

Your PeriodDX Report

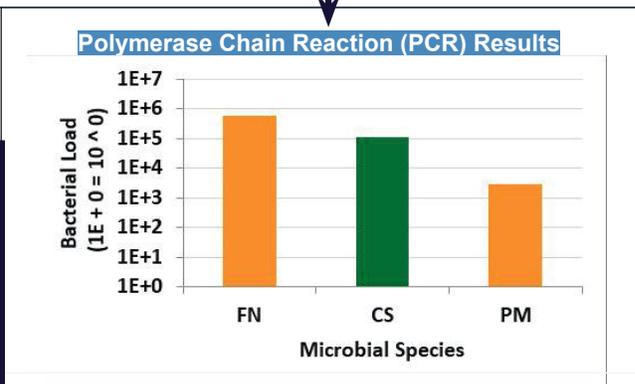
The **PeriodDX** report displays the results of Polymerase Chain Reaction (PCR) and Next Generation Sequencing (NGS) technology. PCR detects antibiotic resistance genes, microbial load, and logarithmic levels. NGS analyzes the sample and reports any of over 50,000 known microbes in the MicroGenDX curated database.

1
Antibiotic resistance genes detected in sample

3
Graph of levels of microbes associated with periodontal disease
Red complex bacteria shown in RED, orange complex bacteria show in orange, *Aggregatibacter a.* shown in black, and less pathogenic bacteria shown in green

RESISTANCE GENES DETECTED			
Macrolide			

PCR REPORT			Gram Stain	Respiration
PCR RESULTS	DNA copies per mL			
BACTERIAL LOAD	High	> 10 ⁷		
Aerobic				
None				
Anaerobic				
Fusobacterium nucleatum	5.69 x 10 ⁵		-	An
Peptostreptococcus micros	2.83 x 10 ³		+	An
Facultative Anaerobic				
None				
Unknown				
Capnocytophaga sp	1.13 x 10 ⁵		-	Unk
FUNGI DETECTED				%
None				



2
Bacterial load and microbes associated with periodontal disease detected and grouped by gram stain and respiration

Microbes and Significance

Fusobacterium nucleatum(FN)
Gram-negative bacterium associated with periodontal disease and commonly found in the plaque of humans.

Capnocytophaga species(CS)
Gram-negative bacteria located on the oropharyngeal tract and commonly involved in periodontal disease.

Peptostreptococcus micros(PM)
Gram-positive bacteria linked to progressive periodontitis.

4
Brief description of bacteria detected with PCR



How to Read Your PerioDX[®] Report

Original



MICROGEN DIAGNOSTICS

2002 W LOOP 289, SUITE 116 | LUBBOCK, TX 79407
FAX: 1 - 407 - 204 - 1401 | PHONE: 1 - 855 - 208 - 0019

PATIENT		SPECIMEN	SALIVA	PHYSICIAN	
DOB		RECEIVED		PHONE	
PATIENT ID		COMPLETED		FAX	
GEN		ACCESSION		COLLECTED	

5

Microbes detected by NGS and percentages of each microbe in the sample

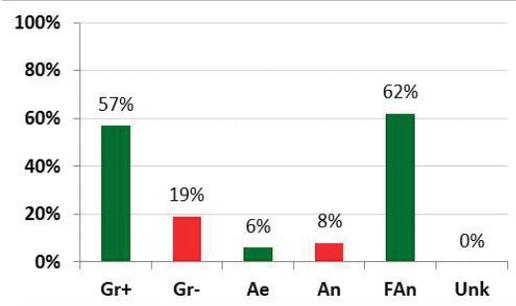
6

Total percentage of Gram-positive and facultative anaerobes in green. Total percentage of Gram- and obligate anaerobes in red.

Next Generation Sequencing REPORT

COMPLETE (NGS & PCR RESULTS)		DNA copies per mL	NGS %	Gram Stain	Respiration
BACTERIAL LOAD	High	> 10 ⁷			
Aerobic					
Neisseria subflava	NGS	4%	-	Ae	
Neisseria flava	NGS	2%	-	Ae	
Anaerobic					
Prevotella melaninogenica	NGS	5%	-	An	
Porphyromonas pasteri	NGS	3%	-	An	
Fusobacterium nucleatum		5.69 x 10 ⁵		-	An
Peptostreptococcus micros		2.83 x 10 ³		+	An
Facultative Anaerobic					
Streptococcus mitis	NGS	35%	+	FAn	
Gemella haemolysans	NGS	8%	+	FAn	
Haemophilus parainfluenzae	NGS	5%	-	FAn	
Streptococcus infantis	NGS	3%	+	FAn	
Streptococcus parasanguinis	NGS	3%	+	FAn	
Granulicatella adiacens	NGS	2%	+	FAn	
Streptococcus australis	NGS	2%	+	FAn	
Streptococcus cristatus	NGS	2%	+	FAn	
Streptococcus oralis	NGS	2%	+	FAn	
Unknown					
Capnocytophaga sp		1.13 x 10 ⁵		-	Unk

Next Generation Sequencing Microbial Percentages



Next Generation Sequencing Results

The PerioDX report lists the individual microbial species present in a sample as a percentage of the whole.

Percentages may not always add to 100% because of the large number of microbes representing <2% of the sample.

Studies have shown that healthy gum tissue and saliva has a higher concentration of aerobic gram-positive(Gr+) bacteria and facultative anaerobes(FAn).

Conversely, infected or diseased tissue has a higher concentration of gram-negative bacteria and anaerobes.

The bacteria and concentrations shown in the graph above, should be considered along with the patient's physical examination and history, to help develop an effective treatment plan for oral microbiome.

7

Important considerations for the clinician when interpreting the PerioDX NGS report



Get more answers.

www.MicroGenDX.com | info@microgendx.com | 855.208.0019



How to Read Your PerioDX® Report

Original



MICROGEN DIAGNOSTICS
2002 W LOOP 289, SUITE 116 | LUBBOCK, TX 79407
FAX: 1 - 407 - 204 - 1401 | PHONE: 1 - 855 - 208 - 0019

PATIENT		SPECIMEN	SALIVA	PHYSICIAN	
DOB		RECEIVED		PHONE	
PATIENT ID		COMPLETE			
GENDER		ACCESSION			
	PCR bacteria tested		Fungi tested		Antimicrobial gene presence tested
qPCR TESTS FOR BACTERIA		FUNGI		RESISTANCE GENES	
Streptococcus pyogenes Campylobacter rectus Eikenella corrodens Fusobacterium nucleatum Peptostreptococcus micros Prevotella intermedia Streptococcus mutans Treponema denticola	Aggregatibacter actinomycetemcomitans Capnocytophaga sp Eubacterium nodatum Neisseria meningitidis Porphyromonas gingivalis Selenomonas noxia Tannerella forsythia	Candida albicans		Vancomycin Extended-Spectrum Beta-Lactamase Aminoglycoside Carbapenem Quinolone	Methicillin Beta-lactam Tetracycline Macrolide Bactrim

8
Considerations for the development of a patient treatment plan

Treatment Considerations

Treatment of Periodontal Disease is important due to the morbidity associated with tooth and bone loss. Many bacteria associated with gum disease are also associated with systemic disease, such as atherosclerosis, type 2 diabetes, dementia, cancers and some pregnancy complications.

Major shifts in the oral microbiome may indicate the need for a re-evaluation of the patient's oral or systemic health. Data shows that a shift in the types of organisms in the oral microbiome can indicate a change in the patient's oral health and may indicate an increased risk of systemic health problems.

Antibiotic Stewardship is the cornerstone of antibiotic prescribing. Using the right antibiotic for the type of infection, at the correct dose and duration, will reduce resistance and improve patient safety. Because of the chronic nature of periodontal disease, systemic antibiotic efficacy may be limited.

Therapy should focus on reducing microbes associated with periodontal disease, as well as improving the health of the oral microbiome.

- Mechanical debridement** known as scaling and root planning, helps remove plaque, disrupts biofilm and allows the tissues to heal. Research shows bacteria can regrow in a matter of days after removal.
- Prescription tray therapy such as Perio-Protect**, to deliver and maintain medication, including hydrogen peroxide deep into periodontal pockets. Oxygen is deadly to many periodontal organisms.
- Systemic or topical antibiotics** may be warranted in cases when the patient's health is severely compromised. Commonly used oral antibiotics with demonstrated efficacy against anaerobes include Clindamycin, Metronidazole, and Amoxicillin/Clavulanate.
- Pocket decontamination** with lasers as an adjunct to scaling and root planning.
- Probiotics and prebiotics** can be used to promote the growth of beneficial bacteria.
- Periodontal surgery is reserved** for advanced periodontal disease with severe infections and when bone support is significantly compromised.

9
Treatment plan options for discussion with patient

For more information contact:

Tim Bowling | National Sales Director | Dental and Oral Systemic Health
PeriodxCustomerService@microgenDX.com | 855.208.0019



Get more answers.
www.MicroGenDX.com
info@microgenDX.com | 855.208.0019

