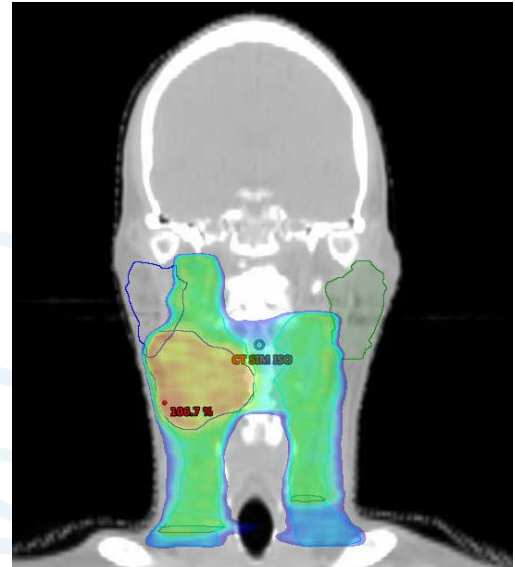
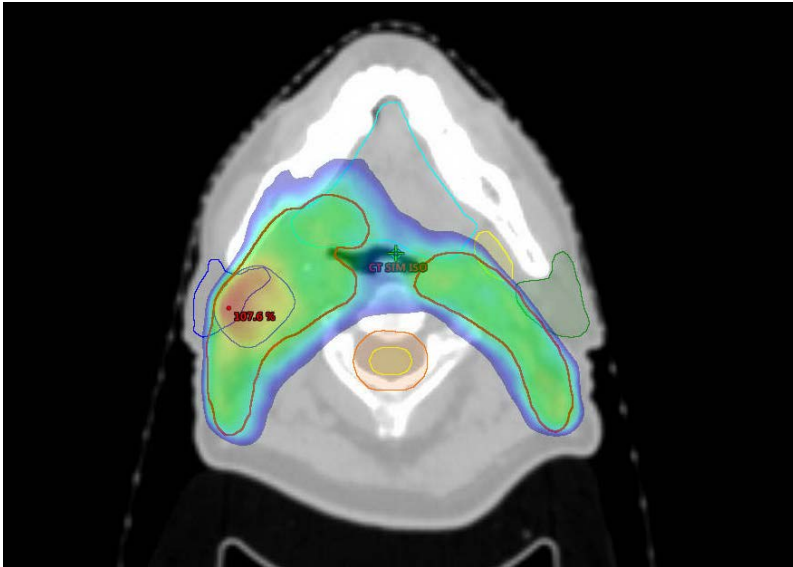


Head-and-Neck – UC San Diego

Version	Published
1	December 15, 2016



Training Set Description		
Number of training plans		101
Number of VMAT arcs		3-4
CTV – PTV margin		3mm
PTV_HIGH	Highest dose PTV	
PTV_INT_DVH	Intermediate dose PTV (subtract from PTV_HIGH)	
PTV_INT_OPT	Intermediate dose PTV (subtract from PTV_HIGH+3mm)	
PTV_LOW_DVH	Lowest dose PTV (subtract from PTV_Intermediate)	
PTV_LOW_OPT	Lowest dose PTV (subtract from PTV_Intermediate+3mm)	
<i>(Note: All PTVs should be cropped 3mm from the skin surface)</i>		
Number of cases in OAR DVH model*	3-10MM RING	26
	Brainstem	88
	Brainstem_PRV	85
	Cochlea	161
	Cord	88
	Cord_PRV	86
	Cricopharyngeus	45
	Esophagus	94
	Larynx	77
	Lips	83
	Mandible	91
	OAR_Pharynx	72
	Oral Cavity	79
	Parotid	147
	Parotid_Opt	78
	Pharynx	28
Submandibular	92	
Thyroid	39	
Trachea	21	

* Not enough brain, eye, lacrimal gland, lens, optic nerve, or optic chiasm for estimated DVH training

Head-and-Neck– UC San Diego

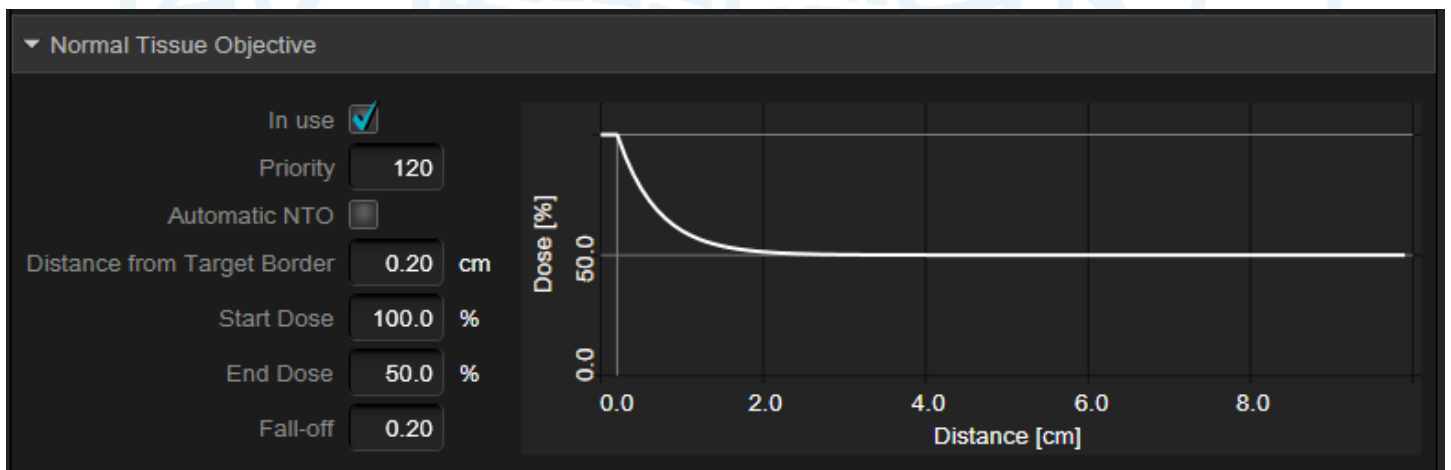
Notes:

- PTVs should be cropped 3mm from the skin surface
- When OARs are mostly or completely overlapping the PTVs (e.g. ipsilateral parotid and/or submandibular) the DVH estimates will take this into account, however it is sometimes clinically advantageous to remove the optimization objectives to these structures
- Standard UCSD prescription scaling is 100% prescription dose to 95% volume of PTV_HIGH
- Two-target SIB head-and-neck treatments can be accomplished by not matching PTV_Low to any structure
- Single-target head-and-neck treatments can be accomplished by not matching either PTV_Low or PTV_Intermediate to any structure
- While RapidPlan only allows three PTV levels to be identified, four-target head-and-neck treatments can be accomplished by identifying the two lowest targets SIB dose levels as PTV_Low with prescription dose set to the third dose level. After the estimates and objectives have been generated, the lowest dose level PTV objectives must be manually scaled to the appropriate values for the prescription. *Note: this will slightly over-estimate the OAR DVHs that abut the lowest PTV volume.*

Model Structure	Code	Objective	Volume (%)	Dose (% or Gy)	Priority
PTV_High	PTV_High	Upper	0%	103%	150
		Upper	0%	100%	0
		Lower	100%	99%	175
		Lower	98%	100%	175
PTV_Intermediate	PTV_Intermediate	Upper	0%	103%	125
		Upper	0%	100%	0
		Lower	100%	99%	150
		Lower	98%	100%	150
PTV_Low	PTV_Low	Upper	0%	103%	125
		Upper	0%	100%	0
		Lower	100%	99%	150
		Lower	98%	100%	150
3-10MM RING	Ring	Upper Mean	0%	80% 60%	100 50
Brain	50801	Upper	0%	58 Gy	125
Brainstem	79876	Upper Line	0 Generated	48 Gy Generated	200 50
Brainstem_PRV	PRV	Upper Line	0 Generated	50 Gy Generated	200 50
Cochlea	60202, 60203	Line	Generated	Generated	100
Cord	7647	Upper Line	0 Generated	43 Gy Generated	200 50
Cord_PRV	PRV	Upper Line	0 Generated	48 Gy Generated	200 50

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Model Structure	Code	Objective	Volume (%)	Dose (% or Gy)	Priority
Cricopharyngeus	54966	Line	Generated	Generated	125
Esophagus	7131	Line	Generated	Generated	125
Eye	264089, 12515, 12514	Upper	0%	45 Gy	125
Lacrimal Gland	59102, 59103	Mean	--	28 Gy	50
Larynx	55097	Line	Generated	Generated	125
Lens	58242, 58243	Upper	0%	9 Gy	125
Lips	59815	Line	Generated	Generated	50
Mandible	52748	Upper	0%	100%	50
OAR_Pharynx	Control	Line	Generated	Generated	50
Optic Chiasm	62045	Upper	0%	45 Gy	200
Optic Nerve	50875, 50878	Upper	0%	45 Gy	200
Oral Cavity	20292	Upper Line	Generated Generated	35 Generated	50 50
Parotid	59797, 59798	Line	Generated	Generated	50
Parotid_Opt	Control	Line	Generated	Generated	100
Pharynx	46688	Line	Generated	Generated	50
Submandibular	59802, 59803	Line	Generated	Generated	50
Thyroid	9603	Line	Generated	Generated	50
Trachea	7394	Line	Generated	Generated	50



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