

Figure S1. A three-dimensional scatter plot of WMSFM post/pre IMRT (z-axis), $D_{\text{mean}_{\text{contra}}}$ (y-axis), and $D_{\text{mean}_{\text{ipsi}}}$ (x-axis) for short- (left) and long-term (right) xerostomia (red) in the *MSKCC* (upper) and the *BCCA* (lower) cohort. Note: Patients without xerostomia are denoted in blue, and patients with $WMSFM_{\text{post/pre IMRT}} > 1.0$ are located above the solid z-axis line.

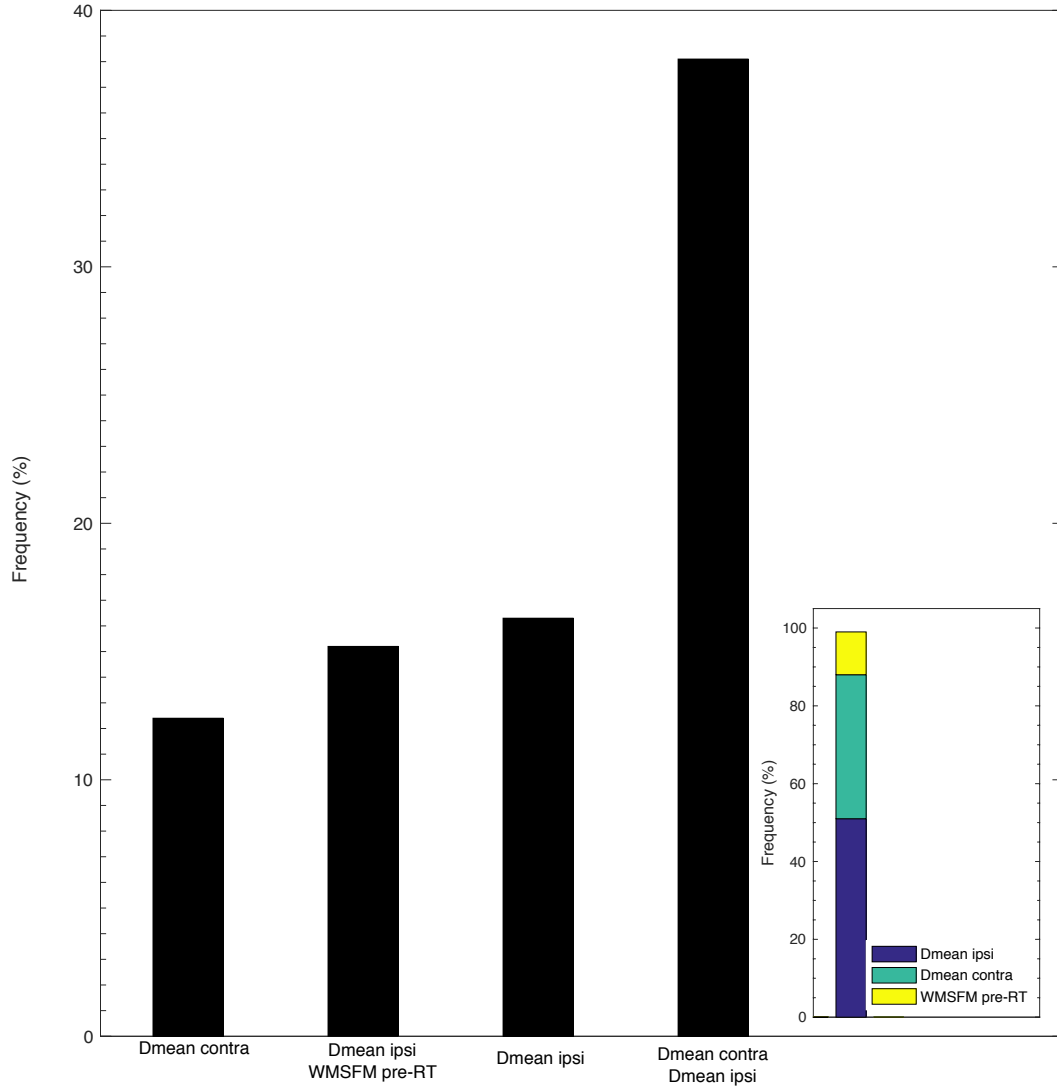


Figure S2. The frequency of the four most selected MVA models (selected in $\geq 10\%$ *i.e.* in at least 100 of the 1000 possible models) for short-term xerostomia in the *MSKCC* cohort (left), and the relative contribution of each individual variable across the four MVA models (inserted to the right).

Table S1. Comparison of available patient characteristics between the *MSKCC* and the *BCCA* cohort. Note: The *p*-values come from a Mann-Whitney *U* test, and significance is denoted with *.

	BCCA		MSKCC		<i>p</i>
	Follow-up: Short/Long		Follow-up: Short		
	n=66		n=55		n=53
	<i>Mean±SD</i>		<i>Mean±SD</i>		<i>p</i>
	<i>Mean±SD</i>		<i>Mean±SD</i>		<i>p</i>
Age	56±13		56±10		0.77
Dmean_{contra} [Gy]	21.8±9.0		18.3±10.2		0.03*
Dmean_{ipsi} [Gy]	34.3±14.7		30.7±17.0		0.12
WMSFM pre-RT [g/5 min]	8.6±4.1		2.8±1.3		<0.0001*
ΔWMSFM	0.34±0.30/0.54±0.35		0.61±0.51		0.001*
	<i>N (%)</i>		<i>N (%)</i>		<i>p</i>
Chemotherapy	34 (52)		38 (69)		0.007*
Gender					0.10
<i>Female</i>	22 (33)		11 (20)		0.02*
<i>Male</i>	44 (67)		44 (80)		
Surgery	10 (15)		14 (25)		0.09
Tumor Site					0.77
<i>Base of tongue</i>	11 (17)		9 (16)		0.90
<i>Buccal mucosa</i>	-		2 (4)		
<i>Floor of mouth</i>	-		1 (2)		
<i>Glottic</i>	-		4 (7)		
<i>Hypopharynx</i>	1 (2)		-		
<i>Larynx</i>	-		2 (4)		
<i>Max sinus</i>	-		1 (2)		
<i>Nasal cavity</i>	2 (3)		1 (2)		
<i>Nasopharynx</i>	25 (38)		8 (15)		
<i>Oral cavity</i>	2 (3)		-		
<i>Oral tongue</i>	-		7 (13)		
<i>Oropharynx</i>	1 (2)		-		
<i>Parotid</i>	1 (2)		2 (4)		
<i>Submandibular gland</i>	-		1 (2)		
<i>Retromolar trigone</i>	-		1 (2)		
<i>Thyroid</i>	2 (3)		1 (2)		
<i>Tonsil</i>	11 (17)		12 (22)		
<i>Unkown primary</i>	10 (15)		3 (5)		

Table S2. Re-fitted univariate and multivariate logistic regression results based on the candidate predictors in the *BCCA* cohort and as applied to this cohort.

BCCA											
Follow-up: Short						Follow-up: Long					
<i>Model</i>	<i>AUC</i>	<i>R_s</i>	<i>p</i>	<i>β</i>	<i>p_{HL}</i>	<i>Model</i>	<i>AUC</i>	<i>R_s</i>	<i>p</i>	<i>β</i>	<i>p_{HL}</i>
Dmean _{contra} *	0.71 (0.06)	0.40 (0.08)	0.01 (0.02)	0.14	0.16 (0.06)						
Dmean _{ipsi} *	0.80 (0.06)	0.53 (0.11)	0.002 (0.01)	0.09	0.21 (0.10)	Dmean _{ipsi}	0.69 (0.07)	0.25 (0.11)	0.13 (0.18)	0.05	0.42 (0.09)
Dmean _{contra} +Dmean _{ipsi} **	0.81 (0.05)	0.55 (0.09)	0.0002 (0.001)	0.08/0.07	0.27 (0.15)						

*Qualified for MVA, **Most frequently selected model (65%).