OraPath Oral Balance Test

Patient **Sample Patient** | Date of Birth **02/13/1984** | Gender **Female**

KIT ID	COLLECTION DATE	CONFIRMATION NUMBER	RESULTS	STAGE	GRADE	BOP %	ORDERING PROVIDER
SAMPLE-BAL-WELL-BALANCED	03/30/2026	SAMPLE-BAL-WELL-BALANCED	04/01/2026	N/A	N/A	N/A	Sample Provider Sample Dental Practice

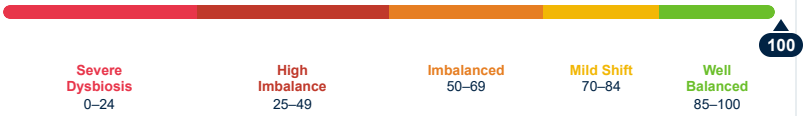
WHAT IT MEASURES
qPCR detection of DNA from 16 key oral bacteria — the species that drive periodontal disease, caries, fungal overgrowth, and nitric oxide production.

HOW TO READ IT
The Oral Balance Score (0–100) summarizes overall microbiome health — higher is better. Subscores reveal what's driving the result.

HOW TO USE IT
Pair the focus areas with your clinical assessment to guide prevention, treatment, and retesting cadence.

ORAL BALANCE SCORE

100 Well Balanced



Severe Dysbiosis	High Imbalance	Imbalanced	Mild Shift	Well Balanced
0–24	25–49	50–69	70–84	85–100

CLINICAL FLAGS

No Major Penalties
No clinically significant co-elevations detected in this sample.

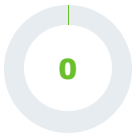
PROTECTIVE CAPACITY

100 STRONG
Higher is better

INCLUDES:
- Commensal bacteria abundance — 100
- Functional resilience (NO) — 100

A weighted composite of commensal bacterial abundance and nitric-oxide-producing bacteria. Higher scores indicate a more resilient oral environment with built-in resistance to dysbiosis.

DISRUPTIVE PRESSURE



0 LOW
Lower is better

INCLUDES:
- Periodontal pathogens — 0
- Cavity-causing bacteria — 0
- Fungal overgrowth — 0

A weighted composite of periodontal pathogen load, caries-associated bacteria, and fungal overgrowth. Higher scores indicate greater microbial burden driving inflammation, decay, and tissue breakdown.

NITRIC OXIDE SYSTEM

100 STRONG
Higher is better

- Rothia spp. — 20.0
- Actinomyces spp. — 19.0
- Veillonella spp. — 18.0

NITRIC OXIDE PATHWAY

DIETARY NITRATE INTAKE
Nitrate-rich foods: leafy greens, beets, etc. are consumed.

SALIVARY NITRATE INTAKE
Nitrate is absorbed into the bloodstream and concentrated in the saliva.

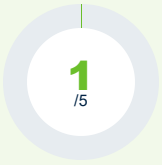
ORAL BACTERIA CONVERSION
Beneficial oral bacteria (Rothia, Neisseria, Actinomyces) convert nitrate (NO_3) to nitrite (NO_2).

SYSTEMIC CONVERSION
Nitrite is swallowed and further converted into nitric oxide (NO) in the stomach.

PHYSIOLOGICAL BENEFITS
Improves blood flow and circulation, supports immune balance, promotes tissue healing.

Why this matters: Beneficial oral bacteria convert dietary nitrate into nitric oxide (NO), supporting circulation, immune balance, and healing. Without them, NO production drops — weakening these systems.

PERIODONTAL RISK SCORE



Low Risk
Your results show a low risk for periodontal disease based on the detection and pattern of key periodontal pathogens.

Periodontal Pressure Score (0–100) — continuous burden across the 6 core perio organisms.

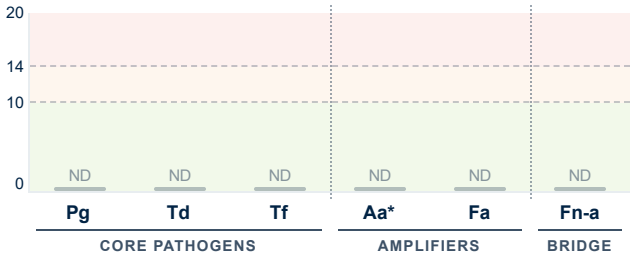
CLINICAL FLAGS

No significant clinical flags identified.

No Pathogens Detected

PATTERN IDENTIFIED

No periodontal pathogens detected. Continue routine monitoring.



**Aa uses different thresholds (≥4 mod, ≥8 high). Color reflects Aa-specific classification.*

OraPath Oral Balance Test

Individual Organism Results

Sample Patient
Kit ID: SAMPLE-BAL-WELL-BALANCED · Results: 04/01/2026

CLINICAL FOCUS AREAS

OBS 100 · Perio 1/5 · 1 recommendations

Maintain practices — retest in 6 months ROUTINE

OBS 100/100 (Well Balanced). Microbiome is well balanced with no significant penalties. Continue current diet, oral hygiene, and probiotic regimen. Retest in 6 months.

ORAL BACTERIA PROFILE | 04/01/2026

PERIODONTAL PATHOGENS

CORE PERIO PATHOGENS	Pg	Td	Tf	AMPLIFIERS	Aa	Fa	BRIDGE	Fn-a
	Not Detected	Not Detected	Not Detected		Not Detected	Not Detected		Not Detected
	P gingivalis	*T denticola*	*T forsythia*		*A actinomycete…*	*F alocis*		*Fn-animalis*

CARIES BACTERIA	S mut	S sobr	FUNGAL	Ca	
	Not Detected	Not Detected		Not Detected	
	S mutans	*S sobrinus*		*Candida spp. cf…*	

COMMENSAL BACTERIA	S slvrs	S sngns	S mitis	NITRIC OXIDE PRODUCING BACTERIA	Rothia	Neis	Veil	Actin
	19 HIGH	18 HIGH	19 HIGH		20 HIGH	17 MODERATE	18 HIGH	19 HIGH
	S salivarius	*S sanguinis*	*S mitis*		*Rothia narG*	*Neisseria narG*	*Veillonella narG*	*Actinomyces n…*

UNDERSTANDING YOUR DETECTION LEVELS

DL = 40 − Ct · each +1 DL doubles DNA quantity

DL uses a log₂ scale — each +1 DL doubles the bacterial DNA quantity. So the gap between DL 10 and DL 14 isn't "4 more" — it's **16× more**. Use the ruler and table below to interpret a value in context.

DL 0	DL 3	DL 6	DL 9	DL 12	DL 15	DL 18	DL 21	DL 24
≈ 5	≈ 40	≈ 317	≈ 3K	≈ 20K	≈ 161K	≈ 1.3M	≈ 10.2M	≈ 81.4M

Trace | Low | Moderate | High

Category	Organisms	Trace	Low	Moderate	High
Periodontal*	*Pg, Td, Tf, Aa**, Fa, Fn-a*	>0–<3	3–<10	10–<14	≥14
Caries	*S. mutans, S. sobrinus*	>0–<3	3–<6	6–<10	≥10
Fungal	*Candida spp.*	>0–<3	3–<6	6–<12	≥12
Protective	*S. salivarius/sanguinis/mitis, Rothia/Neisseria/Veillonella/Actinomyces narG*	>0–<3	3–<12	12–<18	≥18

* The ruler above shows the periodontal-category thresholds (DL 3/10/14). Other categories use different cutoffs (see table).

** Aa (*A. actinomycetemcomitans*) is pathogenic at much lower abundance: **Moderate ≥4**, **High ≥8**. Trace and Low ranges match the other periodontals.

Trace (DL < 3) is below the noise floor for individual risk scoring. All values are semi-quantitative.

Results should be interpreted with clinical findings and patient history. This test is not intended to diagnose or treat disease.

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.

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).

REFERENCES

1. Socransky SS, Haffajee AD. Microbial complexes in subgingival plaque. *J Clin Periodontol.* 1998;25:134–144.
2. Marsh PD. Are dental diseases examples of ecological catastrophes? *Microbiology.* 2003;149:279–294.
3. Hajishengallis G. Periodontitis: from microbial immune subversion to systemic inflammation. *Nat Rev Immunol.* 2015;15:30–44.
4. Lamont RJ, Koo H, Hajishengallis G. The oral microbiota: dynamic communities and host interactions. *Nat Rev Microbiol.* 2018;16:745–759.
5. Kilian M, et al. The oral microbiome – an update for oral healthcare professionals. *Clin Microbiol Infect.* 2016;22:657–666.
6. Rosier BT, et al. Resilience of the oral microbiota in health. *J Dent Res.* 2018;97:371–380.
7. Rosier BT, et al. Nitrate as a potential prebiotic for the oral microbiome. *ISME J.* 2020;14:2459–2469.
8. Hezel MP, Weitzberg E. The oral microbiome and nitric oxide homeostasis. *Free Radic Biol Med.* 2015;105:48–57.
9. Takahashi N, Nyvad B. The role of bacteria in the caries process. *J Dent Res.* 2011;90:294–303.
10. Slots J. Human viruses in periodontitis. *Periodontol 2000.* 2010;53:89–110.
11. Atieh MA, et al. Systemic azithromycin versus amoxicillin/metronidazole as an adjunct in the treatment of periodontitis: A systematic review and meta-analysis. *Aust Dent J.* 2024.
12. Walters J, Lai PC. Should antibiotics be prescribed to treat chronic periodontitis? *Dent Clin North Am.* 2015;59(4):919–933.