

Supplementary Table 1. Primary MTV by **T** Stage

	T2 (n=28)	T3 (n=23)	T4 (n=17)
Primary MTV			
Mean (standard deviation)	6.39 (3.20)	13.24 (8.06)	26.79 (16.64)
Median (range)	5.67 (2.22- 15.26)	11.62 (2.99- 35.22)	19.78 (7.33- 64.45)
Lowest third	19 (67.9%)	4 (17.4%)	0 (0.0%)
Middle third	8 (28.6%)	11 (47.8%)	4 (23.5%)
Highest third	1 (3.6%)	8 (34.8%)	13 (76.5%)

Analysis of variance (ANOVA): R-squared = 0.42; p <0.001

Supplementary Table 2. Correlation of Baseline Primary MTV with Treatment

Outcomes—Subgroup Analysis for p16-Positive Oropharynx Cases

Variable	Endpoint	Hazard ratio (95% CI)	p-value
Complete cases (n=25)-----			
Primary MTV (continuous)	Local relapse	1.09 (1.02, 1.16)	0.01
	Local-regional relapse	1.04 (1.00, 1.09)	0.04
	Distant metastasis	1.04 (0.98, 1.11)	0.16
	Progression-free survival	1.05 (1.01, 1.09)	0.01
	Overall survival	1.03 (0.99, 1.08)	0.14
Primary MTV (> vs. ≤ median)	Local relapse	Cannot estimate [1]	
	Local-regional relapse	4.34 (0.52, 36.08)	0.17
	Distant metastasis	Cannot estimate [1]	
	Progression-free survival	2.36 (0.61, 9.20)	0.21
	Overall survival	1.42 (0.23, 8.97)	0.71
With imputed p16 status (median n=41, range 37 to 44)-----			
Primary MTV (continuous)	Local relapse	1.08 (1.02, 1.14)	<.01
	Local-regional relapse	1.05 (1.01, 1.08)	0.01
	Distant metastasis	1.05 (0.99, 1.11)	0.09
	Progression-free survival	1.05 (1.01, 1.08)	<.01
	Overall survival	1.03 (0.99, 1.08)	0.12
Primary MTV (> vs. ≤ median)	Local relapse	Cannot estimate [1]	
	Local-regional relapse	7.90 (0.98, 64.06)	0.05
	Distant metastasis	Cannot estimate [1]	
	Progression-free survival	2.74 (0.83, 9.03)	0.10
	Overall survival	1.42 (0.31, 6.52)	0.65

CI = confidence interval.

Hazard ratios estimated from Cox models.

[1] Greater than median group has 0 events.