

Leo's Oral Health Report

Oral Health Summary

How does this test work? We used our oral microbiome database of healthy cats and of cats known to be suffering from periodontal disease, tooth resorption, or halitosis to identify a set of predictive microbes whose compositional abundance is associated with each condition. Based on these results, we developed a 0 - 10 risk score system for each condition, where 0 -3.3 reflects a 'low' risk, 3.4 - 6.6 a 'medium' risk, and 6.7 - 10 a 'high' risk.

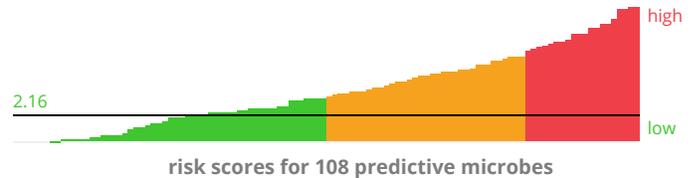
The results below show Leo's overall risk for each of the three conditions, as well as a breakdown of the proportions of predictive microbes whose compositional abundance in the mouth is associated with high, medium, or low risk for each oral health condition (denoted by the colors red, yellow, and green, respectively). The purple line and the number next to it indicate your cat's risk score for each condition.

Risk for periodontal disease

Periodontal disease affects the tissues surrounding the teeth. Initial stages are classified as gingivitis, while advanced cases are known as periodontitis.

RISK:

- HIGH
- MEDIUM
- LOW

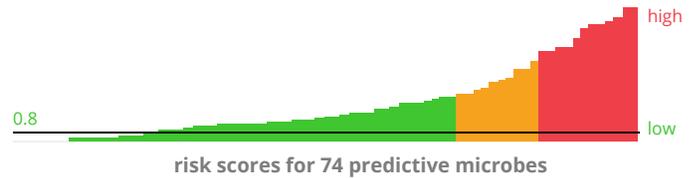


Risk for tooth resorption

Tooth resorption is a relatively common condition characterized by progressive dentin erosion.

RISK:

- HIGH
- MEDIUM
- LOW

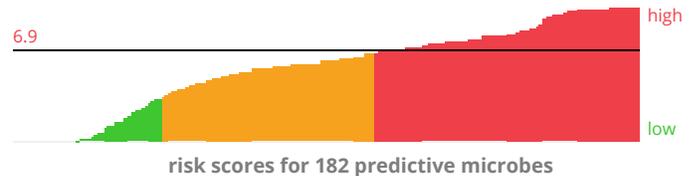


Risk for bad breath (halitosis)

When bad breath is a persistent problem for a cat, this could be indicative of more serious general health issues.

RISK:

- HIGH
- MEDIUM
- LOW



What's next?

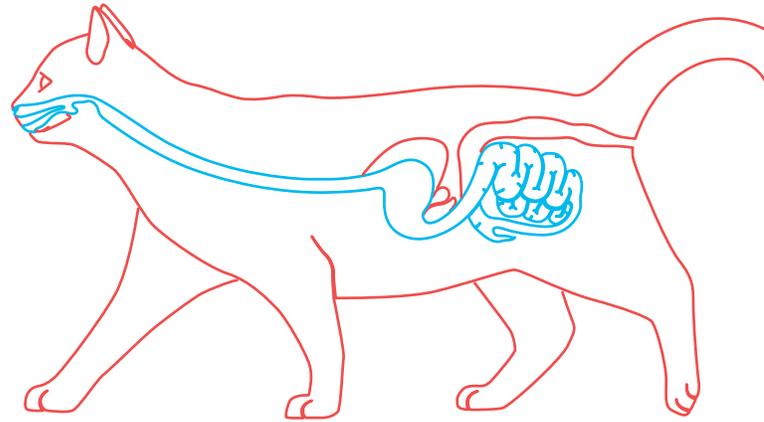
- You are strongly advised to adopt a daily oral healthcare routine for Leo
- Consider supplementing Leo's routine with [products accepted by the Veterinary Oral Health Council](#)
- Schedule an appointment with your veterinarian in the next month

• **NEXT RECOMMENDED oral health test in: 3 months**

Health implications

Great news!

Currently, it is unlikely that your cat's oral health is negatively affecting their general health. Cats with good oral health are less prone to developing chronic kidney disease, diabetes mellitus, cardiovascular problems, and some autoimmune diseases.



What can you do?

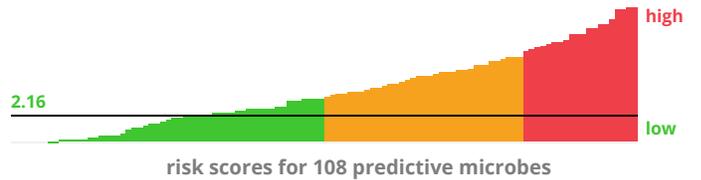
It is important to regularly assess a cat's oral health to address emerging issues earlier and minimize chances of negative effects on general health.

Adopting a thorough and consistent oral healthcare routine at home can significantly reduce the chance of developing dental diseases, which can help reduce the likelihood of developing more serious general health problems.

Periodontal disease

Periodontal disease (PD) is a group of inflammatory disorders affecting the tissues surrounding the teeth. Periodontal disease is initiated by the buildup of plaque on the surface of the teeth, resulting in inflammation of the gingiva or "gingivitis". Without an effective oral healthcare regimen, inflammation can begin to destroy the structures that support the tooth which leads to periodontitis. Periodontal disease affects up to 80 percent of the adult feline population. This section explains the composition of your cat's oral microbiome as it relates to risk of having periodontal disease.

Average risk across microbes



RISK: HIGH MEDIUM LOW

We analyzed Leo's oral microbiome to establish the compositional abundance of 110 microbes predictive of periodontal disease. We ranked each microbe's abundance on a scale from 1 to 5, where 1 represents abundance levels close to a healthy control population and 5 represents abundance levels close to cats with periodontal disease. Below are Leo's TOP 3 most significant microbes associated with high, medium, and low risk, respectively.

Currently, Leo's abundance levels for 20 out of 108 microbes are consistent with having periodontal disease (19%).

Top 3 high risk microbes

Tessaracoccus timonensis	=====	=====	=====	=====	=====
Desulfovibrio sp. G11	=====	=====	=====	=====	=====
Saccharomyces eubayanus	=====	=====	=====	=====	=====

Top 3 medium risk microbes

Actinomyces israelii	=====	=====	=====	=====	=====
Histophilus somni	=====	=====	=====	=====	=====
Actinomyces sp. ZJ750	=====	=====	=====	=====	=====

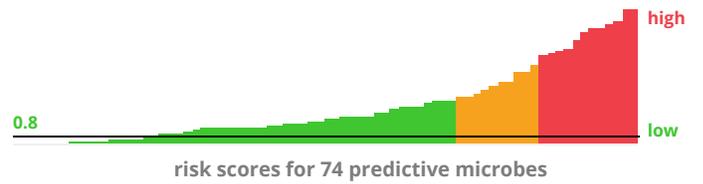
Top 3 low risk microbes

Bacteroides heparinolyticus	=====	=====	=====	=====	=====
Bacteroides xylanisolvens	=====	=====	=====	=====	=====
Capnocytophaga cynodegmi	=====	=====	=====	=====	=====

Tooth resorption

Every tooth is composed of a root canal (containing nerves, blood, and lymphatic vessels) and bony substances called dentin and enamel. When a cat suffers from tooth resorption, the dentin of the affected tooth progressively erodes. Unfortunately, tooth resorption is relatively common, affecting 20-60 percent of all cats and over 70 percent of cats over the age of five. This section explains the composition of your cat's oral microbiome as it relates to risk of having tooth resorption.

Average risk across microbes



RISK: HIGH MEDIUM LOW

We analyzed Leo's oral microbiome to establish the compositional abundance of 70 microbes predictive of tooth resorption. We ranked each microbe's abundance on a scale from 1 to 5, where 1 represents abundance levels close to a healthy control population and 5 represents abundance levels close to cats with tooth resorption. Below are Leo's TOP 3 most significant microbes associated with high, medium, and low risk, respectively.

Currently, Leo's abundance levels for 12 out of 74 microbes are consistent with having tooth resorption (16%).

Top 3 high risk microbes

Corynebacterium xerosis	<div style="width: 100%; height: 10px; background-color: red;"></div>				
Psychrobacter sp. PRwf-1	<div style="width: 100%; height: 10px; background-color: red;"></div>				
Actinobacillus pleuropneumoniae	<div style="width: 100%; height: 10px; background-color: red;"></div>	<div style="width: 90%; height: 10px; background-color: red;"></div>			

Top 3 medium risk microbes

Pasteurella dagmatis	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>
Fusobacterium gonidiaformans	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>
Parvimonas micra	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: orange;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>

Top 3 low risk microbes

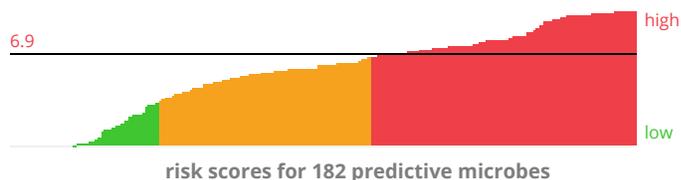
Lachnoanaerobaculum umeaense	<div style="width: 100%; height: 10px; background-color: green;"></div>	<div style="width: 100%; height: 10px; background-color: green;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>
Ottowia oryzae	<div style="width: 100%; height: 10px; background-color: green;"></div>	<div style="width: 100%; height: 10px; background-color: green;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>
Streptobacillus moniliformis	<div style="width: 100%; height: 10px; background-color: green;"></div>	<div style="width: 100%; height: 10px; background-color: green;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>	<div style="width: 100%; height: 10px; background-color: gray;"></div>

Bad breath (halitosis)

Occasional bad breath is usually not something you should worry about. However, when bad breath is a persistent problem, it may be indicative of a more serious issue. The most common cause of bad breath is periodontal disease. Different types of bad breath can also indicate general health problems, such as kidney disease, diabetes, and some liver disorders. This section explains the composition of your cat's oral microbiome as it relates to risk of having halitosis.

We analyzed Leo's oral microbiome to establish the compositional abundance of 138 microbes predictive of bad breath. We ranked each microbe's abundance on a scale from 1 to 5, where 1 represents abundance levels close to a healthy control population and 5 represents abundance levels close to cats with bad breath. Below are Leo's TOP 3 most significant microbes associated with high, medium, and low risk, respectively.

Average risk across microbes



RISK: HIGH MEDIUM LOW

Currently, Leo's abundance levels for 79 out of 182 microbes are consistent with having bad breath (43%).

Top 3 high risk microbes

Acidovorax sp. JS42 Delftia tsuruhatensis Acidovorax carolinensis



Top 3 medium risk microbes

Enterobacter roggenkampii Comamonas testosteroni Stenotrophomonas indicatrix



Top 3 low risk microbes

Moraxella ovis Cutibacterium acnes Capnocytophaga sp. H4358

