MYPERIOPATH®

FINAL REPORT

ORALDNA LABS
Innovations in Salivary Diagnostics

| **Sample, Report**	**Ordering Provider**	**Sample Information**	
Date Of Birth: 09/20/1980 (40 yrs) Gender: Female Patient Id: 951750 Patient Location: Test Site A	Ronald McGlennen MD 7400 Flying Cloud Drive Eden Prairie, MN 55344 855-672-5362	Specimen#: 5033050001 Accession#: 201807-12468 Specimen: Oral Rinse(P)	Collected: 07/08/2018 Received: 07/09/2018 09:57 Reported: 07/10/2018 11:12

MYPERIOPATH MOLECULAR ANALYSIS OF PERIODONTAL AND SYSTEMIC PATHOGENS
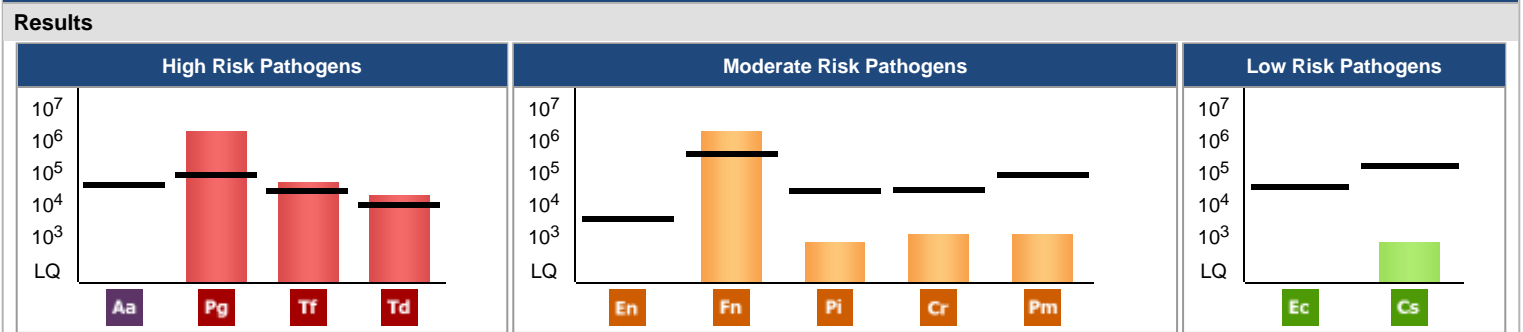
Results

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. The Reference Lines, displayed as black lines through each bar graph, indicate the mean bacterial level observed in patients with ADA III (moderate to severe, and/or with an average pocket depth (PD) of 4-5 mm) chronic periodontitis.

Interpretation of Results

- This result shows 3 high risk (Pg, Tf, Td) and 1 moderate risk (Fn) pathogens above the therapeutic threshold.
- The bacterial species Tf and/or Td are strongly associated with chronic periodontitis, are transmissible and tissue invasive even at low amounts of these organisms. Moreover, Pg is an anaerobic pathogen that often colonizes dental plaque, often along with other red complex bacteria. Note: Fn is a highly prevalent, Gram-negative bacteria that is strongly associated with periodontitis as well as various systemic infections, including those involving the heart.
- The detected pathogens are also risk factors for various systemic diseases, including atherosclerosis, type 2 diabetes, arthritis, dementia and several types of cancer. The American Heart Association supports a causal relationship between periodontal disease and atherosclerosis. Specifically, Td has been shown to accelerate vascular disease of the aorta.

Treatment Considerations: to be determined by the healthcare professional

- **Mechanical/Debridement:** Scaling and root planing (SRP) is a mainstay of therapy to disrupt biofilm, remove plaque and debride compromised tissue. This patient harbors a series of pathogens (Pg, Tf, Pi, Pm) that may be refractory to this treatment.
- **Systemic Antibiotics:** This patient has indicated no allergies.

  1 Metronidazole 500 mg bid for 8-10 days
  As always, use antibiotics with care

  OR

  *If patient has intolerance to the first choice consider:
  2 Clindamycin 150 or 300 mg tid for 8-10 days
  3 Ciprofloxacin 500 mg bid for 8-10 days

- **Local Antibiotics and Chemical Hygiene:** As an adjunct to SRP, sub-antimicrobial doses of doxycycline hyclate lower collagenase activity and reduce periodontal pocket depth. Alternatively, locally delivered antimicrobial agents (LDA) including minocycline microspheres, doxycycline hyclate in an absorbable polymer, or chlorhexidine in a gelatin matrix have been shown to decrease pocket depth modestly.
- **Pocket or Field Decontamination:** Laser decontamination as an adjunct therapy to SRP may be beneficial in reducing probing depth and bacterial loads. The consideration of using lasers as an adjunct to SRP is dependent on type of laser used and the particular protocol.
- **Chemical and Gaseous antiseptics:** Chlorhexidine or Povidine iodine rinses can reduce periodontal pocket depth. Prescription tray application of peroxide gel, as an adjunct to frequent periodontal maintenance appointments for refractory patients, demonstrated significant reductions in bleeding on probing. Ozone is a volatile antiseptic that can disrupt microbial membranes.
- **Probiotics and Prebiotics:** Probiotics are live, beneficial bacteria, typically administered as a food or dietary supplement. Prebiotics are non-digestible ingredients that promote growth of commensal bacteria. Research shows that prebiotics and probiotics control the growth of pathogens and reverse tissue destruction caused by periodontitis.
- **Periodontal Surgery:** When clinical signs & symptoms of a periodontal infection persist, or periodontal anatomy is not conducive to health, periodontal surgical evaluation and/or intervention may be indicated.

Follow up Recommendations

☑ Good periodontal health depends on compliance of a home care regimen as detailed by your healthcare provider. Daily brushing, flossing, as well as attention to nutrition, proper rest and cessation of smoking are essential.

☑ Follow-up testing between 6-12 weeks 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.

☑ Assessment of a patient's level of inflammation with Celsus One is valuable in deciding the frequency of patient recall and treatment.

Web enabled system provided by: access genetics

PL-000388-H

MYPERIOPATH®
FINAL REPORT

Sample, Report (ID: 951750)
Date Of Birth: 09/20/1980
Gender: Female

Sample Information
Specimen#: 5033050001
Accession#: 201807-12468
Specimen: Oral Rinse(P)
Collected: 07/08/2018

ORALDNA LABS
Innovations in Salivary Diagnostics

Clinical Considerations

Reason for Testing	Clinical	Diagnostic	Medical History
☑ Active Periodontal Disease	☑ Redness/Discoloration ☑ Inflammation/Redness ☑ Bleeding on Probing	☑ Type III Moderate Periodontitis	☑ Past History of Smoking ☑ Arthritis/Auto Immune Disease

☑ Tooth Numbers	3	9	14	19	24	30
Pocket Depths(mm)	4	4	5	4	4	3

Systemic Effects of Oral Pathogens
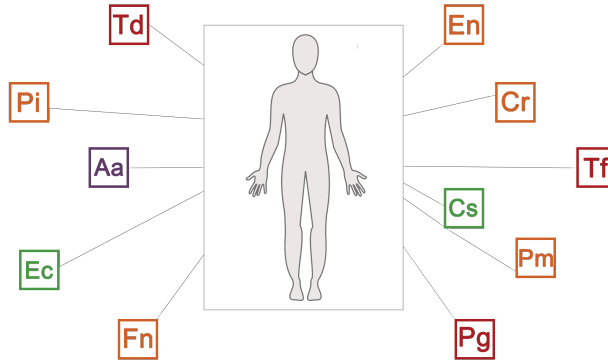
Cancer

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.

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.

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 person's immunity, may result in chronic joint diseases like rheumatoid arthritis.

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 dementias such as Alzheimer's.

Metabolic Health

Obesity, lack of exercise and chronic gum disease involving the bacteria Aa, Td, Tf, Pg, & 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.

Healthy Pregnancy

Bacteria associated with gum disease, especially Aa, Tf, Pg, Fn, and Ec, 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.

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. This test was developed, and its performance characteristics determined by OralDNA Labs pursuant to CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.

Ronald McGlennen MD, FCAP, FACMG, ABMG
Medical Director

©2021 OralDNA Labs, A Service of Access Genetics, LLC All Rights Reserved
7400 Flying Cloud Drive, Eden Prairie, MN 55344 | Phone: 855-672-5362 | Fax: 952-942-0703 | www.oraldna.com
CLIA#: 24D1033809   CAP#: 7190878

2 of 2

Web enabled system provided by: access genetics

PL-000388-H