

Impact of Standardized Structure Templates on Violations for Radiation Plans Submitted to Co-operative Group Clinical Trials

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Disclosure

- Employer: University of Alabama at Birmingham School of Medicine
- I have no conflicts of interest to disclose.



Intro/Background

- Co-operative group trials require specific structures to be submitted with RT plans
- The naming conventions can vary from trial to trial
- We sought to decrease violations resulting from incorrectly named or missing structures for RT plans submitted for Co-Op trial review

Select Required Structures		
GU 009	GU 010	GU 011
Femur_Head_L	Femur_Head_L	Femur_HeadNeck_L
Femur_Head_R	Femur_Head_R	Femur_HeadNeck_R
Femur	Femurs	-
Colon_Sigmoid	Colon_Sigmoid	Bowel_Large
Bowel_Bag	Bowel_Bag	Bowel_Small



HN 009	Our Template (TG263)
E-PTV	-
External	Body
SpinalCord	Spine
SpinalCord_PRV05	Spine_PRV05
Cavity_Oral	Cavity_Oral_AVD
Esophagus_S	Esophagus
BrachialPlexus_R	BrachialPlex_R
BrachialPlexus_L	BrachialPlex_L
Eye_R	-
Eye_L	-
Larynx_SG	Larynx
Joint_TM_R	-
Joint_TM_L	-
OpticNrv_PRV03_R	OpticNrv_R_PRV03
OpticNrv_PRV03_L	OpticNrv_L_PRV03
OpticChiasm_PRV_03	Chiasm_PRV03
Thyroid	-

Red = Required
 Green = Required when applicable
 Blue = Optional

From: [redacted]@acr.org>
Sent: [redacted]
To: [redacted]
Cc: RTOG-RTQA; [redacted]
Subject: NRG-HN009 - Case [redacted] - missing required structures **EXTERNAL**

This Message Is From an External Sender

This message came from outside the Dartmouth Health system.

Report Suspicious

Thank you for your submission, however this case is incomplete due to missing structures. Refer to the latest version of the protocol for list of required structures.

The following required structures are missing:

- External
- GTV_7000

Please resubmit the entire dataset at your earliest convenience followed with another DDSI form.

Thanks

[redacted]
 Data Assistant II
 IROC Philadelphia – RT QA Center
 ACR Center for Research & Innovation
[\[redacted\]@acr.org](mailto:[redacted]@acr.org)



Methods/Materials

- For 5 recently opened co-op group trials, a structure template was created within the TPS.
- The date of structure template creation was used as the date of intervention.
- Number of violations which occurred prior and after creation were compared by calculating odds ratios



Results

	Plans	Violations	Percent Plans with Violations	Naming Violations	Percent Plans with Naming Violations
Total	83	19	23%	14	17%
Pre-Structure Template	26	14	54%	10	38%
Post-Structure Template	57	5	9%	4	7%

OR 0.082
95% CI 0.02-0.31
P<0.001

OR 0.12
95% CI 0.03-0.50
P<0.001



Conclusions

- Creating structure sets is simple, quick, and decreased the likelihood of violations in RT plans submitted to cooperative group trials
 - May improve plan quality and decrease workload
- Limitation: Experience/familiarity may confound results
- Future considerations:
 - Trial-specific planning templates
 - AI/scripting
- Co-operative groups should standardize target/OAR names between trials



Questions?

