

Appendix 1: Adjusted hazard ratio for Hodgkin lymphoma by different HIV exposure metrics

	Recent HIV Load			% undetectable HIV			HIV copy-years viremia		
	HR	95% CI	p-value	HR	95% CI	p-value	HR	95% CI	p-value
Age at HIV diagnosis	1.01	0.99-1.02	0.34	1.01	0.99-1.02	0.29	1.01	0.99-1.03	0.27
Race/ethnicity									
White, non-Hispanic	1			1			1		
African American, non-Hispanic	1.03	0.75-1.41	0.85	1.03	0.75-1.41	0.86	1.00	0.72-1.37	0.98
Hispanic	1.41	0.87-2.27	0.16	1.41	0.88-2.27	0.16	1.46	0.90-2.35	0.12
Other	0.35	0.09-1.41	0.14	0.35	0.09-1.41	0.14	0.35	0.09-1.44	0.15
Year of first HIV diagnosis									
Pre-cART 1985-1995	1			1			1		
Early cART 1996-2001	0.52	0.37-0.73	0.002	0.57	0.40-0.82	0.02	0.75	0.54-1.04	0.08
Late cART 2002-2010	0.70	0.46-1.04	0.08	0.43	0.27-0.70	<0.01	0.69	0.46-1.03	0.07
Use of illicit drugs									
No	1			1			1		
Yes	0.94	0.68-1.29	0.69	0.95	0.69-1.30	0.73	0.91	0.66-1.26	0.56
DEYO score									
0	1			1			1		
1	1.00	0.70-1.41	0.98	0.98	0.69-1.38	0.90	0.98	0.69-1.40	0.92
2 and above	1.11	0.68-1.81	0.67	1.09	0.67-1.77	0.74	1.15	0.71-1.86	0.58
Nadir CD4									
CD4 >350	1			1			1		
CD4 200-350	0.98	0.65-1.47	0.90	1.04	0.69-1.57	0.85	1.08	0.70-1.64	0.74
CD4 < 200	1.00	0.66-1.51	0.99	1.03	0.68-1.54	0.90	1.10	0.72-1.67	0.66
Recent CD4									
CD4 >350	1			1			1		
CD4 200-350	1.81	1.20-2.75	0.005	1.63	1.14-2.34	0.01	1.59	1.10-2.28	0.01
CD4 < 200	1.81	1.26-2.59	0.001	1.49	0.99-2.23	0.06	1.28	0.85-1.93	0.23
Recent HIV RNA Load									
Log ₁₀ , copies/mL	1.00	0.94-1.05	0.88	-	-	-	-	-	-
% undetectable HIV RNA									
<20%	-	-	-	1			-	-	-
20-39%	-	-	-	0.85	0.56-1.29	0.44	-	-	-
40-59%	-	-	-	0.67	0.41-1.10	0.11	-	-	-
60-79%	-	-	-	0.84	0.51-1.37	0.48	-	-	-
≥80%	-	-	-	0.62	0.37-1.02	0.06	-	-	-
HIV copy-years viremia									
Log ₁₀ , copies x years/mL	-	-	-	-	-	-	1.22	1.06-1.40	0.005

Appendix 2: Adjusted hazard ratio for squamous cell carcinoma of the anus by different HIV exposure metrics

	Recent HIV Load			% undetectable HIV			HIV copy-years viremia		
	HR	95% CI	p-value	HR	95% CI	p-value	HR	95% CI	p-value
Age at HIV diagnosis	1.01	1.00-1.03	0.02	1.02	1.01-1.03	0.01	1.02	1.01-1.03	0.0019
Race/ethnicity									
White, non-Hispanic	1			1			1		
African American, non-Hispanic	0.56	0.44-0.71	<.0001	0.54	0.43-0.69	<.0001	0.55	0.43-0.69	<.0001
Hispanic	0.38	0.22-0.64	0.0003	0.38	0.22-0.64	0.001	0.38	0.23-0.65	0.0003
Other	0.63	0.32-1.23	0.17	0.63	0.32-1.24	0.18	0.66	0.34-1.29	0.2209
Year of first HIV diagnosis									
Pre-cART 1985-1995	1			1			1		
Early cART 1996-2001	0.95	0.73-1.25	0.74	1.07	0.80-1.41	0.66	0.87	0.66-1.14	0.3118
Late cART 2002-2010	1.53	1.04-2.24	0.03	1.82	1.22-2.71	0.01	1.39	0.95-2.03	0.0906
Use of illicit drugs									
No	1			1			1		
Yes	0.76	0.58-0.99	0.04	0.75	0.57-0.97	0.02	0.76	0.58-0.98	0.0369
DEYO score									
0	1			1			1		
1	1.16	0.91-1.48	0.22	1.16	0.91-1.47	0.23	1.12	0.88-1.43	0.3439
2 and above	1.18	0.84-1.65	0.34	1.19	0.85-1.67	0.3	1.14	0.81-1.59	0.4523
Nadir CD4									
CD4 >350	1			1			1		
CD4 200-350	1.30	0.90-1.87	0.16	1.30	0.90-1.86	0.16	1.27	0.88-1.82	0.2008
CD4 < 200	1.87	1.35-2.58	0.0002	1.92	1.38-2.65	<.0001	1.81	1.31-2.51	0.0003
Recent CD4									
CD4 >350	1			1			1		
CD4 200-350	1.45	1.11-1.88	0.01	1.38	1.06-1.79	0.02	1.34	1.03-1.75	0.0288
CD4 < 200	1.74	1.31-2.31	0.0001	1.60	1.21-2.10	0.001	1.46	1.11-1.91	0.0073
Condyloma									
No	1			1			1		
Yes	6.01	4.78-7.55	<.0001	5.99	4.77-7.53	<.0001	5.90	4.69-7.42	<.0001
Recent HIV RNA Load									
Log ₁₀ , copies/mL	1.01	0.97-1.05	0.60	-	-	-	-	-	-
% undetectable HIV RNA									
<20%	-	-	-	1			-	-	-
20-39%	-	-	-	1.05	0.79-1.40	0.73	-	-	-
40-59%	-	-	-	0.81	0.58-1.13	0.21	-	-	-
60-79%	-	-	-	0.63	0.42-0.93	0.02	-	-	-
≥80%	-	-	-	0.64	0.44-0.94	0.02	-	-	-
HIV copy-years viremia									
Log ₁₀ , copies x years/mL	-	-	-	-	-	-	1.36	1.21-1.52	<.0001

Appendix 3: Adjusted hazard ratio for hepatocarcinoma by different HIV exposure metrics

	Recent HIV Load			% undetectable HIV			HIV copy-years viremia		
	HR	95% CI	p-value	HR	95% CI	p-value	HR	95% CI	p-value
Age at HIV diagnosis	1.06	1.05-1.07	<.0001	1.06	1.05-1.07	<.0001	1.06	1.05-1.08	<.0001
Race/ethnicity									
White, non-Hispanic	1			1			1		
African American, non-Hispanic	0.95	0.75-1.21	0.67	0.95	0.75-1.21	0.70	0.93	0.74-1.18	0.57
Hispanic	1.12	0.80-1.56	0.51	1.11	0.80-1.54	0.55	1.12	0.80-1.56	0.52
Other	1.14	0.58-2.26	0.70	1.16	0.59-2.30	0.67	1.14	0.58-2.26	0.71
Year of first HIV diagnosis									
Pre-cART 1985-1995	1			1			1		
Early cART 1996-2001	1.38	1.05-1.83	0.02	1.35	1.01-1.80	0.05	1.47	1.12-1.95	0.01
Late cART 2002-2010	1.99	1.36-2.89	0.0003	1.95	1.32-2.88	0.001	2.24	1.55-3.24	<.0001
Use of illicit drugs									
No	1			1			1		
Yes	1.00	0.79-1.27	0.99	1.00	0.79-1.27	0.99	0.99	0.78-1.26	0.94
DEYO score									
0	1			1			1		
1	1.08	0.86-1.37	0.51	1.08	0.85-1.37	0.52	1.09	0.86-1.38	0.47
2 and above	1.01	0.75-1.36	0.95	1.01	0.75-1.36	0.94	1.02	0.76-1.38	0.89
Nadir CD4									
CD4 >350	1			1			1		
CD4 200-350	0.92	0.70-1.23	0.58	0.92	0.70-1.23	0.58	0.93	0.70-1.23	0.59
CD4 < 200	0.80	0.60-1.06	0.12	0.80	0.60-1.06	0.12	0.82	0.62-1.09	0.17
Recent CD4									
CD4 >350	1			1			1		
CD4 200-350	1.44	1.11-1.87	0.01	1.45	1.11-1.88	0.01	1.41	1.09-1.83	0.01
CD4 < 200	2.19	1.65-2.91	<.0001	2.23	1.69-2.95	<.0001	2.09	1.58-2.76	<.0001
Cirrhosis									
No	1			1			1		
Yes	7.67	6.14-9.57	<.0001	7.63	6.12-9.53	<.0001	7.67	6.15-9.57	<.0001
HCV infection									
No	1			1			1		
Yes	2.93	2.30-3.73	<.0001	2.92	2.29-3.72	<.0001	2.94	2.31-3.75	<.0001
Recent HIV RNA Load									
Log ₁₀ , copies/mL	0.96	0.92-1.00	0.06	-	-	-	-	-	-
% undetectable HIV RNA									
<20%	-	-	-	1			-	-	-
20-39%	-	-	-	1.27	0.93-1.74	0.13	-	-	-
40-59%	-	-	-	1.81	1.34-2.44	0.0001	-	-	-
60-79%	-	-	-	1.28	0.90-1.82	0.18	-	-	-
≥80%	-	-	-	1.39	0.98-1.99	0.07	-	-	-
HIV copy-years viremia									
Log ₁₀ , copies x years/mL	-	-	-	-	-	-	1.02	0.93-1.13	0.67