

Table S1a. Participant characteristics at baseline. ^aCD4 T-Cell Counts available for HIV+ participants only.

	Total(n=50)	HIV+ n=40	HIV- N=10	Fisher
Periodontal disease				0.297
MILD_NONE	18	12	6	
MODERATE	16	14	2	
SEVERE	16	14	2	
Gender				0.002
Male	32	30	2	
Female	17	9	8	
Trans	1	1	0	
Current Alcohol Use				1
No	24	19	5	
Yes	26	21	5	
Ethnic Group				0.552
0	34	27	7	
3	13	11	2	
Other	3	2	1	
Sexual Behaviors				0.002
Bisexual	5	5	0	
Heterosexual	24	14	10	
MSM	20	20	0	
Trans	1	1	0	
Eat Candy				0.173
No	9	9	0	
Yes	40	30	10	
Drink Soda				1
No	19	15	4	
Yes	31	25	6	
SmokeTobacco				0.717
No	33	27	6	
Yes	17	13	4	
FinancialStatus				0.456
0	30	24	6	
1	11	10	1	
2	6	4	2	
3	3	2	1	
Brush Teeth				1
No	2	2	0	
Yes	48	38	10	
Floss Teeth				0.462
No	15	11	4	
Yes	35	29	6	
Saliva pH				0.484
Blue (>6, high)	37	30	7	
Green (4.5-5.5,	9	7	2	
Yellow (< 4.0, low)	2	1	1	
Age				0.005
	45.3(37.0,53.0)	47.6(40.4,54.8)	36.1(28.3,42.2)	
CD4 T-Cell Counts (PD)^a				
MILD_NONE	578.2(396.5,789.0)		N/A	
MODERATE	362.7(284.0,473.2)		N/A	
# SEVERE	351.9(243.5,424.2)		N/A	

Table S1b. Summary of Oral Examination results for HIV+/- participants stratified by severity of Periodontal Disease.

	HIV+ N-PD	HIV+, M/S-PD		HIV- N-PD	HIV- M/S-PD	
	(N=13)	(N=27)	<i>p value</i>	(N=6)	(N=4)	<i>p value</i>
Salivary flow^a	2.29+/-1.43	2.11+/-1.15	0.68	1.53+/-0.86	1.02+/-0.82	0.38
Missing, decayed, Filled teeth^a	6.72+/-4.41	6.32+/-2.65	0.73	4.8+/-3.2	10.5+/-6.45	0.1
Buffering Capacity^b						
HIGH	11(.92)	19(.73)	0.20	5(.83)	2(.5)	0.28
INTERMEDIATE_LOW	1(.08)	7(.27)		1(.17)	2(.5)	

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Standard deviation values in parentheses. Statistics obtained from Student's t-test^a or Exact Wilcoxon's^b two sample test

Table S1c. Summary of VL, CD4+ T-Cell counts and ART treatment information for HIV infected patients.

	PD Group	Viral Load ^a	CD4+ T-Cell Counts	ART
A001	S-PD	99	166	TDF+FTC+AZT+ATV/r
A002	S-PD	Und	506	TDF+DDI+EFV
A003	S-PD	Und	233	AZT+3TC+EFV
A004	S-PD	1290	175	TDF+FTC+LPV/r
A005	S-PD	Und	401	3TC+AZT+ABC
A006	M-PD	Und	115	TDF+FTC+RAL
A007	M-PD	Und	618	ABC+3TC+DRV/r
A008	S-PD	Und	693	ABC+3TC+ATV/r
A009	S-PD	Und	223	TDF+FTC+ATV/r
A010	S-PD	Und	432	3TC+AZT+NFV
A011	S-PD	670	199	TDF+FTC+ETR+DRV/r
A012	S-PD	Und	915	EFV+FTC+TDF
A013	M-PD	Und	333	EFV+FTC+TDF
A014	M-PD	Und	226	TDF+FTC+RAL
A015	S-PD	>500000	135	NAIVE
A016	S-PD	230	401	TDF+FTC+ATV/r
A017	M-PD	3100	493	AZT+3TC+LPV/r
A018	S-PD	3260	194	TDF+FTC+ATV/r
A019	M-PD	Und	285	ABC+3TC+LPV/r
A020	M-PD	Und	259	TDF+FTC+ATV/r
B001	S-PD	Und	254	TDF+FTC+EFV
B002	M-PD	Und	141	TDF+FTC+LPV/r+RAL
B003	M-PD	Und	414	TDF+FTC+ATV/r
B004	M-PD	Und	130	FTC+TDF+ATV/r+RAL
B005	N-PD	Und	444	TDF+FTC+EFV
B006	N-PD	8860	840	N/A ^b
B007	M-PD	Und	218	TDF+FTC+EFV
B008	M-PD	Und	514	ABC/3TC+TDF+RAL
B009	N-PD	Und	248	TDF+FTC+DRV/r
B010	N-PD	Und	772	TDF+FTC+ATV/r
B011	N-PD	Und	544	TDF+FTC+EFV
B012	N-PD	Und	601	ABC+3TC+LPV/r
B013	N-PD	Und	469	TDF+FTC+ATV/r
B014	N-PD	Und	845	TDF+FTC+LPV/r
B015	M-PD	Und	1049	TDF+FTC+EFV
B016	N-PD	Und	202	TDF+FTC+EFV
B017	N-PD	Und	254	TDF+FTC+ATV/r
B018	M-PD	Und	283	TDF+FTC+EFV
B019	N-PD	Und	700	N/A ^b
B020	N-PD	Und	1020	FTC+TDF+EFV

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^aUnd: Undetectable Viral Load; ^bN/A: Data not available

Table S2. Phylum level changes by HIV infection (HIV+ versus HIV-) and by moderate (M-PD) versus severe PD (S-PD). Only differences with p.adj<0.1 are shown; N/S: not significant; log2FC (A vs B) refers to log₂(A/B).#

Global		baseMean	HIV+ vs HIV-		PD(SPD vs NPD)	
			log2FC	padj	log2FC	padj
	<i>Proteobacteria</i>	2238.9	1.18	<0.001	-0.45	<0.1
	<i>Actinobacteria</i>	3311.1	0.68	<0.005	N/S	N/S
	<i>Firmicutes</i>	12225.5	N/S	N/S	-0.88	<0.001
	<i>Synergistetes</i>	40.2	N/S	N/S	1.72	<0.001
	<i>Spirochaetae</i>	32.6	N/S	N/S	1.18	<0.001
	<i>Actinobacteria</i>	3311.1	N/S	N/S	-0.49	<0.1
	<i>Chloroflexi</i>	0.4	N/S	N/S	1.32	<0.1
Teeth						
	<i>Proteobacteria</i>	1853.3	1.24	<0.005	N/S	N/S
	<i>Synergistetes</i>	67.1	N/S	N/S	1.34	<0.1
Cheek						
	<i>Proteobacteria</i>	2580.9	1.04	<0.005	-1.03	<0.005
	<i>Actinobacteria</i>	1859.6	0.59	<0.01	-0.72	<0.05
	<i>Firmicutes</i>	14791.4	N/S	N/S	-1.21	<0.001
	<i>Synergistetes</i>	25.5	N/S	N/S	2.14	<0.001
	<i>Spirochaetae</i>	23.5	N/S	N/S	1.73	<0.005
	<i>CD_TM7</i>	55.7	N/S	N/S	1.00	<0.05
Saliva						
	<i>Spirochaetae</i>	26.2	N/S	N/S	2.41	<0.001
	<i>Synergistetes</i>	16.8	N/S	N/S	1.91	<0.05
	<i>Fusobacteria</i>	1161.4	N/S	N/S	-0.91	<0.05
	<i>Proteobacteria</i>	1503.6	N/S	N/S	-1.02	<0.1
	<i>Firmicutes</i>	12949.0	N/S	N/S	-0.64	<0.1

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Table S3. Genus level significant changes in abundance associated with HIV infection (HIV+) stratified by severity of PD. Only differences with p.adj<0.1 and baseMean>100 are shown; log2FC (A vs B) refers to log₂(A/B).#

HIV+ vs HIV-			
Mild_None PD	baseMean	log2FC	padj
Uncl. Neisseriaceae	148.96	1.96	<0.001
<i>Uncl. Veillonellaceae</i>	131.16	-1.49	<0.05
<i>Selenomonas</i>	174.14	-1.35	<0.1
<i>Streptococcus</i>	5360.23	0.86	<0.1
Moderate/Severe PD			
<i>Kingella</i>	102.73	2.21	<0.005
Neisseria	262.42	1.99	<0.005
<i>Leptotrichia</i>	673.22	-1.43	<0.005
<i>Uncl.</i>			
<i>Planococcaceae</i>	0.37	3.25	<0.05
<i>Rothia</i>	1034.61	1.31	<0.05
<i>Centipeda</i>	226.89	-1.40	<0.05
<i>Uncl.</i>			
<i>Pasteurellaceae</i>	730.79	1.21	<0.05
<i>Uncl. Neisseriaceae</i>	122.52	1.26	<0.05
<i>Actinomyces</i>	705.72	0.95	<0.05
<i>Capnocytophaga</i>	147.16	1.04	<0.1
<i>Uncl. Veillonellaceae</i>	116.32	-1.03	<0.1
Moderate PD			
Neisseria	318.72	2.80	<0.01
<i>Capnocytophaga</i>	231.37	2.19	<0.01
<i>Kingella</i>	200.13	2.40	<0.05
<i>Rothia</i>	1853.54	1.98	<0.05
<i>Uncl. Veillonellaceae</i>	127.04	-1.69	<0.05
<i>Peptostreptococcus</i>	11.91	-1.84	<0.1
<i>Uncl.</i>			
<i>Lachnospiraceae</i>	27.32	-1.60	<0.1
<i>Actinomyces</i>	1312.19	1.24	<0.1
<i>Abiotrophia</i>	46.81	1.85	<0.1
Severe PD			
<i>Uncl.</i>			
<i>Pasteurellaceae</i>	443.22	2.20	<0.01
<i>Streptococcus</i>	2435.30	-1.60	<0.01
<i>Leptotrichia</i>	449.75	-1.81	<0.05
Neisseria	224.32	2.14	<0.05

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Table S4. Genus level significant changes in abundance associated with HIV infection (HIV+) fully strat and sampling site. Only differences with p.adj<0.1 and baseMean>100 are shown; log2FC (A vs B) refer

Teeth	N-PD / HIV+ vs HIV-			M-PD / HIV+ vs HIV-			S-PD /
	baseMean	log2FC	padj	baseMean	log2FC	padj	baseMean
<i>Neisseria</i>	157.10	2.53	<0.1	245.48	2.26	<0.05	N/S
<i>Uncl. Bacillales</i>	N/S	N/S	N/S	62.30	7.17	<0.001	53.12
<i>Uncl. Pasteurellaceae</i>	N/S	N/S	N/S	479.55	3.82	<0.001	313.17
<i>Rothia</i>	N/S	N/S	N/S	1062.17	4.38	<0.001	381.39
<i>Atopobium</i>	N/S	N/S	N/S	22.70	2.36	<0.05	17.70
<i>Abiotrophia</i>	N/S	N/S	N/S	29.72	4.24	<0.001	12.21
<i>Granulicatella</i>	N/S	N/S	N/S	67.86	2.69	<0.001	N/S
<i>Uncl. Neisseriaceae</i>	N/S	N/S	N/S	139.94	2.73	<0.001	N/S
<i>Uncl. Lachnospiraceae</i>	N/S	N/S	N/S	22.68	-2.90	<0.001	N/S
<i>Kingella</i>	N/S	N/S	N/S	165.33	2.47	<0.05	N/S
<i>Uncl. Bacteria</i>	N/S	N/S	N/S	27.38	-1.78	<0.05	N/S
<i>Leptotrichia</i>	N/S	N/S	N/S	1001.86	-1.78	<0.05	N/S
<i>Centipeda</i>	N/S	N/S	N/S	444.37	-1.87	<0.1	N/S
<i>Actinomyces</i>	N/S	N/S	N/S	1056.62	1.37	<0.1	N/S
<i>Tannerella</i>	N/S	N/S	N/S	N/S	N/S	N/S	19.02
<i>Alloprevotella</i>	N/S	N/S	N/S	N/S	N/S	N/S	40.32
<i>Porphyromonas</i>	N/S	N/S	N/S	N/S	N/S	N/S	187.29
Cheek							
<i>Neisseria</i>	131.73	2.07	<0.005	286.98	2.11	<0.1	N/S
<i>Uncl. Bacillales</i>	N/S	N/S	N/S	148.28	4.45	<0.001	96.86
<i>Abiotrophia</i>	49.00	1.95	<0.05	N/S	N/S	N/S	N/S
<i>Uncl. Pasteurellaceae</i>	1842.13	1.29	<0.1	N/S	N/S	N/S	N/S
<i>Capnocytophaga</i>	37.41	1.44	<0.1	N/S	N/S	N/S	N/S
<i>Rothia</i>	1342.50	1.42	<0.1	N/S	N/S	N/S	N/S
<i>Uncl. Synergistaceae</i>	N/S	N/S	N/S	28.12	-2.87	<0.05	N/S
<i>Leptotrichia</i>	N/S	N/S	N/S	417.43	-1.45	<0.05	N/S
<i>Uncl. Veillonellaceae</i>	N/S	N/S	N/S	49.26	-1.41	<0.1	N/S
<i>Streptococcus</i>	N/S	N/S	N/S	N/S	N/S	N/S	3778.76
Saliva							
<i>Uncl. Neisseriaceae</i>	514.63	3.03	<0.005	N/S	N/S	N/S	163.00
# <i>Parvimonas</i>	13.83	-2.03	<0.1	N/S	N/S	N/S	N/S

Table S5. Genus level significant changes in abundance associated with HIV infection (HIV+) stratified by severity of PD and adjusted for Age and Sexual Behavior. Only differences with $p_{adj} < 0.1$ and $baseMean > 100$ are shown; N/S: not significant; \log_2FC (A vs B) refers to $\log_2(A/B)$.#

Global	baseMean	HIV+ vs HIV-		Sev/ModPD vs Mild/NonePD	
		\log_2FC	p_{adj}	\log_2FC	p_{adj}
<i>Neisseria</i>	325.5	3.27	<0.0001	1.15	<0.01
<i>Selenomonas</i>	254.8	-1.94	<0.0001	N/S	N/S
<i>Uncl. Veillonellaceae</i>	160.1	-1.91	<0.0001	N/S	N/S
<i>Centipeda</i>	199.8	-1.82	<0.001	0.83	<0.05
<i>Uncl. Pasteurellaceae</i>	946.9	1.40	<0.001	-0.93	<0.01
<i>Uncl. Neisseriaceae</i>	137.6	1.47	<0.01	N/S	N/S
<i>Leptotrichia</i>	687.3	-1.01	<0.05	N/S	N/S
<i>Prevotella</i>	855.5	-0.87	<0.05	N/S	N/S
<i>Kingella</i>	101.9	1.14	<0.1	N/S	N/S
<i>Streptococcus</i>	4314.7	N/S	N/S	-0.84	<0.01
<i>Veillonella</i>	4169.0	N/S	N/S	-0.86	<0.01
<i>Rothia</i>	1112.0	N/S	N/S	-0.80	<0.05
<i>Selenomonas</i>	254.8	N/S	N/S	0.91	<0.05
<i>Granulicatella</i>	190.9	N/S	N/S	-0.70	<0.05
<i>Gemella</i>	307.7	N/S	N/S	-0.74	<0.05
Teeth					
<i>Neisseria</i>	318.6	2.80	<0.01	N/S	N/S
<i>Centipeda</i>	396.9	-2.41	<0.01	N/S	N/S
<i>Selenomonas</i>	484.4	-2.23	<0.01	N/S	N/S
<i>Uncl. Veillonellaceae</i>	298.9	-2.08	<0.05	N/S	N/S
<i>Prevotella</i>	645.4	-1.22	<0.05	N/S	N/S
<i>Uncl. Pasteurellaceae</i>	518.2	1.53	<0.1	N/S	N/S
<i>Granulicatella</i>	101.5	N/S	N/S	-1.37	<0.05
Cheek					
<i>Neisseria</i>	325.4	4.07	<0.0001	1.25	<0.05
<i>Uncl. Pasteurellaceae</i>	1390.6	1.66	<0.01	-1.15	<0.01
<i>Prevotella</i>	453.8	-0.92	<0.05	N/S	N/S
<i>Selenomonas</i>	101.0	N/S	N/S	1.33	<0.01
<i>Corynebacterium</i>	125.1	N/S	N/S	1.59	<0.01
<i>Rothia</i>	975.8	N/S	N/S	-1.40	<0.01
<i>Streptococcus</i>	7321.3	N/S	N/S	-1.17	<0.01
<i>Gemella</i>	597.4	N/S	N/S	-1.05	<0.05
<i>Veillonella</i>	3593.8	N/S	N/S	-0.84	<0.05
<i>Granulicatella</i>	244.9	N/S	N/S	-0.73	<0.1
Saliva					
<i>Uncl. Neisseriaceae</i>	285.4	2.12	= 0.42	N/S	N/S
<i>Veillonella</i>	8770.3	N/S	N/S	-1.04	<0.1

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