FINAL REPORT



MYPERIOPATH®



ORALDNA® LABS

7400 Flying Cloud Drive
Suite 150
Eden Prairie, MN 55344

Phone: 855-ORALDNA
Fax: 952-767-0446

oraldna.com

CLIA#: 24D1033809
CAP#: 7190878

[redacted]

ORDERING PROVIDER

[redacted]

SAMPLE INFORMATION

[redacted]

Collected: 12/10/2024
Received: 12/13/2024 10:38
Reported: 12/16/2024 15:47

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MYPERIOPROGRESS

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Ordering Provider

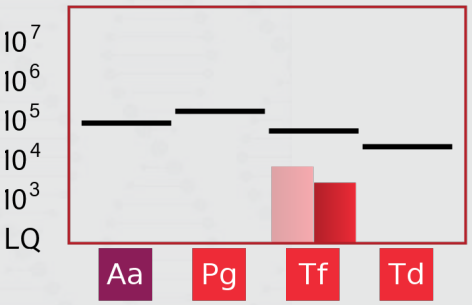
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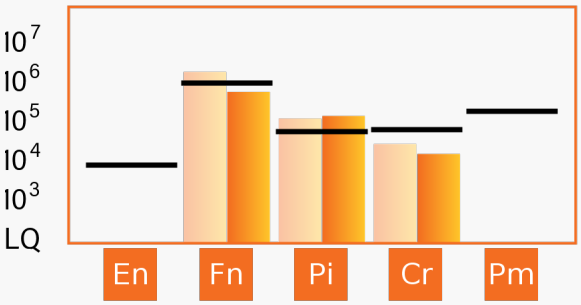
COMPARISON OF TEST RESULTS

HIGH RISK PATHOGENS



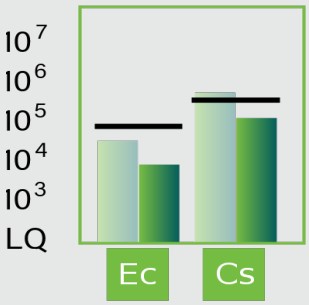
Previous Results= Current Results=

MODERATE RISK PATHOGENS



Previous Results= Current Results=

LOW RISK PATHOGENS



Previous Results= Current Results=

The result graphic displays the bacterial level in genome copies/milliliter in log10 values. The limit of quantification (LQ) is the lowest bacterial level that can be repeatedly measured (10^2). The Reference Lines, displayed as black lines on each bar graph, indicate the mean bacterial level observed in patients with chronic periodontitis AAP Stage I-II. Reference Lines are not to be used as a basis of treatment.

SUMMARY OF RESULTS

Since patient's last test on 09/18/2024:

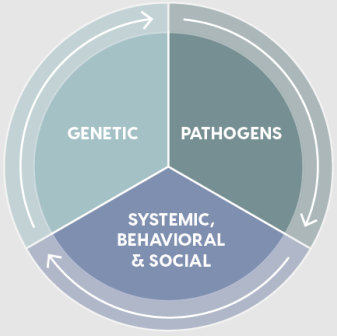
6% DECREASE/REDUCTION

- The results show a reduction of the red (**Tf**), orange (**Fn**, **Cr**) and green (**Ec**, **Cs**) complex pathogens. The persistence of the orange (**Pi**) bacteria may be due to their refractoriness to the given treatment.
- These current results are likely associated with a decrease in both oral and systemic inflammation. Consequences of high pathogenic bacteria present for years and decades add significantly to the risk of life threatening diseases beyond the mouth.
- For most treatment protocols, the maximal reduction in pathogen (burden) load is observed when follow-up testing is performed between 6-12 weeks post therapy.
- Monitoring the level of **Cs** in the oral rinse collection is useful in the prediction of the recurrent biofilm formation and re-appearance of gingival inflammation.

FURTHER CONSIDERATIONS

Oral and overall health can be influenced by various factors that should be explored

If the amount and profile of bacteria present is not consistent with clinical findings, consider testing for other disease associated organisms and factors including yeast (**OraRisk® Candida**), viruses (**OraRisk® HSV**), or genetic markers of inflammation (**Celsus One™**).



A follow-up test is recommended to monitor the effectiveness of current treatments and to determine the type and frequency of future care.

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Ordering Provider

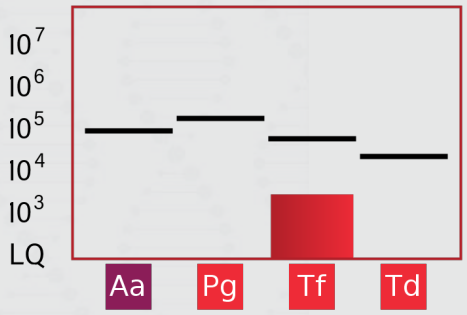
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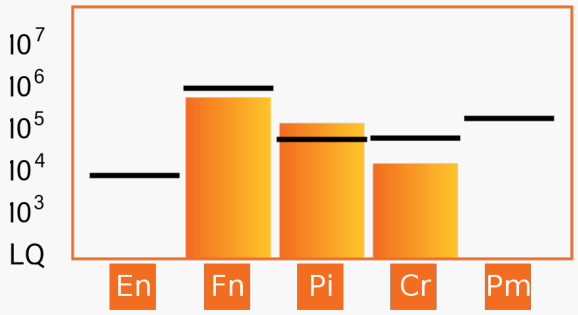
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MYPERIOPATH® MOLECULAR ANALYSIS OF PERIODONTAL AND SYSTEMIC PATHOGENS

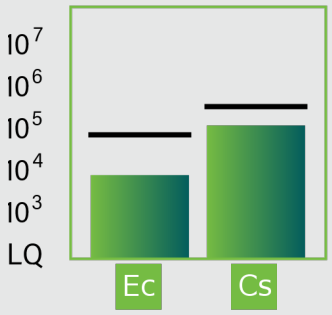
HIGH RISK PATHOGENS



MODERATE RISK PATHOGENS



LOW RISK PATHOGENS



Legend: The result graphic displays the bacterial level in genome copies/milliliter in log10 values. The limit of quantification (LQ) is the lowest bacterial level that can be repeatedly measured (10^2). The Reference Lines, displayed as black lines on each bar graph, indicate the mean bacterial level observed in patients with chronic periodontitis AAP Stage I-II. Reference Lines are not to be used as a basis of treatment.

INTERPRETATION OF RESULTS

For full names of bacteria - see Test Methodology.

- This result shows 1 high risk (**Tf**) pathogens below and 1 moderate risk (**Pi**) pathogens above the Reference Lines (see Legend).
- Scaling and root planing (SRP) resistant microorganisms **Tf**, **Pi** may not respond to mechanical debridement alone. Tissue invasive microorganisms **Tf** can be refractory to treatment. The microbiological characteristics of these bacteria are virulent and transmissible. Adjunctive therapies should be considered to address these bacteria.
- **Pi** is an aerobic gram-negative rod that aggregates with and has similar virulent properties to **Pg**. **Pi** cells form a biofilm in which the bacterial cells become more resistant to antibiotics. **Pi** is more prevalent in settings of immunosuppression.



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SUGGESTED THERAPIES:
To be determined by the healthcare professional

Mechanical/Debridement:
Disruption of biofilm including the removal of plaque and calculus deposits is needed to shift the oral microbiome. This action stimulates the tissue to heal.

Adjunctive Therapies:
Personalized treatment is sometimes needed to address the more resistant bacteria in the profile. Therapies could include some or all but are not limited to:

- Systemic Antibiotics
- Chemical Hygiene
- Antiseptics
- Localized Probiotics
- Localized Antimicrobials
- Lasers
- Tray Delivered Medicaments
- Localized Prebiotics

*The most recent research of the use of adjunctive therapies as monotherapies is not well documented.

Surgical Referral:
When clinical signs and symptoms of a periodontal infection persist, or periodontal anatomy is not conducive to health, periodontal surgical evaluation and/or intervention may be indicated.

Co-Management Referral:
Various bacteria can incite inflammation throughout the body. (See Systemic Effects). These bacteria are important to consider as a source of chronic and systemic inflammation. Additional evaluation for risk of disease may be indicated.

ANTIBIOTIC OPTIONS

RECOMMENDED TREATMENT

Metronidazole 500 mg bid for 8-10 days

This patient has indicated no allergies. If patient has intolerance to the first choice consider:

2ND CHOICE

Clindamycin 150 or 300 mg tid for 8-10 days

3RD CHOICE

Ciprofloxacin 500 mg bid for 8-10 days

The use of systemic antibiotics should be administered responsibly. Dosage/Duration dependent on severity of infection.

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FOLLOW UP RECOMMENDATIONS

Follow up testing between **6-12 weeks post therapy** with MyPerioPath is recommended. Persistence of bleeding on probing is often indicative of unresolved infection. Retesting will identify residual or refractory bacteria. Currently there is not a cure for periodontal disease, only periods of remission.

Maintenance of periodontal health involves a home care regimen as detailed by your health care provider. Other factors to consider for achieving and maintaining health are attention to nutrition, stress reduction, proper rest, cessation of smoking, as well as emotional connectivity.

The natural history of periodontal disease consists of periods of remission and relapse. **Remission** is established when signs of inflammation are absent at any level of bacteria, and **relapse** is the reappearance of active disease. Consider testing annually or when signs of relapse occur.

CLINICAL CONSIDERATIONS

Diagnostic
- ✔ Natural Detention: Not Provided
- ✔ Implant: N/A

Reason for Testing
- ✔ Treatment Follow-up

Clinical
- ✔ None Observed

Medical History
- ✔ N[redacted]





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SYSTEMIC EFFECTS OF ORAL PATHOGENS



CARDIOVASCULAR HEALTH

Select bacteria such as **Aa**, **Td**, **Tf**, **Pg**, **Pi**, & **Fn** can leak from blood vessels in the gums and travel to the heart, where cholesterol and other lipids deposit. These bacteria can incite inflammation in arteries, and if occluded, cause a heart attack. A goal of treatment is to minimize the levels of these bacteria as much and as long as possible.

CANCER

Chronic gum disease, involving **Aa**, **Pg**, **Td**, **Tf**, & **Fn** is a risk factor for the development of certain cancers including ones involving the pancreas, esophagus, colon, lungs, and the head and neck. Additionally, untreated gum disease is a cause of ongoing inflammation, which may promote the advancing growth of tumors.

JOINT AND MUSCULOSKELETAL HEALTH

The periodontal bacteria **Pg**, **Fn**, & **Ec** are a cause of arthritis. The oral inflammation caused by these bacteria also leads to total body inflammation which, combined with changes in a persons immunity, may result in chronic joint diseases like rheumatoid arthritis.

HEALTHY PREGNANCY

Bacteria associated with gum disease, especially **Aa**, **Pg**, **Tf**, **Ec**, & **Fn** are known to put a pregnancy at risk for pre-term birth, decreased birth weight and even blood infection in the placenta or newborn. Every pregnant woman should be tested for these harmful bacteria.

DEMENTIA AND BRAIN HEALTH

Recent medical studies point to poor oral health, and high levels of the bacteria **Pg**, **Cr**, & **Cs** in our gums, increasing the risk of developing dementia such as Alzheimers.

METABOLIC HEALTH

Obesity, lack of exercise and chronic gum disease involving the bacteria **Aa**, **Pg**, **Td**, **Tf**, & **Fn** cause chronic inflammation. Inflammation can damage the pancreas where insulin is produced, possibly leading to diabetes. Also, diabetes worsens oral health by increasing the level of harmful bacteria in the gums.

Methodology: Genomic DNA is extracted from the submitted sample and tested for 10 species-specific bacteria [**Aa**: Aggregatibacter actinomycetemcomitans, **Pg**: Porphyromonas gingivalis, **Tf**: Tannerella forsythia, **Td**: Treponema denticola, **En**: Eubacterium nodatum, **Fn**: Fusobacterium nucleatum/periodontium, **Pi**: Prevotella intermedia, **Cr**: Campylobacter rectus, **Pm**: Peptostreptococcus (Micromonas) micros, **Ec**: Eikenella corrodens] and 1 genus of bacteria [**Cs**: Capnocytophaga species (gingavalis, ochracea, sputigena)] known to cause periodontal disease. The bacteria are assayed by real-time quantitative polymerase chain reaction (qPCR). Bacterial levels are reported in log 10 copies per mL of sample (e.g. 1x10^3 = 1000 bacteria copies per mL of collection). Cross-reactivity is possible with Leptotrichia buccalis, Fusobacterium hwasooki, and Capnocytophaga granulosa. The analytical and performance characteristics of this laboratory-developed test (LDT) were determined by OralDNA Labs pursuant to Clinical Laboratory Improvement Amendments (CLIA 88) requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

Ronald C. McGlennen

Ronald McGlennen MD, FCAP, FACMG, ABMG
Medical Director