

Supplemental Tables

Table 1: Patient Characteristics

Characteristic	Number/Description
All Patients	54
Age	
Median (range)	3.1 yrs (0.6-15.6 yrs)
Sex	
Male	52 (48%)
Group	
I	1 (2%)
II	7 (13%)
III	44 (81%)
IV	2 (4%)
Stage	
1	16 (30%)
2	14 (26%)
3	22 (40%)
4	2 (4%)
Histology	
Embryonal/Botryoid	40 (74%)
Alveolar/Undifferentiated	14 (26%)
Risk Group	
Low	14 (26%)
Intermediate	38 (70%)
High	2 (4%)
Site	
<i>Favorable</i>	<i>18 (33%)</i>
Orbital	12 (21%)
Head & Neck	3 (6%)
Perineal/perianal region	2 (4%)
Biliary	1 (2%)
<i>Unfavorable</i>	<i>36 (67%)</i>
Parameningeal (PM)	24 (44%)
Bladder/prostate	7 (13%)
Extremities	3 (6%)
Chest/abdomen	2 (4%)
Size	
≤ 5 cm	32 (60%)
> 5 cm	22 (40%)
Nodal Disease	
N0	48 (89%)
N1	6 (11%)
Radiation Dose	
Median (Range)	50.4 Gy (36-50.4 Gy)
Number of Beams	
Proton Median (Range)	3 (1-7)
Photon Median (Range)	7 (4-9)

Table 2: OAR doses for the single chest primary

Chest		Left Shoulder Primary (n=1)		
Structure	Dose	Proton	IMRT	% Spared
Brachial Plexus _{ipsi}	Mean (Gy)	45	51	12
	V50 (%)	50	83	40
Humerus _{ipsi}	Mean (Gy)	37	43	14
	V50 (%)	0	26	100
Lung _{ipsi}	Mean (Gy)	9	15	40
	V5 (%)	44	68	35
	V20 (%)	20	28	29
Breast _{ipsi}	Mean (Gy)	1	3	67
	V5 (%)	9	20	55
Heart	Mean (Gy)	0.1	3	97
Left Ventricle	Mean (Gy)	0	1	100
Esophagus	Mean (Gy)	10	12	17
	V20 (%)	29	31	6
Thyroid	Mean (Gy)	20	22	9
	V30 (%)	42	45	7
Skin	DMax (Gy)	52	54	4

Table 3: OAR doses for abdominal primaries

Abdomen		Biliary (n=1)			Left Paraspinal (n=1)		
Structure	Dose	Proton	IMRT	% Spared	Proton	IMRT	% Spared
Kidney _{Ipsi}	Mean (Gy)	7	14	50	18	36	50
	V20 (%)	9	15	40	47	89	47
	V30 (%)	3	3	0	34	72	53
Kidney _{Contra}	Mean (Gy)	2	6	67	0	11	100
Stomach	Mean (Gy)	8	11	27	0	8	100
	V20 (%)	1	9	89	0	0	0
Small Bowel	Mean (Gy)	6	6	0	5	23	78
	V45 (%)	1	0	-100	1	3	67
Liver	Mean (Gy)	15	16	6	0	4	100
	V20 (%)	29	30	3	0	0	0
Pancreas	Mean (Gy)	21	15	-29	0	20	100
	V20 (%)	31	16	-48	0	48	100
Pelvic Bones	Mean (Gy)	--	--	--	5	9	44
	V20 (%)	--	--	--	10	19	47
Heart	Mean (Gy)	0	1	100	--	--	--
Lt Ventricle	Mean (Gy)	0	1	100	--	--	--
Skin	DMax (Gy)	17	11	-35	40	35	-13

Table 4: OAR doses for the pelvic primaries

Pelvis		Prostate/Bladder, Perineal, Perianal, Extremity (n=12)			
Structure	Dose	Proton	IMRT	% Spared	P Value
Bladder	Mean (Gy)	22	26	15	0.02
	V30 (%)	41	48	15	0.08
Cauda	Mean (Gy)	2	5	60	0.02
	V20 (%)	3	11	73	0.05
Small Bowel	Mean (Gy)	1	3	67	0.07
	V45 (%)	0	0	0	0.35
Large Bowel	Mean (Gy)	7	11	36	0.01
	V45 (%)	7	7	0	0.8
Pelvic Bones	Mean (Gy)	11	16	31	<0.01
	V20 (%)	23	27	15	0.02
	V30 (%)	18	38	53	<0.01
Growth Plates	Mean (Gy)	11	19	42	<0.01
	V30 (%)	14	26	46	<0.01
Femoral Head	Mean (Gy)	6	13	54	<0.01
	V30 (%)	3	12	75	0.02
Rectum	Mean (Gy)	25	30	17	0.04
	V45 (%)	25	32	22	0.09
Anus	Mean (Gy)	19	26	27	0.02
	V40 (%)	36	40	10	0.31
Testes	Mean (Gy)	1	7	86	0.01
	V5 (%)	8	48	83	0.01
Uterus	Mean (Gy)	9	16	44	0.27
	V20 (%)	25	41	39	0.39
Vagina	Mean (Gy)	8	20	60	0.05
	V40 (%)	2	11	82	0.08
Ovaries	Mean (Gy)	2	11	82	0.01
	V5 (%)	16	62	74	0.03
Penile Bulb	Mean (Gy)	31	39	21	0.05
	V20 (%)	70	85	18	0.07
Skin	DMax (Gy)	33	31	-6	0.26