OraRisk® Caries

FINAL REPORT

ORALDNA LABS
Innovations in Salivary Diagnostics

Sample, Report

Date Of Birth: 07/31/1970 (52 yrs)
Gender: Female
Patient Id: 970
Patient Location: Clinic A

Ordering Provider

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Sample Information

Specimen#: 5981000002
Accession#: 202212-01902
Specimen: Oral Rinse(P)

Collected: 12/05/2022
Received: 12/06/2022 09:00
Reported: 12/06/2022 14:29

Reason for Testing: Screening/Risk Assessment
Relevant History: Recent/Current History of Caries

Related info: Not Provided

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

Bacteria	Test Result
Streptococcus mutans	Detected
Streptococcus sobrinus	Not Detected
Lacticaseibacillus casei	Not Detected

Bacterial Risk
HIGH RISK
Bacterial Level: 4.8 x 10^4 (genomes/ml)

Summary of Results:

- Interpretation: S. mutans has been detected in this sample. The combined amounts of these pathogens indicates a HIGH RISK of the development and progression of dental caries.

- Significance: The detection of S. mutans 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, a contributing factor in caries formation.

Caries Risk Factors:

Bacterial Risk: S. mutans 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 of bacteria [Streptococcus mutans, Streptococcus sobrinus, Lacticaseibacillus casei]. Bacterial DNA is assayed using CoPrimer(TM) based oligunucleatides and real-time quantitative polymerase chain reaction (qPCR). Bacterial levels are represented in genome copies per mL of sample. Risk ranges were derived from patient testing: Low risk (0 copies/mL); Moderate risk (1x10^1 to 19.999x10^3 copies/mL); High risk (greater than 19.999x10^3 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.

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CLIA#: 24D1033809 CAP#: 7190878