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YOUR ORAL BALANCE SCORE

Well Balanced

Your oral microbiome looks healthy and well balanced.

Severe
Dysbiosis
0–24

High
Imbalance
25–49

Imbalanced
50–69

Mild
Shift
70–84

Well
Balanced
85–100

The bacterial community in your mouth is in good shape. The protective bacteria that help defend against gum disease and cavities are present at healthy levels, and we didn't find concerning amounts of the bacteria most strongly linked to disease. Keep doing what you're doing — and consider retesting in about six months to confirm things stay on track.



NITRIC OXIDE SYSTEM

STRONG

Did you know? Bacteria in your mouth help control your blood pressure.

Specific bacteria on your tongue convert dietary nitrate from leafy greens into nitric oxide — a molecule that supports healthy circulation, immune function, and tissue healing. We measured these bacteria in your sample.

How this works. Certain bacteria — including species of *Rothia*, *Neisseria*, *Veillonella*, and *Actinomyces* — convert dietary nitrate (from leafy greens, beets, and root vegetables) into nitrite. Your body then converts that nitrite into **nitric oxide**, which helps your blood vessels relax and supports immune balance.

Why this matters. A healthy oral nitric-oxide-producing community has been linked to better cardiovascular function, blood pressure regulation, and exercise performance. The reverse is also true: frequent use of antibacterial mouthwash can dramatically reduce these bacteria and the nitric oxide they produce.

THE PATHWAY, STEP BY STEP



1. DIETARY NITRATE

You eat nitrate-rich foods — leafy greens, beets, root vegetables.



2. SALIVARY NITRATE

Some of that nitrate is absorbed into your bloodstream and concentrated in your saliva.



3. BACTERIAL CONVERSION

Beneficial bacteria on your tongue convert that nitrate into nitrite.



4. STOMACH CONVERSION

When you swallow, your stomach converts the nitrite into nitric oxide.

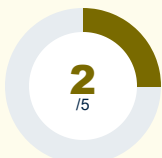


5. WHOLE-BODY BENEFITS

Nitric oxide supports healthy blood flow, immune function, and tissue healing throughout your body.

Your result: Your nitric-oxide-producing bacteria are present at healthy levels. The pathway shown above is in good working order.

GUM DISEASE RISK



Mild Risk

Your sample shows a **mild bacterial pattern** associated with gum disease. This is worth keeping an eye on, but doesn't necessarily mean disease is active.

THE 6 ORGANISMS THAT DRIVE THIS SCORE

P. gingivalis

Not Detected

DL 0

T. denticola

Low

DL 9.6

T. forsythia

Not Detected

DL 0

A. actinomycetem.

Not Detected

DL 0

F. alocis

Not Detected

DL 0

F. nucleatum

Moderate

DL 12.6

These six pathogens are also listed in the full panel on [page 3](#), under **Bacteria linked to gum disease**.

CAVITY RISK

Minimal

Your sample shows **minimal cavity-causing bacteria**. We found little or no signal from the bacteria most strongly linked to tooth decay.

THE 2 ORGANISMS THAT DRIVE THIS SCORE

S. mutans

Trace

DL 1.4

S. sobrinus

Not Detected

DL 0

These two cavity-causing bacteria also appear in the full panel on [page 3](#), under **Bacteria linked to cavities**.



PROTECTIVE BACTERIA

STRONG**The good bacteria that help defend your mouth against disease.**

A healthy mouth includes a community of bacteria that compete with disease-causing organisms and help keep your oral environment in balance. Higher scores mean stronger natural defenses.

Bacteria that protect your mouth

What these are. Your mouth is home to hundreds of bacterial species, and most of them are not just harmless — they're actively helpful. A healthy oral microbiome includes a community of "protective" or commensal bacteria that compete with disease-causing organisms for space and nutrients, help keep the mouth's pH balanced, and contribute to a stable, resilient environment.

Why they matter. When protective bacteria are abundant and diverse, it's harder for disease-causing bacteria to take hold. When protective bacteria are depleted — sometimes by antibiotics, harsh mouthwashes, dry mouth, or chronic disease — the door opens for harmful organisms to dominate. Your protective capacity score reflects how strong this first line of defense looks in your sample.

Your result: Your protective bacteria are present at healthy levels — a good sign that your mouth has solid defenses.



DISRUPTIVE BACTERIA

MODERATE**The bacteria linked to gum disease, cavities, and fungal overgrowth.**

These organisms push your mouth toward disease when they grow unchecked. Lower scores mean less disruptive pressure on your oral health.

Bacteria linked to gum disease and cavities

What these are. Not all oral bacteria are friendly. A small group of species is strongly associated with gum disease (periodontitis), and a separate group is the primary driver of cavities (caries). We also test for *Candida*, a yeast that can cause fungal overgrowth in some patients. Together, these organisms make up what we call disruptive pressure — the bacterial signal that pushes a mouth toward disease.

Why they matter. A small amount of these organisms in your mouth is normal — most adults carry some. The concern starts when they're present at elevated levels, when several appear together in patterns associated with active disease, or when they overwhelm the protective bacteria that would otherwise keep them in check. Your disruptive pressure score reflects how much of this signal we found.

Your result: We found little or no disruptive bacterial signal in your sample. This is a good result.

OraPath Oral Balance Test

Your Full Bacterial Results

Test Patient
Collected 05/07/2026

Below is the full panel of 16 bacteria we tested. Each result shows a category (Not Detected, Trace, Low, Moderate, or High) and a numeric Detection Level value. **The category is what matters most** — the DL number is included for completeness. A brief note on what each organism does appears under its name.

Category matters most;
DL is included for completeness.

Bacteria linked to gum disease ALSO SHOWN ON PAGE 1		Good when these are absent or low
Porphyromonas gingivalis (Pg) <i>A core driver of advanced gum disease.</i>	Not Detected	DL 0
Tannerella forsythia (Tf) <i>Part of the bacterial complex strongly linked to gum disease.</i>	Not Detected	DL 0
Treponema denticola (Td) <i>Part of the bacterial complex strongly linked to gum disease.</i>	Low	DL 9.6
Aggregatibacter actinomycetemcomitans (Aa) <i>Associated with more aggressive forms of gum disease.</i>	Not Detected	DL 0
Filifactor alocis (Fa) <i>Amplifies gum inflammation.</i>	Not Detected	DL 0
Fusobacterium nucleatum (Fn-a) <i>Helps bridge other bacteria together into disease-causing biofilms.</i>	Moderate	DL 12.6

Bacteria linked to cavities ALSO SHOWN ON PAGE 1		Good when these are absent or low
Streptococcus mutans (S. mut) <i>The main cavity-causing bacterium.</i>	Trace	DL 1.4
Streptococcus sobrinus (S. sobr) <i>Works with S. mutans to cause cavities, especially in higher-risk patients.</i>	Not Detected	DL 0

Fungal organisms		Good when these are absent or low
Candida spp. (Ca) <i>A yeast that can overgrow in some patients, especially those with dry mouth, dentures, or weakened immunity.</i>	Moderate	DL 7.8

Protective bacteria		Good when these are present at healthy levels
Streptococcus salivarius (S. slvrs) <i>A healthy commensal that helps maintain oral balance.</i>	Moderate	DL 16.9
Streptococcus sanguinis (S. sngns) <i>A healthy commensal associated with periodontal health.</i>	Not Detected	DL 0
Streptococcus mitis (S. mitis) <i>A healthy commensal common in balanced microbiomes.</i>	High	DL 18.8

Nitric-oxide-producing bacteria		Good when these are present at healthy levels
Rothia spp. (Rothia) <i>One of the strongest tongue bacteria for converting dietary nitrate.</i>	High	DL 21.8
Neisseria spp. (Neis) <i>Contributes to the nitric oxide pathway.</i>	Not Detected	DL 0
Veillonella spp. (Veil) <i>Contributes to the nitric oxide pathway.</i>	Moderate	DL 17.3
Actinomyces spp. (Actin) <i>Contributes to the nitric oxide pathway.</i>	High	DL 18.0

What this page is — and isn't. The bacteria involved in gum disease don't always stay in the mouth, and researchers have linked some of them to conditions elsewhere in the body. We show **all** of these associations below for your awareness. The ones **relevant to you** — where organisms were elevated in your sample — appear first and in full color; the rest are shown in gray as reassurance that nothing in your sample raised them. These are **associations reported in research, not a diagnosis and not a personal risk score**. Use them as conversation starters with your dentist or physician.

Colorectal health [10, 8, 9]

EMERGING AREA OF RESEARCH

Relevant to you — these were elevated in your sample:

F. nucleatum (animalis) DL 12.6 Moderate

One of the bacteria on this panel — *Fusobacterium nucleatum*, and specifically the subspecies measured here (*animalis*) — has been found enriched in colorectal (colon and rectum) tumor tissue, and recent research identified this exact subspecies as the one that dominates that environment. It is an active area of cancer research. **This is not a cancer test and not a prediction about you** — the bacterium is common in the mouth, and finding it here says nothing on its own about your colon. We mention it only because it is the same organism, and because the most reliable thing anyone can do for colorectal health is to keep up with age-appropriate screening (such as colonoscopy) as recommended by your physician. If you are due for screening or have a family history, this is a good prompt to follow up.

Heart & blood-vessel health [1, 2, 3]

NONE ELEVATED WELL-ESTABLISHED ASSOCIATION

The organisms linked to this association weren't elevated in your sample — a reassuring result. Several of the bacteria found in your sample have been repeatedly associated with cardiovascular disease. The leading explanation is inflammation: these organisms and the gum inflammation they drive can contribute to the low-grade, body-wide inflammation involved in narrowing of the arteries. The American Heart Association recognizes an association between gum disease and heart disease. This is an association worth discussing with your physician — it is not a measurement of your personal heart risk.

Blood sugar & diabetes [4]

NONE ELEVATED WELL-ESTABLISHED ASSOCIATION

The organisms linked to this association weren't elevated in your sample — a reassuring result. The relationship between gum disease and blood sugar runs in both directions: poorly controlled blood sugar can worsen gum inflammation, and the inflammation from periodontal bacteria can make blood sugar harder to control. If you have diabetes or prediabetes, this is a useful connection to raise with the clinician who manages it.

Brain health & memory [6]

NONE ELEVATED EMERGING AREA OF RESEARCH

The organisms linked to this association weren't elevated in your sample — a reassuring result. Research has begun to connect certain oral bacteria — *P. gingivalis* in particular — with brain health and the inflammation involved in conditions like Alzheimer's disease. This is an active, still-developing area of science, not a settled conclusion, and it is not a prediction about you. It is one more reason that lowering the bacterial burden in your mouth is worthwhile.

Joints & body-wide inflammation [7]

NONE ELEVATED EMERGING AREA OF RESEARCH

The organisms linked to this association weren't elevated in your sample — a reassuring result. The same bacteria that inflame your gums can contribute to inflammation elsewhere in the body, and researchers are studying links to inflammatory joint conditions such as rheumatoid arthritis. The evidence here is still emerging. If you have joint symptoms or a family history, it is worth mentioning to your physician.

How to read the labels. Well-established means the association is strong and repeatedly confirmed in research; Supported means evidence is consistent and growing; Emerging means the link is biologically plausible but still under active study. None describe *your* personal likelihood of developing a condition — only that the bacteria studied in connection with it were, or weren't, found in you. Bracketed numbers cite the references below.

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What to bring up at your next visit

Your dentist will be the best person to interpret these results in the context of your exam, history, and overall care. Here's what's worth discussing based on what we found.

- 1
- Mention that bacteria known to amplify gum inflammation were detected in your sample, and ask whether your current cleaning schedule is still appropriate.
- 2
- Ask your dentist about the fungal organism (*Candida*) detected in your sample. They may want to look at this in context with any symptoms like burning, redness, or denture discomfort.

Questions to ask your dentist

Feel free to bring this list to your appointment — these questions are designed to make the conversation easier.

1. How do these results fit with what you saw during my exam?
2. Are there any changes to my home care routine you'd recommend based on this?
3. When would you suggest I retest?

When to retest

Most well-balanced patients are good candidates for retesting in about **6 months** — enough time to confirm that your microbiome stays stable. Your dentist may suggest a different timeline based on your overall risk.

From the OraPath team —

Thank you for using the OraPath Oral Balance Test. We built this test because we believe you and your dental team deserve a clearer picture of what's actually happening in your mouth — not just what can be seen during an exam.

Your results are most useful when shared with your dentist, who knows your history and can put these findings in the context of your overall care. We hope this report helps you ask better questions and feel more informed.

REFERENCE

Key terms in this report

Oral microbiome — The community of bacteria, fungi, and other microorganisms that live in your mouth. A healthy mouth has hundreds of species in balance. **qPCR** — Quantitative polymerase chain reaction. The laboratory method we use to detect bacterial DNA in your saliva. **DL (Detection Level)** — How much bacterial DNA we found, on a scale where each step represents twice as much DNA as the step below. "Not Detected" means we found none. **Commensal bacteria** — The "good" or harmless bacteria that normally live in your mouth and help keep it healthy. **Dysbiosis** — When the bacterial balance in your mouth shifts away from healthy and toward disease-associated patterns. **Periodontitis** — Advanced gum disease that affects the bone and tissue supporting your teeth.

How this test works

Your saliva sample was tested using real-time quantitative polymerase chain reaction (qPCR), a laboratory method that detects and measures specific bacterial DNA. Each of the 16 organisms on this panel is identified using a DNA sequence unique to that species. The amount of DNA found is converted into a Detection Level (DL) on a logarithmic scale — each step up represents roughly twice as much bacterial DNA. The scores on page 1 are calculated from these measurements using algorithms that weight each organism according to its clinical significance. These results are intended to support — not replace — a clinical exam by your dentist.

Sources

This test and report are grounded in peer-reviewed periodontal microbiology research. The selected references below informed the design of the OraPath panel and the interpretation of your results. The most current list is also available at www.orapath.com.

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This real-time quantitative polymerase chain reaction (qPCR) test was developed and its performance characteristics were determined by IMMYLabs, 133 Ed Noble Pkwy, Norman, OK 73072 (CLIA# 37D2236199; COLA# 32679). This laboratory-developed test (LDT) was validated in accordance with the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. § 263a. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA); however, FDA clearance or approval is not currently required. Results are for adjunctive use only and must be interpreted by a qualified healthcare provider in the context of clinical findings, patient history, and other diagnostic information. This test is not intended to diagnose or treat disease or to be used as the sole basis for patient management decisions. Results are derived from a pooled saliva specimen, which surveys mouth-wide bacterial presence; they cannot localize findings to specific teeth or sites, nor confirm active disease at any site, which only a clinical examination can establish.

Oral Balance Score (0–100): Overall measure of oral microbiome balance. **Protective Capacity:** Beneficial bacteria supporting oral health. **Disruptive Pressure:** Organisms associated with disease and imbalance. **Nitric Oxide System:** Bacteria involved in nitrate reduction and NO production. **Periodontal Risk Score (1–5):** Microbial risk pattern based on pathogen levels. All scores are semi-quantitative. **Lab Director:** Jeff McCormack, PhD, HCLD (ABB).