

**Supporting Table 2: Survival analyse of patients with OPSCC after stratification by RPA based models**

RPA model generated for	risk group defined by RPA model	treatment	n	Survival						COX regression			
				Median OS		2y-OS	3y-OS	5y-OS	p-value log-rank	Hazard Ratio (HR)	CI		P
				[years]	SD						lower	upper	
all treatments	low risk (Node 10)	surgical or non-surgical	64	-	-	92%	89%	86%		1			
	intermed. risk (Node 4+6+11)		157	5.72	0.71	75%	66%	53%	< 0.001 <sup>a</sup>	2.59	1.58	4.24	< 0.001 <sup>a</sup>
	high risk (Node 7+8)		138	1.45	0.20	41%	29%	19%	< 0.001 <sup>b</sup>	6.88	4.22	11.22	< 0.001 <sup>b</sup>
	low risk (Node 10)	surgical	50	-	-	98%	94%	92%	0.002	1			0.004
		non-surgical	14	5.54	-	71%	64%	57%		4.38	1.63	11.82	
	intermediate risk (Node 4+6+11)	surgical	102	9.44	1.79	89%	81%	64%	< 0.001	1			< 0.001
		non-surgical	55	1.98	0.44	49%	38%	32%		2.59	1.72	3.91	
	high risk (Node 7+8)	surgical	51	1.94	0.80	49%	43%	31%	0.035	1			0.037
		non-surgical	87	1.42	0.18	36%	21%	12%		1.50	1.03	2.19	
	surgical treatment	low risk (Node 5)	surgical	50	-	-	98%	96%	94%	< 0.001 <sup>a</sup>	1		
intermediate risk (Node 3)		117		7.56	1.80	85%	77%	60%	3.33		1.76	6.31	
high risk (Node 4)		36		1.69	0.55	47%	42%	30%	< 0.001 <sup>b</sup>		7.86	3.90	15.85
non-surgical treatment	low risk (Node 5)	non-surgical	27	4.76	2.59	59%	56%	48%	0.044 <sup>a</sup>	1			0.046 <sup>a</sup>
	intermediate risk (Node 3)		70	1.81	0.34	49%	33%	24%		1.76	1.01	3.06	
	high risk (Node 4)		59	1.13	0.29	30%	18%	11%		0.012 <sup>b</sup>	2.82	1.60	

p-values: a: low- vs. intermediate. b: intermediate- vs. high-risk.