

Burning Mouth Syndrome

DNA Health Report

REPORT CATEGORIES —



DENTAL & MOUTH
HEALTH



NERVE HEALTH

Sample Client

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Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

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.



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

Burning mouth syndrome (BMS) is a complex, vexing condition characterized by a persistent sensation of burning in the mouth without any clear cause. People with this syndrome may experience a scalding sensation that affects the tongue, lips, gums, palate, throat or whole mouth.

BMS is often accompanied by a bitter or metallic taste and dry mouth sensation, adding discomfort to the burning feeling. The exact pathophysiology of BMS is not fully understood, but it is thought to involve multifactorial processes including neuropathic changes, hormonal alterations, and psychological factors.

Diagnosis and Treatment

Individuals suffering from burning mouth syndrome report that symptoms typically worsen throughout the day and may peak by evening, often causing distress and affecting quality of life. The condition can appear suddenly or develop gradually and persist for a long period. Diagnosis is challenging due to the absence of visible mouth abnormalities and requires ruling out other possible causes of oral burning.

Treatment for BMS is similarly complex and aims to manage symptoms, as a definitive cure is elusive. Therapeutic strategies may include nutritional supplements, saliva substitutes, cognitive-behavioral therapy, and various types of medication to alleviate discomfort.



TYPICAL LIKELIHOOD

Typical likelihood of burning mouth syndrome based on 3 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
DRD2	rs6277	GG
IL1B	rs16944	AG
IL1B	rs1143634	GG

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	Infrared Light Therapy	2	Alpha-Lipoic Acid600 mg
3	Low-Level Laser Therapy (LLLT)30 seconds	4	Topical Capsaicin
5	Chewing	6	Palmitoylethanolamide (PEA)
7	L-Carnitine1 g	8	Vitamin B12100 mcg
9	Alpha-GPC Choline300 mg	10	Good Oral Hygiene2 minutes
11	Topical Alpha-Lipoic Acid	12	Acetyl-L-Carnitine500 mg
13	Zinc15 mg	14	Cognitive-Behavioral Therapy (CBT)
15	Vitamin B12 And Folate	16	Topical Aloe Vera

1



Infrared Light Therapy

IMPACT2 / 5

EVIDENCE3 / 5

Description

Infrared light therapy is a type of light therapy that uses infrared light to improve circulation, reduce pain, and promote healing. It has been shown to be effective in treating a variety of conditions, including arthritis, chronic pain, and wound healing.

How it helps

Two meta-analyses (the largest one with 14 trials) concluded that photobiomodulation with infrared light reduces pain and improves quality of life in people with burning mouth syndrome. However, red light was more effective [\[R, R\]](#).

2



Alpha-Lipoic Acid

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 600-1800 mg of alpha-lipoic acid daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

600 mg

Description

[Alpha-lipoic acid](#) is a natural antioxidant found in almost every cell in your body. People use alpha-lipoic acid to help with issues like skin aging, weight loss, and high blood sugar [\[R, R, R\]](#).

People use alpha-lipoic acid to help with [\[R, R, R, R\]](#):

- Complications of high blood sugar
- Skin aging
- Weight loss
- Carpal tunnel syndrome

How it helps

A systematic review and meta-analysis evaluated the efficacy of alpha-lipoic acid in treating various pain types, focusing on diabetic polyneuropathy. Analyzing 16 studies, ALA was found effective in reducing neuropathic pain symptoms, including stabbing pain, burning, and numbness, across both intravenous and oral administrations [\[R\]](#).

A double-blind placebo-controlled trial of 60 burning mouth syndrome patients found that 64% of ALA-treated patients reported symptom improvement, compared to 27.6% in the placebo group [\[R\]](#).

Alpha-lipoic acid may help by enhancing the body's nerve functions and reducing inflammation.

3



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

A meta-analysis of 14 randomized controlled trials (RCTs) involving 550 patients with Burning Mouth Syndrome (BMS) found that Low-Level Laser Therapy (LLLT) significantly reduced burning pain compared to placebo or clonazepam (SMD: -0.87, 95% CI: -1.29 to -0.45, $P < 0.001$). Although LLLT showed improvements in quality of life and negative emotions, the effects were not statistically significant. Future research should focus on longer intervention periods, larger sample sizes, and multidisciplinary approaches [\[R\]](#).

4



Topical Capsaicin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Apply a capsaicin cream or gel to the affected area 3 to 4 times daily. Make sure the skin is clean and intact before application. Avoid contact with eyes, mouth, and other sensitive areas. Use consistently for several weeks to see improvement.

Description

Capsaicin is a compound found in chili peppers and is used topically in creams and patches for its potential to alleviate pain related to conditions like arthritis, neuropathy, and muscle soreness.

[Capsaicin](#) is the compound that makes chili peppers spicy [\[R\]](#).

People use topical capsaicin to relieve pain and oral capsaicin to aid weight loss [\[R\]](#), [\[R\]](#).

In the short term, capsaicin causes pain. However, **if you’re exposed to a lot of capsaicin over a long period of time, it can reduce your pain sensitivity** [\[R\]](#), [\[R\]](#).

***Please note:** Capsaicin may irritate the skin. Consult your doctor if the irritation is severe or lasts longer than 4 weeks. If capsaicin gets in your eyes, flush them with water immediately and consult your doctor [\[R\]](#), [\[R\]](#), [\[R\]](#).*

How it helps

Using a mouth rinse with capsaicin 3x/day for up to 1 year reduced oral discomfort in 2 non-placebo-controlled trials of 129 patients with burning mouth syndrome. Capsaicin was most effective in patients in which the neuropathic component of the syndrome was predominant [\[R\]](#), [\[R\]](#).

5



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 40 women with burning mouth syndrome, chewing gum reduced pain and lowered blood epinephrine levels [\[R\]](#).

6



Palmitoylethanolamide (PEA)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

For managing pain and inflammation, take 300mg to 1,200mg of palmitoylethanolamide (PEA) in divided doses throughout the day, preferably with meals to enhance absorption. This regimen should be followed for at least 6 weeks to evaluate its effectiveness.

Description

Palmitoylethanolamide (PEA) is a naturally occurring fatty acid amide. It is a compound found in various tissues of animals, including humans. PEA has been a supplement for the past couple of decades, and is utilized for its potential anti-inflammatory and pain-relieving properties.

[Palmitoylethanolamide](#) (PEA) is a compound naturally made by the body to help combat inflammation [\[R\]](#).

It’s also made by plants and other animals. Good sources of PEA include [\[R\]](#):

- Soy lecithin
- Soybeans
- Egg yolk
- Peanuts

How it helps

In a placebo-controlled trial of 35 patients with burning mouth syndrome, supplementation with PEA (600 mg, 2x/day) for 60 days decreased burning mouth sensation [\[R\]](#).

7



L-Carnitine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500 mg of L-carnitine supplement daily with a glass of water, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

1 g

Description

L-carnitine is an amino acid-like compound that plays a role in energy metabolism and helps prevent toxic substances from building up in cells. It is often used in dietary supplements for its potential to support muscle recovery, reduce fatigue, and enhance athletic performance.

[L-carnitine](#) is a compound that helps you burn fat. It also prevents toxic substances from building up in cells [\[R\]](#).

Your body can usually make enough carnitine to meet its needs. You can also get it from **meat and dairy products** [\[R\]](#).

People use L-carnitine for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart problems
- Overactive thyroid
- Fertility problems
- Blood sugar control
- Weight control

How it helps

L-Carnitine helps in enhancing mitochondrial function and energy production in cells, which might be compromised in burning mouth syndrome. It has been shown to relieve symptoms by improving nerve function and reducing oxidative stress in the mouth.

8



Vitamin B12

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a 50 mcg vitamin B12 supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

100 mcg

Description

Vitamin B12 is a water-soluble vitamin primarily found in animal-based foods like meat, fish, and dairy products. It plays a crucial role in maintaining healthy nerve cells, DNA synthesis, and red blood cell formation. Vitamin B12 deficiency can lead to anemia, neurological issues, and fatigue.

[Vitamin B12](#) is important for [\[R\]](#), [\[R\]](#):

- Building DNA
- Nervous system function
- Energy production

You can get vitamin B12 from [\[R\]](#):

- Animal products (meat, fish, eggs, and dairy)
- Fortified foods
- Supplements

Adults should be getting **2.4 micrograms** of vitamin B12 every day [\[R\]](#).

How it helps

Vitamin B12 supplementation has shown some positive effects in treating burning mouth syndrome, possibly due to its role in nerve health and repair. Deficiencies in Vitamin B12 can lead to neurological issues, which might worsen or trigger symptoms of the condition.

9



Alpha-GPC Choline

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 300-600 mg of Alpha-GPC choline supplement daily, preferably in the morning or early afternoon to avoid interference with sleep. It can be taken with or without food. Continue this supplementation for at least 4-6 weeks to assess its effectiveness.

TYPICAL STARTING DOSE
300 mg

Description

Alpha-GPC (L-alpha glycerylphosphorylcholine) is a natural compound that can be found in small amounts in various foods, including soy, and is also produced in the body. It is a choline-containing compound that may support cognitive function and memory.

How it helps

Alpha-GPC Choline has been shown to improve nerve function and reduce symptoms of neuropathic pain, which can be beneficial in managing the discomfort associated with burning mouth syndrome.

10



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

Maintaining good oral hygiene helps to prevent infections and conditions that could worsen the sensation of burning in burning mouth syndrome.

11



Topical Alpha-Lipoic Acid

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a thin layer of alpha-lipoic acid cream, gel, or serum to the affected area of the skin once or twice daily, after cleansing and drying the skin thoroughly. Ensure to avoid contact with eyes and mucous membranes. Use consistently for at least 1-2 months to observe potential benefits.

Description

Alpha-lipoic acid is an antioxidant compound that can be applied topically to protect the skin from oxidative stress and promote a more youthful appearance. It may help reduce signs of aging and improve skin texture.

[Alpha-lipoic acid](#) is a natural antioxidant. It’s found in almost every cell in your body [\[R, R, R\]](#).

People use alpha-lipoic acid to help with [\[R, R, R\]](#):

- Complications of high blood sugar
- Skin aging
- Weight loss

How it helps

Alpha-Lipoic Acid, when applied topically, has been shown to improve symptoms of burning mouth syndrome. It may work by reducing oxidative stress and inflammation in the oral tissues.

12



Acetyl-L-Carnitine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500-1,000 mg of Acetyl-L-Carnitine per day, split into 2 or 3 doses, with or without food. Joe prefers taking 500 mg in the morning. It can be taken indefinitely for chronic conditions or for a period of several months for acute concerns.

TYPICAL STARTING DOSE

500 mg

Description

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as acetyl-L-carnitine. Acetyl-L-carnitine may help with nerve damage and mood problems.

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as acetyl-L-carnitine [\[R\]](#), [\[R\]](#), [\[R\]](#).

[Acetyl-L-carnitine](#) may help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Nerve damage
- Mood problems
- Cognitive decline

Doctors are also studying its potential effect on drug addiction [\[R\]](#).

How it helps

Acetyl-L-Carnitine is known to support nerve health and has shown promise in reducing pain and discomfort in conditions involving nerve damage, potentially alleviating symptoms in burning mouth syndrome.

13



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 supplementation might be beneficial for individuals with burning mouth syndrome. Zinc plays a role in maintaining the health of mucous membranes and has anti-inflammatory properties, which can help soothe the symptoms.

14



Cognitive-Behavioral Therapy (CBT)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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

Description

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

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

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

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

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

How it helps

Cognitive-Behavioral Therapy (CBT) helps by addressing psychological factors such as anxiety and stress, which can exacerbate the symptoms of burning mouth syndrome.

15



Vitamin B12 And Folate

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a combined supplement of vitamin B12 and folate daily. For adults, the typical dose is 2.4 mcg of B12 and 400 mcg of folate. This supplement should be taken with water and a meal to enhance absorption.

Description

Vitamin B12 and folate (vitamin B9) work together to support DNA synthesis and red blood cell formation. Both are essential for preventing megaloblastic anemia and are commonly found in a variety of foods, including leafy greens, legumes, and fortified cereals.

How it helps

Vitamin B12 and folate can help reduce symptoms of burning mouth syndrome by addressing potential deficiencies that may contribute to nerve health and function.

16



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 has soothing properties that can help reduce the pain and discomfort associated with burning mouth syndrome. It can provide a cooling sensation and hydrate the affected tissues, offering temporary relief.

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.

	Zinc	17.12 umol/L		9 Nov 2025
	Ferritin	102.2 ng/mL		9 Nov 2025
	Vitamin B12	687 pg/mL		9 Nov 2025
	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL		9 Nov 2025
	Iron	228 mcg/dL		9 Nov 2025