

Mucositis

DNA Health Report

REPORT CATEGORY —



GUT HEALTH

Sample Client

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DISCLAIMER

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

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



How this works

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



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



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

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



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

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

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



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

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

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

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

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



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

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



Impact

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

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

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

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

Recommendation Evidence

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

Genotype-specific Evidence

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

Some things to keep in mind:

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

Introduction

Mucositis is an inflammatory condition that affects the mucous membranes lining the digestive tract from the mouth to the anus. It primarily develops in the oral cavity, where it is known as oral mucositis.

The condition often arises as a painful and debilitating side effect of cancer treatments such as chemotherapy and radiation therapy, which can cause damage to the mucosal linings. In severe cases, it can lead to ulcers and infections, making eating, drinking, and swallowing difficult, thereby impairing a patient's nutritional intake and quality of life.

Symptoms and Management

Symptoms of mucositis can range from mild redness and soreness to severe ulcers and bleeding in the affected mucosa. The onset usually begins a few days after the initiation of chemotherapy or radiation and may last for weeks, depending on the treatment's duration and intensity.

Management strategies for mucositis may include pain management through analgesics, mouthwashes to reduce the risk of infections, and interventions like low-level laser therapy. In addressing this condition, healthcare providers aim to minimize discomfort, prevent secondary infections, and promote the healing of the mucosal linings.



TYPICAL LIKELIHOOD

Typical likelihood of mucositis based on 6,289 genetic variants we looked at



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	Glutamine	5 g	2	Honey	
3	Propolis		4	Topical Honey	
5	Topical Propolis		6	Mulberry	
7	Turmeric		8	Aloe Vera	50 mg
9	Chewing		10	Low-Level Laser Therapy (LLLT)	30 seconds
11	Milk Thistle (Silymarin)	300 mg	12	Extra Virgin Olive Oil (EVOO)	
13	Royal Jelly	300 mg	14	Curcumin BCM95	1000 mg
15	Topical Chamomile		16	Apple Cider Vinegar	
17	Zinc	15 mg	18	Alanylglutamine	1 g
19	Topical Aloe Vera		20	Probiotic Yogurt	
21	Good Oral Hygiene	2 minutes	22	Dietary Omega-3 Fatty Acids	
23	Curcumin	500 mg	24	Topical Coconut Oil	
25	Lactobacillus Rhamnosus	10 billion CFU	26	Lactobacillus Brevis	10 billion CFU
27	Topical Honeybush		28	Vitamin E	200 iu
29	Topical Licorice Root		30	Zinc and Folate	
31	Lactoferrin	100 mg			

1



Glutamine

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 5 to 10 grams of glutamine powder, mixed with water or another beverage, daily. It can be divided into two servings, one in the morning and the other in the evening. This supplementation is generally considered safe for long-term use, but it's best to consult with a healthcare provider for personalized advice.

TYPICAL STARTING DOSE

5 g

Description

Glutamine is an amino acid that plays a role in various bodily functions, including immune support and gut health. It may help with muscle recovery and overall well-being, particularly for individuals engaging in strenuous exercise.

L-glutamine is an amino acid produced by the body. Its levels may decrease during periods of stress or illness. It is important for protein and energy production, and helps control kidney pH balance [\[R\]](#).

Some people take L-glutamine as a supplement to help with [\[R\]](#):

- Gut health
- Immunity
- Exercise recovery and muscle performance
- Brain health

How it helps

Glutamine is an amino acid that plays a key role in the health of the intestinal lining. It can help repair and regenerate the mucosal lining, reducing the symptoms of mucositis and promoting faster healing.

Meta-analyses reveal glutamine's varying impact on oral mucositis (OM) in cancer patients. While it didn't affect incidence in head and neck cancer patients undergoing radiation, it reduced severity and complications. In head and neck cancer patients, glutamine significantly reduced both the risk and severity of radiation-induced OM. However, in a broader study involving cancer patients undergoing chemotherapy and/or radiotherapy, glutamine didn't alter OM incidence but improved severity and adverse reactions. Further research is needed to validate the findings [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

2



Honey

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Consume 1-2 tablespoons of raw honey daily, either directly or by mixing it into warm water, tea, or yogurt. Continue this practice regularly to observe benefits.

Description

Honey is a natural sweetener known for its antimicrobial properties and potential benefits for wound healing. It contains antioxidants and may have soothing effects on sore throats and coughs.

[Honey](#) is a thick, sweet substance. It’s made by honeybees from the nectar of flowering plants. There are many different types of honey. Besides sugar, honey also contains amino acids (protein building blocks), vitamins, and minerals [\[R\]](#).

People use honey for its anti-inflammatory and antioxidant properties. It can potentially help with [\[R\]](#):

- Heart problems
- Gut problems
- Cough
- Burns

How it helps

Honey has natural antibacterial and wound-healing properties. Applying honey to mucositis lesions can help reduce pain, inflammation, and speed up the healing process.

This series of meta-analyses and systematic reviews collectively suggest that honey treatment can significantly mitigate the incidence, severity, and complications of oral mucositis in cancer patients undergoing radiotherapy or chemotherapy. The studies indicate that honey helps delay the onset of mucositis, reduces treatment interruptions, alleviates pain, and may prevent weight loss, with an 80% relative risk reduction observed. However, the evidence quality varies, and further robust randomized controlled trials are needed to confirm these benefits and formulate solid clinical recommendations [\[R, R, R, R, R, R, R\]](#).

3



Propolis

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take a propolis supplement in capsule or tablet form, typically ranging from 500mg to 1000mg per day. It's best to follow the dosage instructions on the product label or a healthcare provider's advice. Propolis can be taken continuously, but consult a healthcare provider for specific durations especially if it exceeds three months.

Description

Propolis is a resinous substance collected by bees from tree buds and used to seal their hives. It has been traditionally used in natural medicine for its potential antimicrobial properties and as a source of antioxidants that may support oral and immune health.

Propolis is a waxy compound, also known as “bee glue.” Honeybees make it from plants and use it to build, repair, and protect their hives [\[R\]](#).

People use propolis to potentially help [\[R\]](#):

- Reduce the appearance of acne
- Maintain oral health
- Support the immune system

How it helps

Propolis has anti-inflammatory and therapeutic properties that can help speed up the healing of mucosal tissues affected by mucositis.

According to several meta-analyses, propolis may improve oral mucositis caused by cancer therapy. Both oral and topical propolis may help [\[R, R, R\]](#).

4



Topical Honey

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Apply a thin layer of raw, unpasteurized honey directly to the affected area of the skin. Cover it with a sterile bandage and leave it on for at least 1 hour, or overnight for best results. Repeat daily until improvement is seen.

Description

Honey is a natural topical application known for its moisturizing, antibacterial, and wound-healing properties. It is used to soothe dry skin, promote skin repair, and address minor burns and cuts.

[Honey](#) is a thick, sweet substance. It’s made by honeybees from the nectar of flowering plants. There are many different types of honey. For example, kanuka honey is made from the flowers of the New Zealand kanuka tree [\[R\]](#), [\[R\]](#).

Besides sugar, honey also contains amino acids (protein building blocks), vitamins, and minerals [\[R\]](#).

People use honey for its anti-inflammatory and antioxidant properties. It may help with [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart problems
- Gut problems
- Cough
- Skin problems

How it helps

Honey, when applied topically, has been shown to effectively manage mucositis symptoms. Its natural antibacterial and wound-healing properties promote faster healing of mucositis ulcers, reduce inflammation, and alleviate pain.

This series of meta-analyses and systematic reviews collectively suggest that honey treatment can significantly mitigate the incidence, severity, and complications of oral mucositis in cancer patients undergoing radiotherapy or chemotherapy. The studies indicate that honey helps delay the onset of mucositis, reduces treatment interruptions, alleviates pain, and may prevent weight loss, with an 80% relative risk reduction observed. However, the evidence quality varies, and further robust randomized controlled trials are needed to confirm these benefits and formulate solid clinical recommendations [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

5



Topical Propolis

IMPACT3 / 5

EVIDENCE2 / 5

How to implement

Apply a thin layer of topical propolis cream or ointment directly to the affected area of skin 2 to 3 times daily. Continue this application daily for 1 to 2 weeks or as needed for symptom improvement.

Description

Propolis is a resinous substance produced by bees and is rich in various bioactive compounds. It is often used topically for its potential antibacterial and wound-healing properties, making it beneficial for minor skin irritations and abrasions.

Propolis is a waxy compound, also known as “bee glue.” Honeybees make it from plants and use it to build, repair, and protect their hives [\[R\]](#).

Green propolis is a special type of propolis made from the *Baccharis dracunculifolia* tree. This plant commonly grows in Brazil [\[R\]](#).

People use propolis to potentially help [\[R\]](#):

- Reduce the appearance of acne
- Maintain oral health
- Support the immune system

How it helps

Propolis has anti-inflammatory and therapeutic properties that can help speed up the healing of mucosal tissues affected by mucositis.

According to several meta-analyses, propolis may improve oral mucositis caused by cancer therapy. Both oral and topical propolis may help [\[R, R, R\]](#).

6



Mulberry

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a mulberry supplement at a dosage of 500mg to 1,000mg per day, preferably with meals to enhance absorption. This should be continued daily for at least 3 months to observe potential health benefits.

Description

Mulberries are the fruit of the mulberry tree, often used in traditional medicine and cuisine. It is a source of vitamins and antioxidants, potentially offering health benefits such as blood sugar control and immune support.

How it helps

In head and neck cancer patients undergoing radiation therapy, adding black mulberry molasses reduced oral mucositis incidence and severity significantly. Quality of life scores showed no difference between groups, suggesting mulberry molasses as a promising preventive intervention, warranting further research [\[R\]](#).

In a study of 40 COPD patients, gargling black mulberry syrup thrice daily for 15 days significantly reduced oral mucositis scores compared to controls. Healing time averaged 9.1 days with intervention versus 12.1 days for controls, suggesting mulberry syrup accelerates healing and alleviates symptoms [\[R\]](#).

In a non-randomized controlled trial with stem cell transplantation patients, black mulberry and calcium-phosphate solutions showed benefits in preventing and treating oral mucositis compared to chlorhexidine-benzydamine solution [\[R\]](#).

7



Turmeric

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Incorporate 500-1000 mg of turmeric into your daily diet, either by adding ground turmeric spice to your food, such as in curries, soups, and smoothies, or by taking a dietary turmeric supplement. This should be done daily for at least 8 weeks to observe potential health benefits.

Description

Turmeric is a bright yellow spice derived from the root of the Curcuma longa plant. It contains curcumin, a potent antioxidant and anti-inflammatory compound. Turmeric is used for various health conditions, including reducing inflammation, alleviating joint pain, and supporting digestive health.

How it helps

Meta-analysis of 582 HNC patients shows curcumin/turmeric reduces the severity and delays the onset of radiation-induced oral mucositis, and effectively manages pain, with no serious adverse effects [\[R\]](#).

8



Aloe Vera

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take a 50 mg Aloe vera supplement daily, with a glass of water, preferably at the same time each day to maintain consistency.

TYPICAL STARTING DOSE

50 mg

Description

Aloe vera is a succulent plant native to arid regions and contains a gel-like substance in its leaves that is rich in vitamins, minerals, and antioxidants, making it beneficial for soothing skin irritations, promoting wound healing, and providing relief from conditions such as sunburn and minor burns. The primary active compounds in aloe vera gel include polysaccharides, vitamins like vitamin C and E, and minerals such as zinc, which contribute to its healing and anti-inflammatory effects.

[Aloe vera](#) lives in the desert, and its thick leaves store water in the form of a gel [\[R\]](#).

People use aloe gel to help soften the skin and soothe burns [\[R\]](#).

Oral aloe supplements may help with blood sugar and gut health [\[R\]](#).

How it helps

In cancer patients receiving radiotherapy, mouthwashes with *Aloe vera* may improve and prevent radiation-induced mucositis [\[R\]](#), [\[R\]](#), [\[R\]](#).

9



Chewing

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate chewing thoroughly into your daily eating habits by ensuring each bite is chewed 20-30 times before swallowing. Practice this technique at every meal and with snacks to improve digestion and satiety.

Description

Chewing can help to reduce the tendency to overeat by keeping your mouth busy and providing a sense of fullness. It can also help to improve your metabolic rate and increase your energy levels. Additionally, chewing can help to improve your attention span and reduce stress levels.

How it helps

In a non-placebo-controlled trial of 145 children receiving chemotherapy, oral care with 5 pieces of chewing gum per day reduced grade 1-4 oral mucositis [\[R\]](#).

10



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

Low-Level Laser Therapy (LLLT) has emerged as an effective treatment for reducing the severity and pain of mucositis in patients undergoing cancer treatment. LLLT helps by promoting cell repair and regeneration, reducing inflammation, and providing analgesic effects, thus accelerating the healing process of oral mucositis.

Meta-analyses of studies on oral mucositis (OM) treatment suggest combined cryotherapy and low-level laser therapy (LLLT) as most effective, followed by LLLT alone. Adequate LLLT doses (>1 J) show better preventive effects. Both prophylactic and therapeutic LLLT reduce severe OM risk, duration, and pain. Recommended parameters include red or infrared LLLT with specific doses. However, variations in protocols and outcome measurements across studies warrant cautious interpretation and emphasize the need for further unbiased research [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

11



Milk Thistle (Silymarin)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 300 mg milk thistle (silymarin) supplement daily with water, preferably with a meal for better absorption. Continue this regimen as advised by your healthcare provider.

TYPICAL STARTING DOSE

300 mg

Description

Silymarin is a natural plant extract derived from the milk thistle plant (*Silybum marianum*). It has been traditionally used for its potential anti-inflammatory and liver-protective properties. Silymarin consists of several flavonolignans, including silybin, silydianin, and silychristin.

Milk thistle (*Silybum marianum*) is a purple flowering plant in the daisy family. Traditionally, it has been used for liver problems. Some people also eat the leaves in salads [\[R\]](#), [\[R\]](#).

The extract of milk thistle is called *silymarin* [\[R\]](#), [\[R\]](#), [\[R\]](#).

People use milk thistle to help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Liver problems
- Blood sugar control
- Indigestion
- Skin problems

How it helps

A pilot study showed that silymarin significantly reduced the severity and delayed the onset of radiation-induced mucositis in head and neck cancer patients compared to placebo over six weeks of treatment [\[R\]](#).

12



Extra Virgin Olive Oil (EVOO)

IMPACT1 / 5

EVIDENCE1 / 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

A study on 42 children with leukemia found that Manuka honey reduced oral mucositis severity and pain significantly compared to a control group, while olive oil also reduced pain [\[R\]](#).

A double-blind, randomized trial compared lycopene-enriched olive oil and a placebo for treating burning mouth syndrome (BMS) in 60 patients. Both groups showed improved symptoms and oral quality of life, with no adverse effects observed. Compliance issues affected the sample size [\[R\]](#).

This randomized trial on 90 acute lymphoblastic leukemia patients with oral mucositis grades 2 and 3 found that honey accelerated recovery significantly compared to a honey-olive oil-propolis extract-beeswax mixture (HOPE) and control groups [\[R\]](#).

13



Royal Jelly

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a royal jelly supplement daily, starting with a dose of approximately 300 mg to 500 mg. It can be consumed either in capsule form or directly, depending on your preference, for a period ranging from 3 to 6 months to observe the potential health benefits.

TYPICAL STARTING DOSE

300 mg

Description

Royal jelly is a nutrient-rich substance secreted by worker bees to feed bee larvae and the queen bee. Royal jelly contains protein B-vitamins, calcium and iron. It is taken as a supplement for it's potential energy-boosting and immune-supporting properties.

How it helps

In a [placebo-controlled trial of 103 patients undergoing radiotherapy and chemotherapy](#), swishing and swallowing royal jelly (1 g, 2x/day) **improved the signs and symptoms of oral mucositis and markedly shortened its healing time** [\[R\]](#).

14



Curcumin BCM95

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of BCM-95 curcumin twice daily with meals to ensure better absorption. Continue this regimen for at least 8 to 12 weeks to evaluate its benefits on your condition.

TYPICAL STARTING DOSE

1000 mg

Description

Curcumin BCM95 is a bioavailable form of curcumin that may enhance the absorption and effectiveness of curcumin in the body. It is often used in supplements to harness the potential health benefits of curcumin.

How it helps

In a placebo-controlled trial of 60 cancer patients with oral mucositis, supplementation with curcumin BCM95 (1-1.5 g/day for 6 weeks) reduced chemoradiotherapy-induced severe oral mucositis, dysphagia, oral pain, and dermatitis [\[R\]](#).

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

15



Topical Chamomile

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Apply a chamomile cream or ointment directly to the affected area of the skin 2-3 times daily. Ensure the skin is clean before application. Continue use for as long as symptoms persist or according to the product's specific instructions.

Description

Chamomile extract, obtained from the flowers of the Matricaria chamomilla plant, is used topically for its anti-inflammatory and calming properties. It is commonly applied to soothe irritated skin and alleviate conditions like dermatitis.

How it helps

In a non-placebo-controlled trial of 45 patients undergoing chemotherapy, a 3% chamomile oral topical gel applied for 3 weeks as an add-on to conventional treatment reduced mucositis pain better than conventional treatment alone [\[R\]](#).

Chamomile has anti-inflammatory and healing properties that can help soothe the mucosal lining, reducing discomfort and the duration of mucositis symptoms.

16



Apple Cider Vinegar

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 1-2 tablespoons of apple cider vinegar into your diet daily by diluting it in a large glass of water. Consume this mixture before meals to potentially benefit from its effects.

Description

Apple cider vinegar is a fermented liquid made from crushed apples and is known for its potential health benefits. It is rich in acetic acid and may aid in weight management, improve digestion, and help regulate blood sugar levels, often used as a natural remedy for various conditions like acid reflux and insulin resistance.

[Vinegar](#) is often used in cooking to add sour flavor and to preserve foods through pickling. Some people also use vinegar for cleaning [\[R\]](#).

Apple cider vinegar is one of the most common vinegars produced from apples. As a health food, apple cider vinegar may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce blood sugar
- Lower cholesterol
- Fight infections

How it helps

In a study with 60 subjects, comparing chlorhexidine and grape vinegar with rose water mouthwash for chemotherapy-induced oral mucositis, both treatments decreased mucositis. The grape vinegar solution showed similar effectiveness to chlorhexidine, indicating a potential alternative treatment [\[R\]](#).

17



Zinc

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

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

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [\[R\]](#).

Adults should get **8-11 mg of zinc** per day [\[R\]](#).

How it helps

Zinc is essential for immune function and cell growth. Supplementing with zinc can help improve wound healing in mucositis by supporting the regeneration of mucosal tissues.

18



Alanylglutamine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take alanylglutamine as a dietary supplement by mixing the prescribed dose, typically around 1 to 3 grams, into a beverage of your choice, such as water or juice. Consume this mixture once daily, preferably post-exercise or as directed by a healthcare professional.

TYPICAL STARTING DOSE

1 g

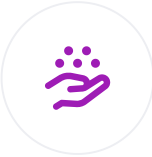
Description

Alanylglutamine is a dipeptide composed of the amino acids alanine and glutamine. It is used as a dietary supplement and is believed to support gut health and recovery from exercise.

How it helps

Alanylglutamine, a form of the amino acid glutamine, helps reduce inflammation and promotes healing of the mucosal lining affected by mucositis.

19



Topical Aloe Vera

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a thin layer of pure aloe vera gel extracted directly from the aloe plant or an aloe vera-based product directly to the affected area. Gently rub it in until it is absorbed. Repeat this application 2-3 times daily until the symptoms improve.

Description

Aloe vera is a plant-derived gel known for its skin-soothing and healing properties. Topical applications of aloe vera are commonly used to relieve sunburn, minor burns, and skin irritation, promoting faster healing and reducing discomfort.

[Aloe vera](#) lives in the desert, and its thick leaves store water in the form of a gel [\[R\]](#).

Topical aloe vera may help soothe burns and skin conditions [\[R\]](#).

Oral aloe vera may help with blood sugar and gut health [\[R\]](#).

How it helps

Topical Aloe vera gel helps in reducing the severity of mucositis caused by radiation therapy. Its soothing properties aid in the healing of oral lesions and provide relief from the pain and discomfort associated with mucositis.

20



Probiotic Yogurt

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Consume one to two servings of probiotic yogurt each day. Each serving is typically 6 to 8 ounces. Continue this practice daily for at least 1 to 2 weeks to begin noticing benefits to digestive health.

Description

Probiotic yogurt is a dairy product containing live probiotic cultures like Lactobacillus and Bifidobacterium, which can aid digestion and improve gut health when consumed regularly. It is a good source of calcium, protein, and probiotics, contributing to bone health and digestive well-being.

How it helps

Probiotic yogurt containing live cultures can help maintain a healthy balance of bacteria in the mouth and gut. This aids in reducing the incidence of mucositis by enhancing the immune response and potentially preventing the growth of harmful bacteria.

21



Good Oral Hygiene

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Brush your teeth at least twice a day for two minutes each time using fluoride toothpaste. Floss daily to remove plaque from places your toothbrush can't reach and consider using mouthwash. Visit your dentist at least twice a year for professional cleanings and checkups.

TYPICAL STARTING DOSE

2 minutes

Description

Good oral hygiene, which includes regular brushing, flossing, and dental check-ups, is crucial for preventing tooth decay, gum disease, and maintaining overall oral health. A healthy mouth contributes to overall well-being and can prevent dental issues that may impact systemic health.

Oral hygiene refers to practices that keep the mouth healthy. Good habits include [R](#), [R](#):

- Gently brushing the teeth and tongue for two minutes, at least twice a day
- Flossing daily
- Using a toothpaste with fluoride and a soft toothbrush
- Replacing a worn toothbrush at least every 3 months

To help maintain good oral hygiene, it is also important to regularly see dental professionals. They can help prevent and address issues with your teeth and gums.

How it helps

Practicing good oral hygiene is vital for patients undergoing cancer therapies, as it helps to reduce the risk of mucositis. A regimen that includes regular brushing, flossing, and sometimes the use of a specialized mouthwash can decrease the amount of bacteria in the mouth, potentially lessening the severity and duration of mucositis symptoms.

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Dietary Omega-3 Fatty Acids

IMPACT

0 / 5

EVIDENCE

0 / 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

Omega-3 fatty acids have anti-inflammatory properties that can reduce inflammation and promote healing of the mucosal lining, which is beneficial for managing mucositis.

23



Curcumin

IMPACT

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EVIDENCE

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How to implement

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

TYPICAL STARTING DOSE

500 mg

Description

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

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

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

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

How it helps

Curcumin, found in turmeric, has strong anti-inflammatory and antioxidant properties that can help reduce the severity of mucositis and speed up healing.

24



Topical Coconut Oil

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a small amount of coconut oil directly to the skin area you wish to treat, gently massaging it in until absorbed. Do this process 1-2 times daily, preferably after showering to help retain moisture. The duration of use depends on the condition being treated but generally ranges from a few days to ongoing as needed for skin hydration and protection.

Description

Coconut oil is a natural plant-derived topical application obtained from coconuts. It is used for its moisturizing and antimicrobial properties, making it suitable for skincare, haircare, and as a general moisturizer.

How it helps

Coconut oil, used as a mouthwash (oil pulling), can reduce the pain and inflammation of mucositis. Its moisturizing and anti-inflammatory properties help in soothing the affected oral mucosa.

25



Lactobacillus Rhamnosus

IMPACT

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EVIDENCE

0 / 5

How to implement

Take a probiotic supplement containing Lactobacillus rhamnosus. Typically, the suggested dose is 10 billion CFUs (colony-forming units) per day. This can be taken as a single daily dose or divided into two doses, morning and evening, with or without food. Continue this regimen for at least 4 weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

[Lactobacillus rhamnosus](#) is a [probiotic](#) bacterium, part of the normal gut microflora. Various foods may have added *L. rhamnosus*, including yogurt, cheese, and fermented legumes [\[R\]](#), [\[R\]](#).

People take *L. rhamnosus* supplements to balance their immune system and help with infections, allergies, and dermatitis [\[R\]](#).

How it helps

Lactobacillus rhamnosus is a beneficial bacteria that supports mucosal health by reducing inflammation and enhancing the body's natural healing processes.

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Lactobacillus Brevis

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a supplement containing Lactobacillus brevis, usually found in dosages around 10 billion CFUs (colony-forming units), once daily. This can be taken with or without food, but consistency in timing can help maintain intestinal balance. Continue supplementation as directed on the product label or by a healthcare provider, which is often recommended for a minimum of one to two months to evaluate benefits.

TYPICAL STARTING DOSE
10 billion CFU

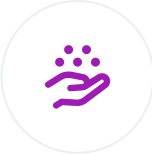
Description

Lactobacillus brevis is a beneficial bacteria strain often found in probiotic supplements. It can contribute to digestive health and overall well-being by promoting a balanced gut microbiome.

How it helps

Lactobacillus brevis is a probiotic that can help reduce inflammation and promote healing in the mucosal lining of the mouth, which can alleviate symptoms of mucositis.

27



Topical Honeybush

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a thin layer of honeybush extract cream or gel to the affected area of the skin once or twice daily, allowing it to absorb fully. Continue usage for at least 2-4 weeks to see improvements in skin conditions such as irritation or inflammation.

Description

Honeybush extracts, obtained from the indigenous South African plant, are used topically for their potential antioxidant and anti-inflammatory effects. They may support skin health and soothe skin irritations.

How it helps

Honeybush contains compounds with anti-inflammatory and antimicrobial effects, which can soothe and protect the mucosal lining, helping to reduce symptoms of mucositis.

28



Vitamin E

IMPACT

0 / 5

EVIDENCE

0 / 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

Vitamin E is known for its antioxidant properties, which can help in protecting mucous membranes from damage and in reducing inflammation. It can help in reducing the severity of mucositis symptoms, promoting healing in the tissues affected by this condition.

29



Topical Licorice Root

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a thin layer of licorice root extract cream or gel directly to the affected skin areas twice daily, morning and evening, for at least two to four weeks to see improvements.

Description

Licorice root, derived from the Glycyrrhiza plant, is used topically for its anti-inflammatory and soothing properties. Its main compound, glycyrrhizin, can help alleviate skin conditions such as eczema, psoriasis, and dermatitis.

[Licorice](#) (*Glycyrrhiza glabra*) is a plant used to flavor candy and drinks [\[R\]](#).

Its root has long been used in folk medicine. Today, people use it for sore throats, digestive problems, and itchy skin. Its compound *licochalcone A* may also help with rosacea [\[R\]](#).

How it helps

Licorice root has anti-inflammatory and soothing properties that can help reduce irritation and promote healing of the mucosal tissue in mucositis.

30



Zinc and Folate

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a zinc supplement of 15 mg per day and a folate supplement of 400-800 mcg per day with a glass of water, preferably with a meal to enhance absorption. Continue this regimen daily for at least three months to observe benefits.

Description

Zinc and folate are essential nutrients found in various foods, with zinc predominantly sourced from animal products and folate from leafy greens and legumes. Zinc plays a crucial role in immune function and wound healing, while folate is vital for cell division and the prevention of neural tube defects during pregnancy.

Zinc and [vitamin B9](#) (*folate*) are essential nutrients. Among other roles, they help make DNA and protect it from damage [\[R\]](#), [\[R\]](#).

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [\[R\]](#).

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

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

How it helps

Zinc and Folate have been found to aid in the healing process of mucositis by promoting tissue repair and reducing inflammation.

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Lactoferrin

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 100-200 mg of lactoferrin supplement per day, preferably on an empty stomach to enhance its absorption. Continue this regimen daily for 8 to 12 weeks to observe beneficial effects.

TYPICAL STARTING DOSE
100 mg

Description

Lactoferrin is a protein found in milk and other bodily fluids that has been studied for its potential health benefits, including immune system support and antimicrobial properties. It plays a role in promoting gut health.

Lactoferrin is a protein found in milk. It can bind to iron and travel all around the body [R].

Lactoferrin may help support [R, R]:

- Immunity
- Iron status

How it helps

Lactoferrin is a protein that can reduce inflammation and help with tissue repair, thereby mitigating the effects of mucositis.

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 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.

