary soy products. However, the studies generally found stronger effects in Asian than in Western populations [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

In women with a diagnosis of breast cancer, soyfood intake may decrease the risk of recurrence and death [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Your **MDM2** gene variant has been associated with a decreased risk of breast cancer, especially in women consuming a high daily amount of soy isoflavones [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
MDM2	rs2279744	GG	

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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

Meta-analysis indicates vitamin C supplements and dietary intake post-diagnosis may lower mortality risks in breast cancer patients [\[R\]](#).

Meta-analysis of 40 studies finds significant links between low plasma α-tocopherol and increased breast cancer risk, with vitamin C also associated in case-control studies [\[R\]](#).

Meta-analysis reveals MnSOD Val-9Ala polymorphism may increase prostate and breast cancer risk, particularly with low antioxidant intake, suggesting a role in cancer development [\[R\]](#).

Combined analysis of 12 studies finds high saturated fat increases, while vitamin C decreases, breast cancer risk in postmenopausal women; dietary changes could prevent 24% of cases [\[R\]](#).

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Pilates

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Engage in Pilates exercises for at least 20-30 minutes, 3 times a week. Focus on core strength, flexibility, and mindful breathing. It is suitable for both beginners and advanced individuals, adjusting the difficulty of exercises as necessary.

TYPICAL STARTING DOSE

30 minutes

Description

Pilates is a form of exercise that focuses on strengthening the core, improving flexibility, and enhancing overall body awareness through controlled movements and breathing techniques. Its health benefits include increased core strength, improved posture, enhanced flexibility, and better balance, making it a popular choice for those seeking a holistic approach to fitness.

Pilates is a type of exercise that emphasizes proper alignment, breathing techniques, and precise movements.

It involves a series of controlled movements performed on a mat or with specialized equipment, such as a reformer or Cadillac. Pilates helps strengthen the core muscles, improve flexibility, and promote mind-body awareness.

How it helps

A meta-analysis of 5 studies concluded that Pilates improves shoulder range of motion, quality of life, pain, self-reported upper extremity function, functional status, mood, fitness, and upper extremity circumference in women with breast cancer [R].

45



Avoid Triclosan

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Check product labels for triclosan and choose alternatives without this chemical. This includes personal care products like toothpaste, soaps, and hand sanitizers. Aim to replace products as they run out with triclosan-free versions.

Description

Avoiding products containing triclosan, an antibacterial and antifungal agent, can help prevent potential side effects and antibiotic resistance. Choosing triclosan-free alternatives supports safer and more sustainable hygiene practices.

How it helps

A large study found that women newly diagnosed with breast cancer had higher urinary triclosan levels. The association was stronger in postmenopausal women [R].

46



Whole Grains

IMPACT2 / 5

EVIDENCE2 / 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

A meta-analysis of 11 studies and 131,151 participants found a 19% decreased risk of breast cancer in women eating high amounts of whole grains [\[R\]](#).

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Beta-Glucans

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a beta-glucan supplement daily, with a dosage ranging from 250mg to 500mg. It is best consumed with a meal to enhance absorption. Continue this routine daily to support immune health.

Description

Beta-glucans are types of soluble fiber found in foods like oats and barley. They have been associated with immune system support and may help lower cholesterol levels when consumed as part of a heart-healthy diet.

Beta-glucan is a type of soluble fiber with antioxidant properties. It is abundant in [\[R\]](#) [\[R\]](#):

- Baker's yeast
- Cereals (e.g., oats, barley)
- Mushrooms (e.g., maitake)
- Seaweeds

People use beta-glucans to [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#):

- Improve immunity (e.g., fight infections)
- Reduce blood sugar
- Reduce cholesterol

How it helps

In a placebo-controlled trial of 30 women with breast cancer, taking soluble 1-3, 1-6, D-beta glucan (10 mg/day) for 21 days between two courses of chemotherapy attenuated the decrease of white blood cells and decreased IL-4 while increasing IL-12 levels [\[R\]](#).

Similarly, beta-glucan stimulated the proliferation and activation of peripheral blood monocytes in a non-placebo-controlled trial of 23 women with advanced breast cancer and 19 healthy controls [\[R\]](#).

In a placebo-controlled trial of 130 breast cancer patients, beta-glucan (10 mg, 2x/day for 10 days) reduced drain discharges after a mastectomy, shortened the number of days required for the drain removal, and lowered the levels of IL-6 and TNF-alpha [\[R\]](#).

48



Gentle Yoga

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

20 minutes

Description

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R, R, R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

Gentle yoga is practiced at a slower pace, with less intense positions, and usually including more time for meditation, breathing, and relaxation. It's a great choice for people who feel they are not fit or flexible enough to do all yoga poses, as well as for those with injuries, pain, impaired mobility, or health issues.

How it helps

Programs including gentle yoga may reduce pain, fatigue, stress, and menopausal symptoms while increasing invigoration, acceptance, relaxation, short-term sleep quality, and quality of life, in women with breast cancer [\[R, R, R, R, R, R\]](#).

49



Turkey Tail Mushroom

IMPACT

2 / 5

EVIDENCE

2 / 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 [\[R\]](#).

Cells were cultured with or without PSP and anti-TLR4 for 24 hours. Q-PCR and ELISA were used to detect mRNA and protein levels (IL-12, IL-6, TNF-α). PSP upregulated genes and proteins in the TLR4-TIRAP/MAL-MyD88 pathway, suggesting an immunoregulatory effect [\[R\]](#).

Eighty-two breast cancer patients took Yunzhi (50 mg/kg body weight, 100% polysaccharopeptide) and Danshen (20 mg/kg body weight) capsules daily for 6 months. Immunological functions were assessed every 2 months. Results showed increased T-helper lymphocytes, CD4+/CD8+ ratio, B-lymphocytes, and decreased sIL-2R concentration, suggesting potential immunological benefits post-treatment [\[R\]](#).

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Music Therapy

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Engage in music therapy sessions for at least 30 minutes a day, three times a week. These sessions can involve listening to music, playing an instrument, singing, or writing songs, facilitated by a certified music therapist if possible.

TYPICAL STARTING DOSE

30 minutes

Description

Music therapy is a therapeutic approach that uses music to address physical, emotional, cognitive, and social needs. It can improve mental health, enhance emotional expression, and support overall well-being.

[Music](#) therapy is a form of therapy that involves making, reflecting on, and/or listening to music. It can be applied individually or in groups and may not require the presence of a therapist [\[R\]](#).

Music therapy provides tools for body relaxation and positive imagery. It aims to improve communication, quality of life, and well-being [\[R, R\]](#).

How it helps

In 8 non-placebo-controlled trials of 758 breast cancer patients, music therapy improved preoperative anxiety, radiotherapy-induced fatigue, depression, quality of life, vomiting, length of hospital stay, and pain after a mastectomy [\[R, R, R, R, R, R, R, R\]](#).

51



European Mistletoe

IMPACT2 / 5

EVIDENCE2 / 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

In 3 trials of 205 breast cancer patients, therapy with European mistletoe extract induced a strong proliferation of peripheral blood mononuclear cells while causing a shift to the Th1 immune response, prolonged survival, and improved autonomous coping with the disease [\[R\]](#), [\[R\]](#).

In 4 trials of 1,379 breast cancer patients receiving chemotherapy, mistletoe extract (PS76A2 10-70 ng/week for 15 weeks or Iscador 0.01-5 mg, 3x/week for 18 weeks) improved quality of life (including nausea and vomiting), reduced the need for glucocorticoid treatment, and was well tolerated. However, it didn’t influence the frequency of relapse or metastasis in a non-placebo-controlled trial of 95 patients [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

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Avoid BPA (Bisphenol A) Exposure

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

To avoid BPA exposure, choose BPA-free products, particularly when selecting food containers, water bottles, and baby bottles. Prefer glass, porcelain, or stainless steel containers, especially for hot food or liquids. Reduce use of canned foods as they may be lined with BPA and avoid handling thermal paper receipts, as they can contain BPA. When possible, select fresh or frozen foods over canned goods.

Description

Avoiding BPA (Bisphenol A) exposure involves minimizing contact with products or containers containing this chemical, which is commonly found in plastics and can potentially disrupt hormone regulation.

BPA (bisphenol A) is a chemical used to make certain plastics and resins. BPA-containing plastics are often used in containers that store food and beverages. Plastics marked with **recycling code 3 or 7** may contain BPA [\[R\]](#).

BPA is a well-known hormone disruptor. Research has linked BPA exposure to diabetes, heart disease, altered behavior, and more [\[R\]](#).

How it helps

A meta-analysis found PCBs increased breast cancer and endometriosis risk. Gene-EDC interactions implicated common genes (*CYP19A1*, *EGFR*, *ESR2*, *FOS*, *IGF1*) in both diseases, suggesting shared environmental and molecular factors [\[R\]](#).

Another meta-analysis (9 studies and 7820 participants) found negative associations between the urinary phthalate metabolites MBzP and MiBP and breast cancer [\[R\]](#).

However, an analysis of 9 studies found no significant link between BPA exposure and breast cancer development [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Exposure to bisphenol A may increase the risk of breast cancer more in people with your [CYP17A1](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
BORCS7	rs743572	AG	

53



Riboflavin (Vitamin B2)

IMPACT1 / 5

EVIDENCE3 / 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

A meta-analysis of ten studies with 12,268 breast cancer patients found that higher vitamin B2 intake was associated with a 15% reduced risk of breast cancer. No significant heterogeneity or publication bias was observed. Dose-response analysis showed a 6% risk reduction per 1 mg/day increase in vitamin B2 intake. In conclusion, dietary vitamin B2 intake is weakly linked to lower breast cancer risk [\[R\]](#).

How to implement

TYPICAL STARTING DOSE

200 mg

Description

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

However, a meta-analysis found no association between dietary methionine intake and breast cancer risk [R].

55



Compression Therapy

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Wear compression stockings or sleeves daily, especially during long periods of standing or sitting. Choose a compression level appropriate for your condition (mild, moderate, or high), as advised by a healthcare professional. Start wearing them in the morning before swelling occurs and keep them on until bedtime.

Description

Compression therapy involves wearing specialized garments that apply pressure to the limbs, promoting better circulation and reducing swelling. It is commonly used to manage conditions like venous disorders and can help alleviate symptoms, improve vascular health, and enhance overall well-being.

In compression therapy, different methods are used to apply pressure to the legs. These methods include [\[R\]](#):

- Bandages
- Wraps
- Compression stockings
- Pneumatic pressure devices

Compression therapy supports blood flow. It may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Prevent blood clots and deep vein thrombosis (DVT)
- Reduce some kinds of swelling
- Reduce symptoms of restless legs syndrome

How it helps

In breast cancer patients with lymphedema, compression therapy may reduce lymph swelling and improve limb mobility [\[R\]](#).

Description

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.

How it helps

How to implement

To reduce EMF (Electromagnetic Field) exposure, keep your cell phone away from your body when not in use, use speakerphone or wired headphones for calls, and turn off Wi-Fi and electronic devices at night, especially in your sleeping area. Limit the use of devices that emit strong EMFs, such as microwaves, by standing back while they are in operation. Aim to create a low-EMF environment in your home and workplace as much as possible.

Description

Reducing electromagnetic field (EMF) exposure involves minimizing exposure to electromagnetic radiation emitted by electronic devices. Limiting EMF exposure may help reduce the risk of potential health concerns associated with long-term EMF exposure, such as electromagnetic hypersensitivity.

How it helps

A meta-analysis of 18 studies associated high EMF exposure with a 32% higher risk of breast cancer in men [R].

58



Indole-3-Carbinol

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take an indole-3-carbinol supplement with a glass of water, preferably with meals to enhance absorption. Dosages typically range from 200 to 400 mg per day, divided into two doses. Continue daily for as long as recommended by your healthcare provider, which can vary based on the specific condition being addressed.

TYPICAL STARTING DOSE

200 mg

Description

Indole-3-carbinol is a compound found in cruciferous vegetables that may support hormonal balance and has been studied for its potential to reduce the risk of certain cancers.

How it helps

Supplementation with indole-3-carbinol (300 mg/day), helped prevent breast cancer in a placebo-controlled trial of 60 women at increased risk of breast cancer [\[R\]](#).

Indole-3-carbinol may help by promoting the breakdown and removal of estrogen from the body. This can lead to a reduction in the growth of estrogen-responsive cancer cells.

 PERSONALIZED TO YOUR GENES

Indole-3-carbinol may decrease the risk of breast cancer more in people with your [CYP1A1](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
CYP1A1	rs4646903	AA	

59



Skullcap

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 1 to 2 grams of dried skullcap herb in capsule or tablet form, or 1 to 2 milliliters of a tincture three times daily. For standardized extracts, follow the specific dosage instructions on the product label.

TYPICAL STARTING DOSE
1 g

Description

Skullcap, also known as Scutellaria, is a herbaceous plant native to North American and Asia. Its extract is often used in traditional herbal medicine for its calming and anti-inflammatory properties. Skullcap extracts may contain various compounds, including flavonoids and polyphenols.

American [skullcap](#) (*Scutellaria lateriflora*) is a Native American herb traditionally used for [\[R\]](#):

- Anxiety
- Stress
- Insomnia

How it helps

BZL101, a new treatment for metastatic breast cancer, shows promising results in preclinical and phase I studies. It effectively induces apoptosis in cancer cells and demonstrates safety with minimal side effects. The treatment led to stable disease in a quarter of patients and significant tumor regression in others, suggesting potential clinical efficacy [\[R\]](#).

This phase 1B trial evaluated the safety and maximum tolerated dose (MTD) of BZL101, a Scutellaria barbata extract, in women with metastatic breast cancer. Despite the severity of the disease and prior treatments, BZL101 was well-tolerated with manageable side effects, and no MTD was reached, indicating a high safety profile. The trial reported stable disease in several patients and some evidence of tumor regression, suggesting the potential efficacy of BZL101 in treating advanced breast cancer [\[R\]](#).

60



Chicory and Fumitory

IMPACT

1 / 5

EVIDENCE

1 / 5

Description

Chicory is a nutrient-rich vegetable that may help improve digestion, lower blood sugar levels, and boost the immune system. Fumitory is a plant that has been used for centuries in traditional medicine to improve digestion, boost the immune system, and relieve pain.

How it helps

In a placebo-controlled trial of 96 breast cancer survivors on hormone deprivation therapy, taking a traditional Persian medicine syrup containing chicory and fumitory extracts for 4 weeks significantly reduced hot flash frequency and severity by 57%, compared to a 10% reduction with the placebo [\[R\]](#).

61



Low-Level Laser Therapy (LLLT)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Use a low-level laser therapy device, as directed by its manual or a healthcare professional, on the affected area. Generally, treatment involves applying the laser for a specified duration, often between 30 seconds to several minutes, per treatment area. Sessions can be conducted 2-3 times per week for a period of 4-12 weeks, depending on the condition being treated and the device used.

TYPICAL STARTING DOSE

30 seconds

Description

Low-level laser therapy (LLLT), also known as photobiomodulation, is a type of light therapy that uses low-intensity lasers to promote healing. It has been shown to be effective in treating a variety of conditions, including pain, inflammation, and wound healing.

How it helps

Nine studies were analyzed, revealing significant reductions in limb volume (-0.52 within-group, -0.62 between-group), and pain (-0.62 within-group, non-significant -1.21 between-group) after low-level laser therapy (LLLT) in breast cancer-related lymphedema (BCRL) [\[R\]](#).

62

Myofascial Release

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Incorporate myofascial release into your routine by using tools like foam rollers or massage balls, focusing on tense areas for about 5-20 minutes daily. You can also seek professional myofascial release therapy sessions, which typically last about 30-60 minutes, 1-2 times per week for targeted treatment.

TYPICAL STARTING DOSE

5 minutes

Description

Myofascial release is a type of massage therapy that can help to improve range of motion, reduce pain, and increase circulation. It can also help to improve posture and reduce stress.

How it helps

Myofascial therapy's effectiveness on musculoskeletal pain and functionality in female breast cancer survivors was analyzed across eight randomized controlled trials. Results show no significant immediate impact on pain intensity, functionality, or flexion range of motion, but it improves shoulder abduction [R].

In a crossover study, 30 subjects received either MFR or placebo MFR for 4 weeks, with a 4-week washout period between treatments. Both treatments showed a significant reduction in upper limb volume. MFR led to better outcomes in pain relief and shoulder range of motion compared to placebo MFR. MFR showed promise in improving shoulder function, edema volume, pain, ROM, and chest mobility, warranting further trials for confirmation [R].

In a study involving 24 women with breast cancer, myofascial release (MR) treatment and placebo manual lymphatic drainage treatment (PMLD) were administered over 4 weeks. MR significantly reduced pain intensity and improved shoulder range of motion (except for internal rotation) immediately and 1-month post-treatment, along with sustained functionality improvement [R].

Twenty breast cancer survivors (BCS) participated in a study involving myofascial release and control interventions. Myofascial release led to a significant increase in salivary flow rate immediately post-intervention, indicating potential relief for cancer-related fatigue. Positive attitude towards massage correlated with increased immunoglobulin A (IgA) levels [R].

63



Black Chokeberry

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate black chokeberry (*Aronia melanocarpa*) in your diet by consuming 100-200 grams of fresh berries daily. If using a concentrated form like juice or extracts, follow the manufacturer's instructions, usually around 100 ml of juice or 500 mg of extract per day, for at least 8-10 weeks to observe potential health benefits.

Description

Black chokeberry is a fruit known for its high content of antioxidants and potential health benefits. It may support cardiovascular health and provide immune system support when incorporated into a balanced diet.

How it helps

The study found that *Aronia melanocarpa* extract stabilizes thiol levels and mildly affects antioxidant enzyme activities in the plasma of breast cancer patients during treatment, suggesting its potential benefit as a supplement [\[R\]](#).

64



Maitake Mushroom

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a maitake mushroom supplement, available in capsule or powder form, daily. The typical dosage ranges from 500mg to 3,000mg per day, divided into two or three doses. Consult with a healthcare provider for the correct dosage suitable for your health condition and needs.

Description

Maitake mushrooms are valued for their potential immune-boosting properties. Compounds found in maitake, such as beta-glucans, may support the immune system and contribute to overall health.

How it helps

In a phase I/II trial with 34 postmenopausal breast cancer patients, Maitake extract was orally administered at various doses for 3 weeks. Results showed mixed immunological effects, with no dose-limiting toxicity but varying immunologic responses. Maitake may both enhance and suppress immune function [\[R\]](#).

65

Laughter Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Dedicate at least 15-30 minutes a day to watch, listen to, or participate in activities that make you laugh, such as watching a comedy show, attending a stand-up comedy event, or engaging in laughter yoga sessions. Consistently incorporate these laughter-inducing activities into your daily routine for an ongoing period to harness the health benefits of laughter.

TYPICAL STARTING DOSE

30 minutes

Description

Laughter therapy has been shown to improve cardiovascular health, reduce stress, and boost the immune system. It can also help to improve mood, relieve pain, and increase social bonding.

How it helps

In a non-placebo-controlled trial of 37 breast cancer survivors, practicing laughter therapy (60 min, 2x/week for 4 weeks) improved quality of life and resilience but not depression or immune responses [\[R\]](#).

66

Broccoli Sprouts

IMPACT

1 / 5

EVIDENCE

1 / 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

In a two-week study with 30 postmenopausal breast cancer patients, those receiving ITC-rich broccoli sprout extract (BSE) showed increased cleaved caspase 3 and tumor-infiltrating lymphocytes (TILs) and decreased Ki-67 and nuclear to cytoplasm ratio of estrogen receptor (ER)- α , indicating potential anticancer effects of ITCs from cruciferous vegetables on breast cancer prognosis. The study reported high compliance and low toxicity [\[R\]](#).

67



Coenzyme Q10 (CoQ10)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a 100 mg Coenzyme Q10 (CoQ10) supplement once daily with a meal that contains fat for better absorption.

TYPICAL STARTING DOSE

100 mg

Description

Coenzyme Q10 (CoQ10) is a naturally occurring antioxidant that plays a crucial role in cellular energy production. It is often taken as a supplement to support heart health, improve energy levels, and provide antioxidant protection, especially for individuals with certain medical conditions or as they age.

[Coenzyme Q10](#) (CoQ10) is a compound that helps enzymes work better. By doing so, CoQ10 helps improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Energy levels
- Antioxidant protection
- Heart health
- Muscle strength
- Blood sugar control

The amount of CoQ10 made by your body decreases as you get older. Luckily, you can also get it from food or supplements. Good sources of CoQ10 include [\[R\]](#), [\[R\]](#):

- Organ meats
- Fatty fish
- Whole grains

How it helps

A meta-analysis examining Coenzyme Q10 (CoQ10) supplementation (100 mg/day for 45-90 days) revealed significant reductions in VEGF, IL-8, MMP-2, and MMP-9 levels, indicating decreased inflammation and MMP activity in patients with breast cancer. However, no significant differences were observed in TNF-α, IL-6, IL-1β, CAT, SOD, GPx, GSH, and TBARS levels. Further controlled trials across different cancer types are warranted to validate CoQ10's therapeutic effects on tumors [\[R\]](#).

68



Gamma-Linolenic Acid (GLA)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 200-300 mg of gamma-linolenic acid (GLA) daily as a supplement, usually available as capsules, for a period of 6 months to assess its effects on your condition. It is best absorbed when taken with food.

TYPICAL STARTING DOSE

200 mg

Description

GLA is an omega-6 fatty acid found in certain plant oils, such as evening primrose oil and borage oil. It may have anti-inflammatory properties and can potentially benefit skin health, hormonal balance, and overall well-being.

Your body naturally makes **gamma-linolenic acid (GLA)** to help control inflammation. It’s a polyunsaturated fatty acid (PUFA) found in plants like [R](#), [R](#):

- [Borage](#)
- Blackcurrant
- Evening primrose

People mainly use GLA for [R](#):

- Skin conditions
- Dry eyes
- Hair and nail care

How it helps

Breast cancer patients taking oral GLA alongside tamoxifen (T+GLA) showed a faster clinical response compared to tamoxifen alone. GLA was well-tolerated, and both groups experienced reduced estrogen receptor expression. Further research on GLA's effects is suggested [R](#).

69



Paleo Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Adopt a diet that includes lean meats, fish, fruits, vegetables, nuts, and seeds, resembling the diet of our hunter-gatherer ancestors. Exclude all dairy products, legumes, grains, added sugar, and processed foods. This should be a consistent dietary approach, not a short-term diet, to observe its benefits on health and well-being.

Description

The paleo diet, also known as the caveman diet, emphasizes whole foods such as lean meats, fish, fruits, vegetables, nuts, and seeds while excluding processed foods, grains, and dairy. It is believed to support weight management and reduce the risk of chronic diseases by focusing on foods more in line with our ancestors' diets.

How it helps

A pilot study on 13 breast cancer patients shows that a Paleolithic diet and daily outdoor activity during radiotherapy is feasible, reduces fat mass, and may improve vitamin D and metabolic health, warranting further research [R].

70



Transcendental Meditation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Practice transcendental meditation for 20 minutes twice a day, once in the morning before breakfast and once in the afternoon or early evening. Sit comfortably in a quiet place, close your eyes, and silently repeat a mantra given to you by a certified transcendental meditation teacher.

TYPICAL STARTING DOSE

20 minutes

Description

Transcendental Meditation is a technique for mindfulness and stress reduction that involves silently repeating a specific mantra to attain a state of deep relaxation and heightened awareness. It is associated with reduced stress, improved focus, and enhanced overall well-being.

How it helps

A study showed that adding Transcendental Meditation to standard care improves the quality of life in older women with advanced breast cancer compared to standard care alone [R].

71



DIM (Diindolylmethane)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a DIM (diindolylmethane) supplement daily with water during a meal to aid absorption. Dosages typically range from 100 to 200 mg per day, but always start with the lower dose to assess your body's response before increasing.

TYPICAL STARTING DOSE

100 mg

Description

DIM is a natural compound found in cruciferous vegetables like broccoli and cauliflower. It is known for its potential to support hormonal balance and may be used in supplements for its estrogen-regulating properties.

How it helps

In a placebo-controlled trial of 98 women taking tamoxifen to prevent or treat breast cancer, supplementation with the bioactive compound from cruciferous vegetables diindolylmethane (150 mg, 2x/day) for 12 months promoted favorable changes in estrogen metabolism and circulating levels of SHBG. Diindolylmethane (100 mg/day for 1 year) also decreased breast density, a risk factor for breast cancer, in an uncontrolled trial of 23 women with *BRCA* mutations [\[R\]](#), [\[R\]](#).

A study on 18 women showed oral DIM increased BRCA1 mRNA in white blood cells among BRCA1 mutation carriers, suggesting it could help mitigate the mutation's effects and alter prevention strategies [\[R\]](#).

In a study of 130 women taking tamoxifen, those receiving BioResponse-DIM® showed improved estrogen metabolism, increased SHBG levels, and reduced tamoxifen metabolites, suggesting potential impacts on breast cancer treatment efficacy. Further research is needed [\[R\]](#).

A study of 23 female BRCA carriers showed that daily DIM supplementation reduced breast density, a cancer risk indicator, over one year, without significant side effects. Further large-scale studies are needed to confirm these results [\[R\]](#).

72



Kelp

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a kelp supplement daily, ensuring the dosage aligns with the product's label, typically ranging from 600 to 1000 micrograms of iodine. It's important to not exceed the recommended dosage to avoid potential thyroid issues. Use for ongoing nutritional support, especially if your diet lacks iodine.

TYPICAL STARTING DOSE

500 mg

Description

Kelp is a type of seaweed rich in iodine and other minerals. Incorporating kelp into the diet may help support thyroid function and provide essential nutrients.

Kelp is a source of iodine, vitamins K, A, C, E, and B-vitamins, along with some thiamin, riboflavin, and niacin. The highest type is kombu kelp, which contains 2,984 mcg of iodine per seaweed sheet (1 gram).

How it helps

A study of 15 postmenopausal women, 10 of whom were breast cancer survivors, looked at the effects of brown seaweed supplementation over a 3-month period (alternating with placebo). **Seaweed decreased an important marker of breast cancer** recurrence (receptor uPAR) by half after 4 weeks [\[R, R\]](#).

73



Onion

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate raw or cooked onions into your daily meals, aiming for about a half to one whole onion per day, depending on your taste preference and tolerance. This can be done by adding onions to salads, sandwiches, soups, or as a cooked ingredient in various dishes.

Description

Onions are a flavorful and versatile vegetable grown around the world. They are rich in antioxidants, vitamins, and minerals, like B-vitamins, vitamin C, phosphorus, and magnesium. Incorporating onions into your diet may promote heart health, improve immune function, and contribute to overall well-being.

How it helps

In a non-placebo-controlled trial of 56 breast cancer patients receiving doxorubicin-based chemotherapy, consuming fresh yellow onion (300-160 g/day) for 8 weeks reduced tumor markers and improved liver enzymes [\[R\]](#).

74



Fasting Mimicking Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Adopt a fasting mimicking diet for 5 consecutive days per month, consuming between 750 and 1,100 calories per day consisting mostly of plant-based soups, vegetables, nuts, seeds, and herbal teas. Ensure adequate hydration. Resume a normal, healthy diet for the remaining days of the month.

Description

The fasting mimicking diet is a dietary approach that involves cycles of fasting and calorie restriction to potentially promote longevity and metabolic health. It is currently an area of research interest for its possible health benefits.

How it helps

Eating a fasting mimicking diet as an add-on to cancer therapy improved emotional, physical, role, cognitive, and social functioning while reducing fatigue, nausea, insomnia, and chemotherapy-induced DNA damage, in a non-placebo-controlled trial of 131 breast cancer patients [\[R, R\]](#).

75



Pyridoxine (Vitamin B6)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a pyridoxine (vitamin B6) supplement daily. Requirements range from 1.3 to 1.7 milligrams per day for adults, but supplement doses usually start from 50 mg. Consult with a healthcare provider for higher doses or specific medical conditions that might benefit from increased supplementation.

TYPICAL STARTING DOSE

50 mg

Description

A **vitamin B6 supplement** of up to 1.3-1.7 mg per day can be taken to meet needs not achieved through diet. Long term supplementation of vitamin B6 can be problematic, so talk to your doctor before using.

How it helps

People with certain gene variants may have higher risk of breast cancer if their vitamin B6 intake is low [\[R, R, R\]](#).

 PERSONALIZED TO YOUR GENES

People with your [MTHFR](#) gene variant may have a higher risk of breast cancer if their vitamin B6 intake is low [\[R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
MTHFR	rs1801133	AA	

76



Vitamin E

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 200 IU of Vitamin E daily as a supplement, preferably with a meal that contains fat to enhance absorption.

TYPICAL STARTING DOSE

200 iu

Description

Vitamin E is a fat-soluble antioxidant found in various foods, such as nuts and seeds. It is known for its ability to protect cells from oxidative damage, support immune function, and may play a role in skin health. Vitamin E supplements are used to bolster antioxidant defenses and may be beneficial for conditions related to oxidative stress.

[Vitamin E](#) is an antioxidant important for the immune system and for heart health [\[R\]](#).

Plant-based foods have the most vitamin E. These include [\[R\]](#):

- Wheat germ
- Sunflower seeds
- Almonds
- Plant oils

Adults need about **15 mg** of vitamin E per day [\[R\]](#).

How it helps

High vitamin E intake may reduce the risk of breast cancer more in people with certain gene variants [\[R\]](#).

 PERSONALIZED TO YOUR GENES

High vitamin E intake may reduce the risk of breast cancer more in people with your [NOS3](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
NOS3	rs2070744	TC	

77



Avoid Acrylamide

IMPACT

0 / 5

EVIDENCE

3 / 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

Three reviews and meta-analyses found no significant link between dietary acrylamide intake and breast, endometrial, or ovarian cancer risk. Most cancer types showed no meaningful associations, except for a borderline link with kidney cancer. Among never-smokers, there were borderline associations with endometrial and ovarian cancers. Some differences were noted in relation to menopausal status and breast cancer risk, with a linear association in premenopausal women. Overall, dietary acrylamide wasn't strongly linked to common cancers, except for potential associations in specific cases [\[R, R, R\]](#).

78



Chicory

IMPACT

0 / 5

EVIDENCE

0 / 5

Description

Chicory is a nutrient-rich vegetable that has been shown to have a number of health benefits. It is a good source of fiber, vitamin K, and antioxidants. Chicory may also help to improve digestion, lower blood sugar levels, and boost the immune system.

How it helps

In a placebo-controlled trial of 96 breast cancer survivors on hormone deprivation therapy, taking a traditional Persian medicine syrup containing chicory and fumitory extracts for 4 weeks significantly reduced hot flash frequency and severity by 57%, compared to a 10% reduction with the placebo [\[R\]](#).

79



Vegetables

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least 2-3 cups of various vegetables into your daily diet, ensuring a mix of colors like greens, reds, and yellows to maximize nutrient intake. Aim to include vegetables in most meals, either as a side, part of the main dish, or snacks.

Description

Vegetables are edible parts of plants that offer various health benefits due to their rich nutrient content, including vitamins, minerals, fiber, and antioxidants. They are essential components of a balanced diet and contribute to overall health, supporting various bodily functions.

How it helps

Eating a variety of vegetables provides essential nutrients and antioxidants that can help lower the risk of breast cancer.

80



Shiitake Mushroom

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take shiitake mushroom in supplement form, typically ranging from 500 to 1,000 mg per day, divided into two or three doses. It can be consumed with or without food. Continue this regimen daily for at least one to two months to observe potential health benefits.

TYPICAL STARTING DOSE

500 mg

Description

Shiitake mushrooms are edible fungi native to east Asia. They contain compounds like lentinan, which may have immune-boosting properties.They are also rich in vitamins, minerals, and compounds like beta-glucans, which are believed to support immune health and overall well-being.

How it helps

In an uncontrolled trial of 7 patients with breast or gastrointestinal cancer, supplementation with shiitake mushroom extract (1800 mg/day) as an add-on to chemotherapy for 4 weeks improved quality of life, NK cell activity, and immunosuppressive acidic protein levels [R].

81



Limit Asparagine Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

Description

Asparagine is a non-essential amino acid. Our bodies can make asparagine from aspartate and glutamine [R].

Asparagine can also be found in meat, fish, eggs, dairy, legumes, nuts, seeds, potatoes, and whole grains.

Asparagine has important roles in:

- Building amino acids
- Brain function
- Liver detoxification

For individuals with certain health conditions, moderating asparagine intake could potentially be beneficial. This doesn't mean asparagine-rich foods entirely but rather focusing on a balanced diet that doesn't overly rely on high-asparagine foods.

How it helps

The availability of asparagine may have a big impact on breast cancer's ability to spread to other parts of the body, a process known as metastasis. Using animal experiments, researchers found that reducing the levels of asparagine by decreasing its production in the body or cutting down asparagine in the diet may lower the risk of metastasis without harming the original tumor. The effects of this approach on humans are unclear. Specific studies in humans should still be done [R, R].

Limiting asparagine intake as a precautionary measure against cancer metastasis is an emerging area of research and should be considered within the context of overall dietary and health needs. Before making any significant dietary changes, it's important to consult with healthcare professionals, such as a dietitian or a doctor, who can provide personalized advice based on individual health status and nutritional requirements.

82



Strength Training

IMPACT

0 / 5

EVIDENCE

0 / 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

Strength training helps improve muscle mass and strength, which can be particularly beneficial for breast cancer survivors. It can help counteract muscle loss due to cancer treatment, improve physical function, and enhance overall quality of life.

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Fumitory

IMPACT

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EVIDENCE

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Description

Fumitory is a plant that has been used for centuries in traditional medicine. It is believed to have a number of health benefits, including the ability to improve digestion, boost the immune system, and relieve pain. However, more research is needed to confirm these benefits.

How it helps

In a placebo-controlled trial of 96 breast cancer survivors on hormone deprivation therapy, taking a traditional Persian medicine syrup containing chicory and fumitory extracts for 4 weeks significantly reduced hot flash frequency and severity by 57%, compared to a 10% reduction with the placebo [\[R\]](#).

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Turnips

IMPACT

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EVIDENCE

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How to implement

Incorporate turnips into your diet 2-3 times a week by adding them to soups, stews, or roasting them as a side dish. You can also shred raw turnips into salads for a crunchy texture.

Description

Turnips are root vegetables from the Brassicaceae family and are rich in vitamins, minerals, and fiber. They are used in cooking for their potential to support weight management, improve digestion, and provide essential nutrients like vitamin C and potassium.

How it helps

Certain gene variants have been associated with an increased risk of breast cancer, especially in people with a low intake of turnips and other cruciferous vegetables [\[R\]](#).

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.