

About the Mouth-Body Connection



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WORLD LEADERS IN PROACTIVE HEALTHCARE COLLABORATION

Take our Free Risk Assessment on the other side of this flyer and discuss the results with your dentist.

<https://www.cdc.gov/oral-health/conditions/gum-disease/article/periodontal-disease>
https://www.adha.org/instruments/docs/722R_Grat_Hall_Total.pdf
<https://www.ncbi.nlm.nih.gov/pubmed/21933454>
<https://aasden.org/deepapnea.aspx>
<https://onlinelibrary.wiley.com/doi/10.1111/jor.12359/full>
<https://www.unitednationsiconomy.com/dental-insurance/dental-conditions/success/final-health-study/results/success/final-health-study/>
 Fehrenbach MJ, Hering SW. Illustrated Anatomy of the Head and Neck. 4th ed. St. Louis, MO: Elsevier; 2012:127-151.
<https://aasden.org/deepapnea.aspx>
<https://www.ncbi.nlm.nih.gov/pubmed/24021460>
<https://www.perrin.org/oralcare/oral-health-study.htm>
<https://www.cdc.gov/oral-health-topics/healthy-life-stages/oral-care-during-pregnancy/article/pregnancy-oral-health-and-your-baby>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3041155/>

PROGRESSION OF PERIODONTAL DISEASE

HEALTHY

- Measurement 1-3mm
- NO infection
- Tissue is pink and firm
- NO bleeding
- No bone loss

GINGIVITIS

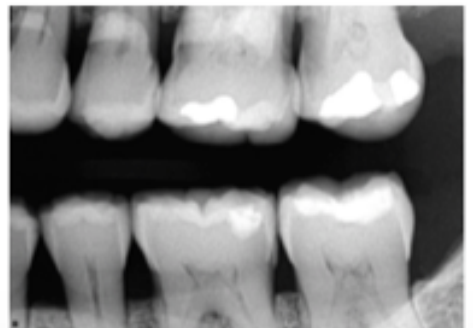
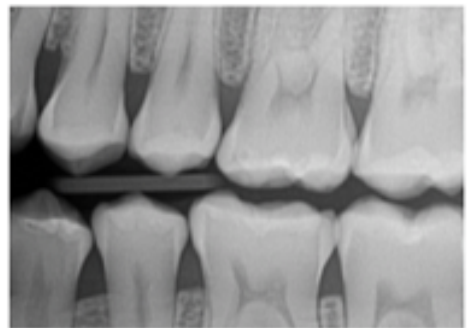
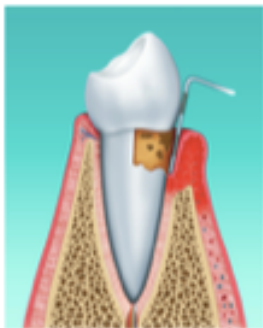
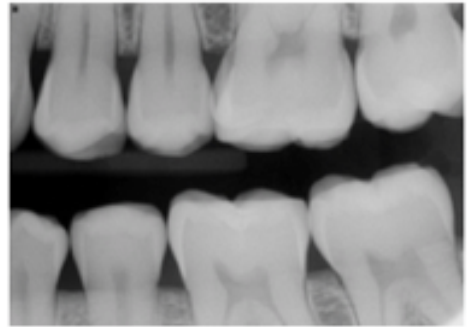
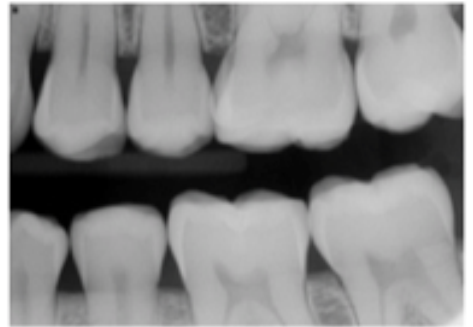
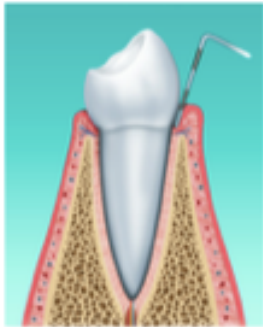
- Measurement 1-3mm+
- **INFECTION** in the tissue only
- Tissue is red and inflamed
- **BLEEDING**
- NO bone loss

SLIGHT-MODERATE PERIODONTAL DISEASE

- Measurement 4-6mm
- **INFECTION** in the tissue and bone
- Tissue is red and inflamed
- **BLEEDING**
- Bone loss 1-4mm

ADVANCED PERIODONTAL DISEASE

- Measurement 7mm+
- **INFECTION** in the tissue and bone
- Tissue is red and inflamed
- **BLEEDING**
- Bone loss 5mm+



Example, Report

Date Of Birth: 09/20/1980(37 yrs)
 Gender: Female
 Patient Id: 951753
 Patient Location: Test Site A

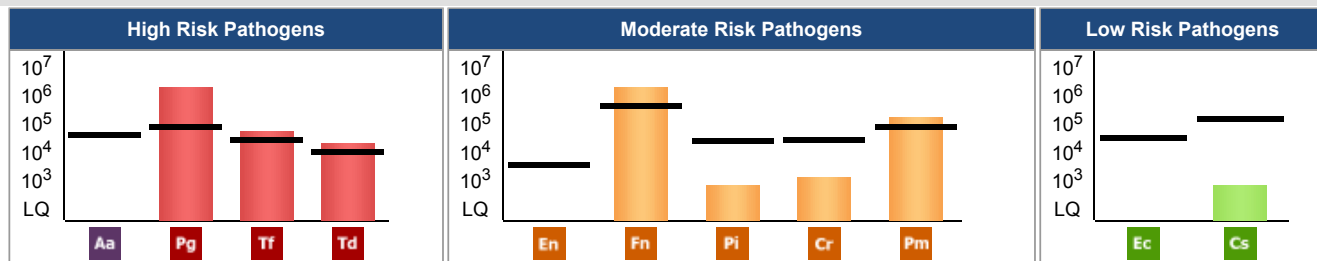
Ordering Provider

Ronald McGlennen MD
 7400 Flying Cloud Drive
 Eden Prairie, MN 55344
 855-672-5362

Sample Information

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 (above) shows the bacterial level for each of the assayed species. The vertical axis is expressed as the copies of each bacterial genome/milliliter in log 10. The limit of quantification (LQ) is the lowest measure of concentration. The black lines across each colored bar are the Therapeutic Threshold.

Interpretation of Results

- This result shows 3 high risk (Pg, Tf, Td) and 2 moderate risk (Pm, Fn) pathogens above the therapeutic threshold.
- The bacterial species Pg and/or Td are strongly associated with chronic periodontitis, are transmissible and tissue invasive even at low amounts of these organisms. Moreover, Tf is present in 20-25% of cases of periodontitis and is often symbiotic with other pathogens such as Pg and Fn. Note: the bacterial species Pm is commonly resistant to various treatments, and may be a reservoir of antibiotic resistance.
- The detected pathogens are also risk factors for various systemic diseases, including atherosclerosis, type 2 diabetes, arthritis, dementia and several types of cancer. Importantly, Fn is associated with a specific type of colon cancer, where the bacteria can affect how aggressive that disease is, and its response to treatment.

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 Clindamycin 150 or 300 mg tid for 8-10 days
 As always, use antibiotics with care



**If your patient has a history of intolerance to the first choice consider:

- 2** Ciprofloxacin 500 mg bid for 8-10 days
3 Clarithromycin 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 based protocols can be equivalent to SRP in reducing probing depth and bacterial levels. There is less evidence that lasers improve clinical attachment levels. The use of lasers as an adjunct to SRP is not supported.
- 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. Aqueous ozone is less cytotoxic than gaseous ozone and has comparable effect to improve inflammation and pocket depth as compared to various chemical antiseptics such as chlorhexidine digluconate, sodium hypochlorite or hydrogen peroxide.
- Probiotics and Prebiotics:** Probiotics are live, beneficial bacteria, typically administered as a food or dietary supplement. Prebiotics are non-digestible ingredients, including inulin, fructo-oligosaccharides, galacto-oligosaccharides and Lactulose, that promote growth of commensal bacteria. Research shows that prebiotics and probiotics control the growth of pathogens and reverse tissue destruction caused by periodontitis.

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.

Antibiotic Options on MyPerioPath® Result Report

Use Case

1st

Choice

2nd

Choice

3rd

Choice

Only Facultative
Pathogen(s) Above
Threshold (**Aa**, **Ec**, **Cs**)

Amoxicillin

500 mg tid for 8-10 days,
depending on the severity of
the infection (Ref.1-3)

Ciprofloxacin

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 4,5)

Clindamycin

150 or 300 mg tid for 8-10 days,
depending on the severity of
the infection (Ref. 13-15)

Only Anaerobic Pathogen(s)
Above Threshold (**Pg**, **Tf**,
Td, **En**, **Fn**, **Pi**, **Cr**), with
Pm low or not detected

Metronidazole

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 10-12)

Clindamycin

150 or 300 mg tid for 8-10 days,
depending on the severity of
the infection (Ref. 13-15)

Ciprofloxacin

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 4,5)

Only Anaerobic Pathogens
Above Threshold, with
Pm Above Threshold and
Anaerobic High Risk
Pathogens (**Pg**, **Tf**, **Td**)
low or not detected

Clarithromycin

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 20-26)

Clindamycin

150 or 300 mg tid for 8-10 days,
depending on the severity of
the infection (Ref. 13-15)

Metronidazole

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 10-12)

Only Anaerobic Pathogens
Above Threshold, with **Pm**
Above Threshold and one or
more Anaerobic High Risk
Pathogens (**Pg**, **Tf**, **Td**)
Above Threshold

Clindamycin

150 or 300 mg tid for 8-10 days,
depending on the severity of
the infection (Ref. 13-15)

Ciprofloxacin

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 4,5)

Clarithromycin

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 20-26)

Combination Infection
(Facultative + Anaerobic)
Above Threshold

Amoxicillin

500 mg tid for 8-10 days,
depending on the severity of
the infection (Ref. 1-3)

→ If allergic to Amoxicillin, then
Ciprofloxacin 500 mg bid 8-10
days, depending on the severity of
the infection (Ref. 18,19)

→ If allergic to Ciprofloxacin, then
use Clindamycin 150 or 300 mg
tid for 8-10 days, depending on
the severity of the infection
(Ref. 13-15)

Facultative: **Aa**, **Ec**, **Cs**

AND

Anaerobic: **Pg**, **Tf**, **Td**,
En, **Fn**, **Pm**, **Pi**, **Cr**

Metronidazole

500 mg bid for 8-10 days,
depending on the severity of
the infection (Ref. 16,17)

→ If allergic to Metronidazole, use
Clindamycin 150 or 300 mg tid
for 8-10 days, depending on the
severity of the infection
(Ref. 13-15)

→ If allergic to Clindamycin, use
Doxycycline 100 mg bid for 1
day, followed by 100 mg qd for
8-10 days depending on the
severity of the infection (Ref.
6-9)

Note:

The prescribing doctor is responsible for patient therapy. Consider the patient's dental and medical history (e.g. pregnancy/nursing, diabetes, immune-suppression, other patient medications) when evaluating the use of antibiotic medications. Many antibiotics may impact/interact with other medications and may produce adverse side effects. Review the manufacturer warnings for any contraindications, or consult with the patient's physician if there are concerns with the selected antibiotic regimen.

Are You At Risk?

DHEmethod



Aa

- Heart Disease • Brain Abscesses • Alzheimer's • Aneurysm • Blocks Immune System • Increases Dental Decay • Artery Plaque • Oxidative Stress



Pg

- Rheumatoid Arthritis • Kidney Disease • Multiple Sclerosis • Artery Plaque • Immune system blocker • Diabetes • Aneurysm • Dementia • Alzheimer's • Appendicitis • Obesity • Oxidative Stress • Heart Disease • Stroke • Esophageal Cancer

13.6x increased risk of a cardiac event • Accelerates the growth of T Cells and all cancer cells!



Tf

- Artery Plaque • Heart Attack • Alzheimer's • Diabetes • Joint replacement • Esophageal Cancer • Aneurysm • Oxidative Stress



Td

- Diabetes • Joint Replacement • Artery plaque • Oxidative Stress • Aneurysm • Heart Disease

FEEDS OFF OF STRESS!



En

Alzheimer's



Fn

- Alzheimer's • Blocks Immune System • Intestinal complications • Pre-term birth Preeclampsia • Low Birth Weight • Grows Cancer Cells, mostly pancreatic and colon cancer

- Allows Pg and other high risk bacteria to enter the artery wall • "The Gate keeper" and "The Great Enabler"



Pl

- Heart Attack • Alzheimer's • Appendicitis • Abscesses/Endo Lesions

AHA: "Involved in 50% of heart attacks"



Cr

- Brain Abscess • Aneurysm



Pm

- Stress • Active Periodontal Disease



Ec

- Heart • Respiratory Infections • Thyroiditis • Joint Inflammation



Cs

- Heart • Alzheimer's • Diabetes • Can be acquired from pets

TARGETED PERSONALIZED PERIODONTAL TREATMENT



- ☐ **Mechanical reduction of pathogens**
 - ☐ Air-Flow - general biofilm removal
 - ☐ 5 tip (ultrasonic or piezo) - Cs, Ec, Cr, Fn, En
 - ☐ PerioPeak - endoscopy - Cs, Ec, Cr, Fn, En
 - ☐ Surgery - Cs, Ec, Cr, Fn, En
 - ☐ Lasers / LANAP - Aa, Pg, Tf
- ☐ **Chemical to decrease pathogens**
 - ☐ Systemic antibiotics - See OralDNA test results
 - ☐ Antibiotic rinses
 - ☐ Arestin - Pg, Tf, Td
 - ☐ Doxycycline (Perio Protect, Periostat & Atridox) - Pg, Fn, Cs, Ec
 - ☐ Ozone: bacteria, viruses, molds, fungi
 - ☐ *Chlorhexidine, Periogard, PerioMed - Broad spectrum
 - ☐ *Therasol (betadine) - Aa, Td, Pg, Pi
 - ☐ *Povidone-iodine - broad and slow kill rate
 - ☐ *OTC - Crest, Listerine, Scope, etc. - low spectrum
- ☐ **Repopulation with Probiotics for healthy biofilm**
 - ☐ ProBioraPro - Aa, Pg, Tf, Pi, Cr, Strep mutans
 - ☐ Hyperbiotics
 - ☐ ProDental - Aa, Pg, Pi, Fn, Strep mutans
 - ☐ Pro-15 & Immune: Gut health
 - ☐ ProlacSan & FotoSan - disinfects & repopulates
- ☐ **Healing with antioxidants**
 - ☐ Topical - PerioSciences, StellaLife
 - ☐ Systemic - Juice Plus
 - ☐ Zinc - Fn, Pi
 - ☐ Xylitol (CariFree, Spry, Epic) - Pg, Pi, Strep mutans
- ☐ **Therapeutics to regenerate bone**
 - ☐ Emdogain
 - ☐ Perio Protect
- ☐ **Systemic Evaluation**
 - ☐ pH testing
 - ☐ Sleep study
 - ☐ Genetic testing
 - ☐ Inflammatory panel
 - ☐ CIMT
- ☐ **Contraindications to Consider**
 - ☐ Scaling and Root Planing **Resistant** bacteria are: Aa, Pg, Tf, Pi, Pm
 - ☐ Warrants chemical intervention with scaling and root planing
 - ☐ Systemic Antibiotic use
 - ☐ Need probiotic for gut health to shift microbiome
 - ☐ Gluten sensitive
 - ☐ Use Xylitol
 - ☐ Avoid above * such as Chlorhexidine, Listerine, Periogard, etc.
 - ☐ Heart Patient / High Blood Pressure / Medical High Risk
 - ☐ Use antioxidants
 - ☐ Avoid Chlorhexidine, Ozone, Oxidation

MyPerioPath® Collection Recommendations

When following:

Wait before sample collection:

Use of over-the-counter oral care products
(Ref. 1)

30 minutes

Use of prescription strength antimicrobial
or antibiotic rinses such as Chlorhexidine
or stannous fluoride products (Ref. 1-3)

24 hours

Dental procedures that disrupt biofilm
such as scaling and root planning or
prophylaxis (Ref. 4)

2 weeks

Administration of systemic antibiotics for
pre-procedural medication or chronic
medical conditions (Ref. 5-7)

No wait necessary

Administration of systemic antibiotics for
acute conditions (Ref. 8-10)

6 weeks

Application of local antibiotics (Ref. 11-16)

4 weeks

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