Supplementary Table S3: Normal tissue complication probabilities (NTCP) for selected organs at risk, and risk ratio (RR) for secondary CNS malignancies. NTCP is expressed in %. IQ : intellectual quotient, GH : growth hormone, ACTH : adrenocorticotropic hormone, CL: contralateral, IL: ipsilateral, SD: standard deviation; Δabs: absolute difference.

		Helium			Proton			Δ_{abs}(Helium - Proton)			
Organ at risk	Complication	Mean	±	SD	Mean	±	SD	Mean	±	SD	p-value
Brain	IQ (Merchant et al. 2006)	116.1	±	4.6	115.6	±	4.6	0.5	±	0.3	0.001
Brain	IQ (Mahajan et al. 2021)	107.7	±	0.2	107.6	±	0.3	0.1	±	0.1	0.001
Brain	Neurocognitive impairment (IQ<85)	1.5	±	1.2	1.8	±	1.3	-0.3	±	0.3	0.001
Infratentorial Brain	IQ	112.8	±	3.9	112.4	±	3.9	0.4	±	0.2	0.001
Supratentorial brain	IQ	121.6	±	5.6	121.2	±	5.6	0.4	±	0.2	0.001
Cochlea CL	Tinnitus	0.5	±	0.5	0.7	±	0.7	-0.3	±	0.3	0.002
Cochlea CL	Hearing loss	0.0	±	0.0	0.0	±	0.0	0.0	±	0.0	1.000
Cochlea IL	Tinnitus	3.0	±	3.6	7.0	±	7.6	-4.0	±	5.3	0.001
Cochlea IL	Hearing loss	0.0	±	0.0	0.0	±	0.1	0.0	±	0.1	0.063
Hippocampus (bilateral)	Delayed recall	4.6	±	3.5	8.0	±	10.2	-3.5	±	6.9	0.001
Pituitary	Endocrine dysfunction	1.0	±	0.9	1.3	±	1.1	-0.3	±	0.4	0.020
Pituitary	GH-deficiency	60.4	±	20.5	63.1	±	19.1	-2.7	±	2.2	0.003
Pituitary	Hypothyroidism	41.5	±	18.1	44.1	±	17.6	-2.6	±	1.9	0.003
Pituitary	ACTH-deficiency	23.7	±	9.0	25.0	±	8.8	-1.4	±	1.0	0.003
Lacrimal gland IL	Ocular toxicity	11.8	±	18.5	18.1	±	27.0	-6.3	±	8.6	0.001
Lens CL	Cataract	0.1	±	0.2	0.7	±	1.3	-0.5	±	1.3	0.001
Lens IL	Cataract	3.4	±	10.5	7.4	±	22.9	-3.9	±	12.9	0.001
Parotis CL	Xerostomia	1.4	±	1.1	2.2	±	1.6	-0.8	±	0.6	0.002
Parotis IL	Xerostomia	3.9	±	5.5	5.6	±	7.6	-1.7	±	2.7	0.001
Skin	Alopecia	38.0	±	9.4	44.5	±	10.2	-6.4	±	1.7	0.001
Skin	Erythema	18.7	±	2.0	19.3	±	3.1	-0.6	±	1.0	0.063

		RR (Proton/Helium)			
		Mean	±	SD	p-value
Brain	Secondary malignancies	1.4	±	0.2	0.001