

FINAL REPORT

**Sample, Report**

Date Of Birth: 09/20/1980 (38 yrs)  
 Gender: Female  
 Patient Id: 920-A  
 Patient Location: Test Clinic A

**Ordering Provider**

Ronald McGlennen MD  
 7400 Flying Cloud Drive  
 Eden Prairie, MN 55344  
 855-123-1234

**Sample Information**

Specimen#: 5116160001  
 Accession#: 201809-12635  
 Specimen: Oral Rinse(P)  
 Collected: 09/15/2018  
 Received: 09/16/2018 10:30  
 Reported: 09/17/2018 15:30

**Reason for Testing:** Screening/Risk Assessment  
**Patient History:** History of Mouth Breathing  
**Dental History:** Recent/Current History of Caries

**Caries Classification:** Class III or ICDAS 3  
**Clinical Findings:** Existing Fillings, Enamel Defects  
**Related info:** Not Provided

**MOLECULAR DETECTION OF S. MUTANS/ S. SOBRINUS/ L. CASEI**

Bacteria	Test Result
Streptococcus mutans/S. sobrinus	Detected
Lactobacillus casei	Detected

Bacterial Risk
<b>HIGH RISK</b>
Bacterial Level: $7.9 \times 10^4$ (genomes/ml)

**Summary of Results:**

- **Interpretation:** S. mutans/S. sobrinus and L. casei have been detected in this sample. The combined amounts of these pathogens indicate a HIGH RISK of the development and progression of dental caries.  
 - **Significance:** The detection of S. mutans/S. sobrinus DNA indicates presence of these organisms in the oral cavity. This is an indicator of a change in the oral microbiome, which typically leads to the creation of an acidic environment. The presence of L. casei may indicate further acidic change in the biofilm and may predict the advancing demineralization of enamel, a hallmark of caries.

**Caries Risk Factors:**



**Bacterial Risk:** S. mutans/ S. sobrinus and L. casei in plaque convert dietary sugar into acid. This acid erodes the hard tissues of the teeth (enamel, dentin and cementum). The result of HIGH RISK is based on the quantity of these bacteria present in the sample. Efforts to reduce the level of these bacteria will lower the risk of future dental caries.

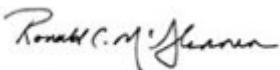


**Oral Care:** Poor oral hygiene and infrequent dental checkups are risk factors for the build up of plaque on teeth that hold caries-causing bacteria. Tooth brushing with fluoridated toothpaste, along with flossing are a mainstay of good oral health.  
**Patient History:** The best predictor of the risk for future dental caries is a past history of cavities. One's personal history is influenced by inherited genetic factors, home and work environments and changes in life/health status such as orthodontics, pregnancy and chronic diseases like diabetes.  
**Diet:** Caries is caused by the metabolism of sugars into acid. Foods high in sugar should be avoided. This includes soft drinks, candy and other sweets including processed carbohydrates. These foods increase both the amount of bacteria present and the amount of acid produced.

**Treatment Considerations:**

- Follow-up testing for OraRisk Caries of HIGH RISK is recommended every 3 to 6 months
- Efforts to improve oral hygiene are essential for prevention of caries which include frequent tooth brushing with fluoridated toothpaste, flossing to remove food particles and the regular use of a fluoride rinse
- Maintaining a diet low in sugary foods will reduce the amount of acid-producing bacteria. Additionally, frequently drinking water will cleanse the mouth and lower the amount of oral bacteria
- Regular professional dental cleaning to remove plaque is essential. In some cases, the use of dental sealants will lessen the risk of plaque formation
- Maintaining a neutral pH in the mouth with the use of arginine bicarbonate and calcium carbonate may prevent demineralization of enamel
- Oral health supplements such as xylitol gum, prebiotics, probiotics and potentially, antimicrobials, can reduce or eliminate cariogenic bacteria
- Early repair of small cavities is the best approach to preventing more aggressive or severe tooth decay

**Methodology:** Genomic DNA is extracted from the submitted sample and tested for 3 species-specific bacteria [Streptococcus mutans, Steptococcus sobrinus, Lactobacillus casei] known to cause dental caries. The bacteria are assayed by real-time quantitative polymerase chain reaction (qPCR). Bacterial levels are reported in genome copies per mL of sample. Risk ranges were derived from patient testing: Low risk (0 copies/mL); Moderate risk ( $1 \times 10^1$  to  $9.99 \times 10^3$  copies/mL); High risk (greater than  $9.99 \times 10^3$  copies/mL). 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**