

Supplementary 12. Organ dose/volume/impact data for routine split exposures (except where noted):
QUANTEC

Organs	Volume	Type of irradiation (partial organ or specially indicated)	Observation index	Dose (Gy) or dose volume parameter	Incidence (%)	Dose volume parameter description
Spinal Cord	Partial spinal cord Thoracic medulla	3DCRT	Spinal cord lesions	Dmax=50	0.02	Includes all spinal cord cross-sections
Pharynx	pharyngeal constrictor muscle	3DCRT	Dysphagia and shortness of breath	Dmean<50	<20	
larynx	Total larynx	3DCRT	Edema	Dmean<44	<20	No chemotherapy, based on a single study of patients without laryngeal cancer
	Total larynx	3DCRT	Edema	V50<27%	<20	
lung	whole lung	3DCRT	Pneumonia	V20≤30%	<20	Double lung. Slow dose response Without whole lung treatment irradiation
	whole lung	3DCRT	Pneumonia	Dmean=7	5	
	whole lung	3DCRT	Pneumonia	Dmean=13	10	
	whole lung	3DCRT	Pneumonia	Dmean=20	20	
	whole lung	3DCRT	Pneumonia	Dmean=24	30	
	whole lung	3DCRT	Pneumonia	Dmean=27	40	
Esophagus	Whole Esophagus	3DCRT	≥3 Grade acute esophagitis	Dmean<34	5-20	Contains various dose limiting factors. Seems to be related to dose volume
	Whole Esophagus	3DCRT	≥ grade 2 acute esophagitis	V35<50%	<30	
	Whole Esophagus	3DCRT	≥ grade 2 acute esophagitis	V50<40%	<30	
heart	Pericardium	3DCRT	pericarditis	Dmean<26	<15	Based on individual studies
	Pericardium	3DCRT	pericarditis	V30<46%	<15	
	Whole heart	3DCRT	distant cardiac	V25<46%	<1	High standards for

			death			assessing security based on predictive models
Liver	Whole Liver - GTV	3DCRT	Typical RILD	Dmean<30-32	<5	Exclude patients with existing liver disease or liver cancer
	Whole Liver - GTV	3DCRT	Typical RILD	Dmean<42	<50	Patients with liver disease or hepatocellular carcinoma with a Child-Pugh rating of A, but not active hepatitis B, were included as observation indicators
	Whole Liver - GTV	3DCRT	Typical RILD	Dmean<28	<5	
	Whole Liver - GTV	3DCRT	Typical RILD	Dmean<36	<50	
	Whole stomach	3DCRT	Ulcer	D100<45	<7	

QUANTEC: Quantitative Analysis of Illumination Response in Clinically Normal Tissues; 3DCRT: Three-Dimensional Conformal Radiotherapy; GTV: Gross Tumor Volume; RILD: Radioactive Liver Injury; RTOG: Radiation Therapy Oncology Group of Amer