

ILROG Mini-Atlas: Groin location

66-year-old male presents with left groin mass

Staging and work up revealed stage IA follicular lymphoma, grade 2 limited to the left groin (Figure 1)

Treatment Plan: Definitive radiation therapy using ISRT¹ to a dose of 2400 cGy². PET/CT showing the disease in the left groin area with no evidence of disease elsewhere.

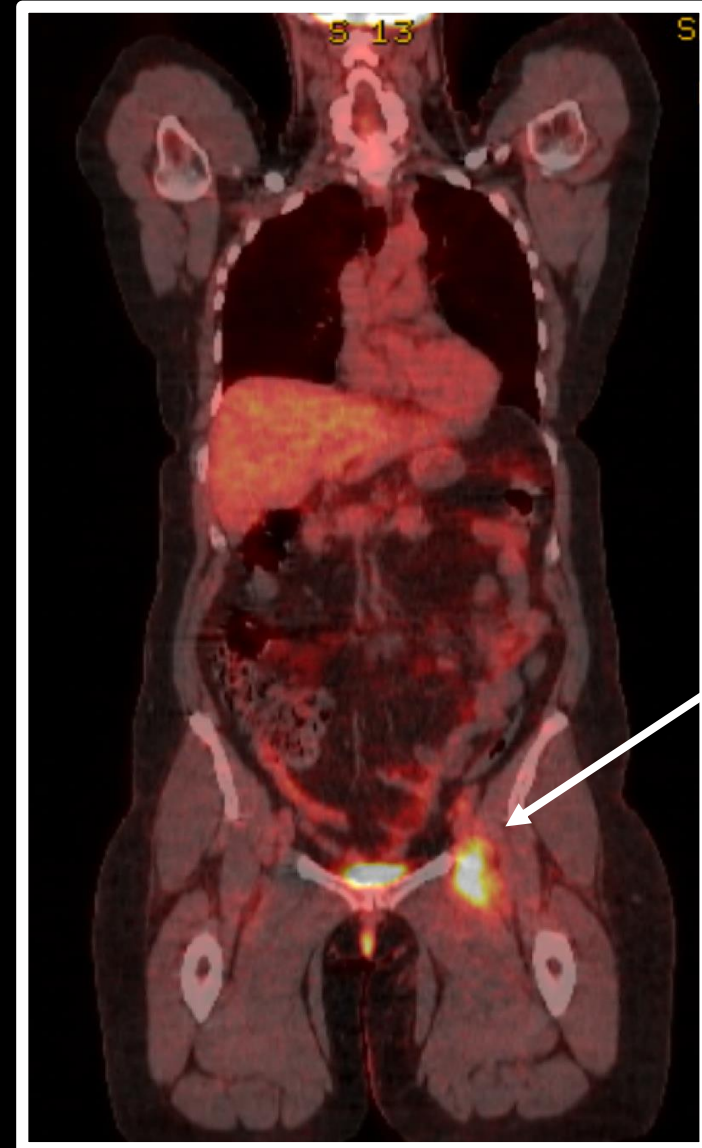
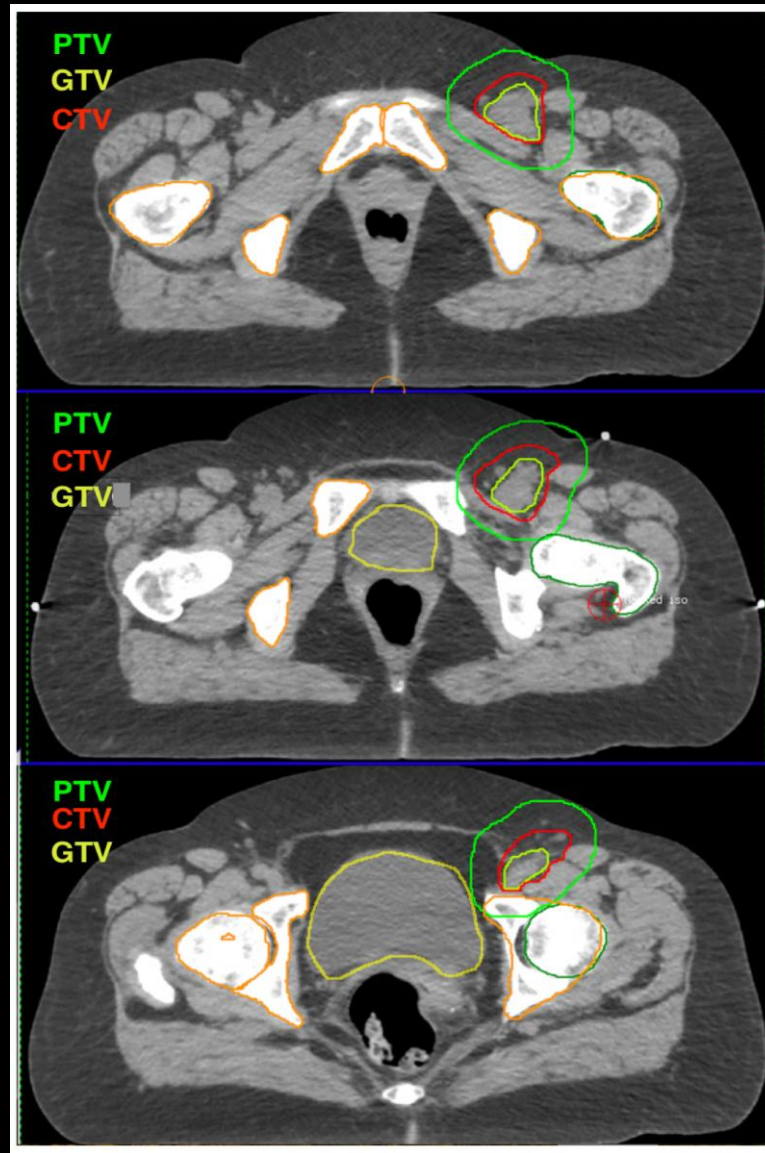
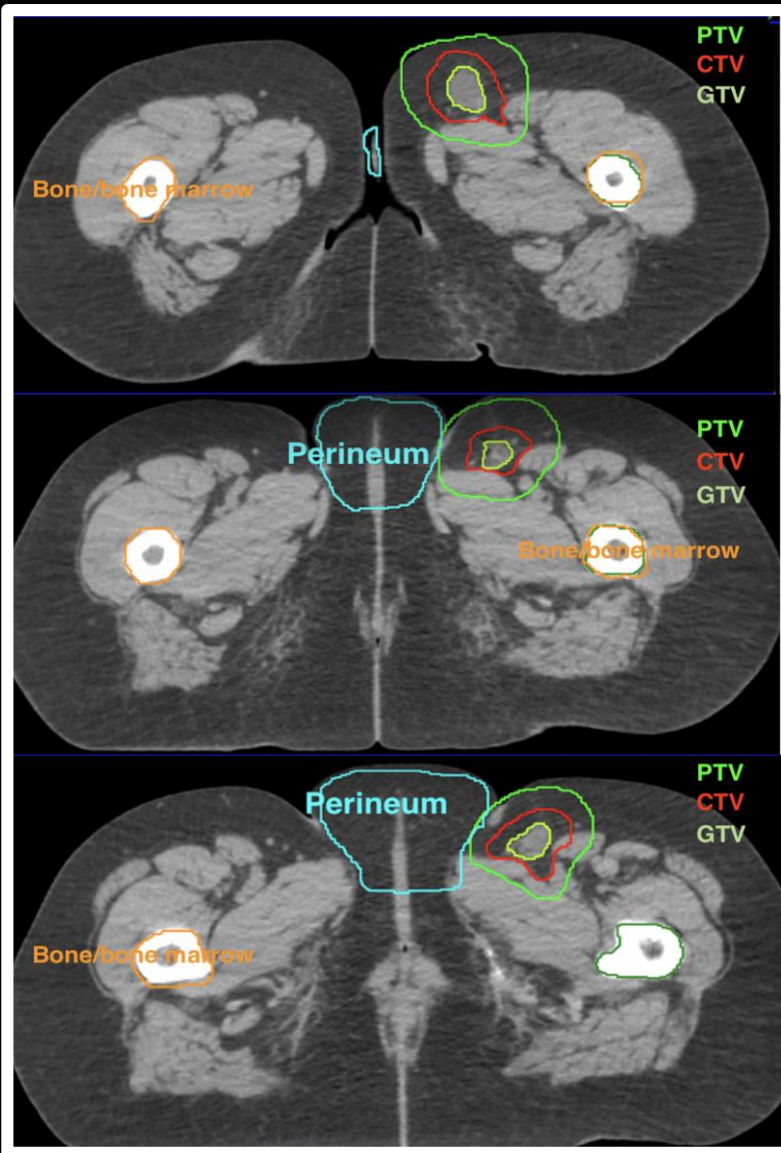


Figure 1. PET-CT demonstrating FDG avid adenopathy limited to the left groin area (arrow)

¹Illidge T, Specht L, Yahalom J et al. Modern radiation therapy for nodal non-Hodgkin lymphoma-target definition and dose guidelines from the International Lymphoma Radiation Oncology Group. *Int J Radiat Oncol Biol Phys.* 2014 May 1;89(1):49-58.

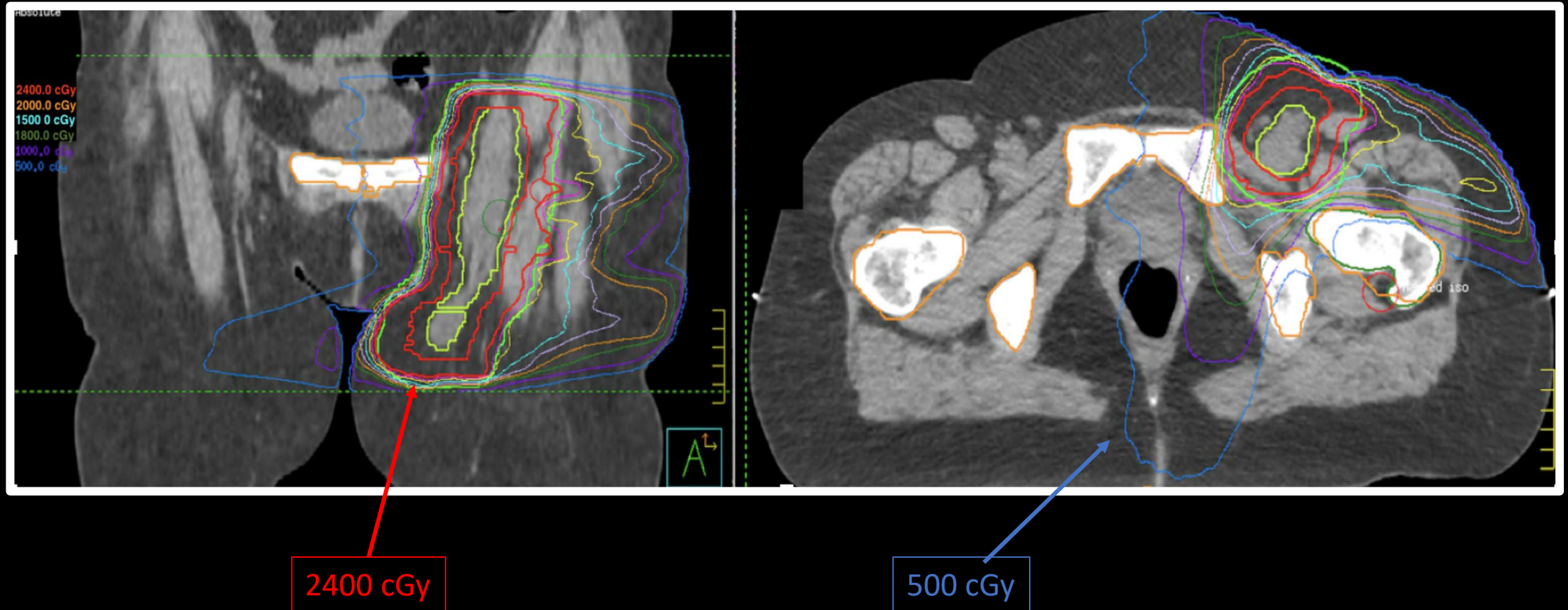
²Lowry L, Smith P, Qian W et al. Reduced dose radiotherapy for local control in non-Hodgkin lymphoma: a randomised phase III trial. *Radiother Oncol.* 2011 Jul;100(1):86-92.



Target Volumes: GTV (light green), CTV (red), and 8 mm PTV expansion (green).

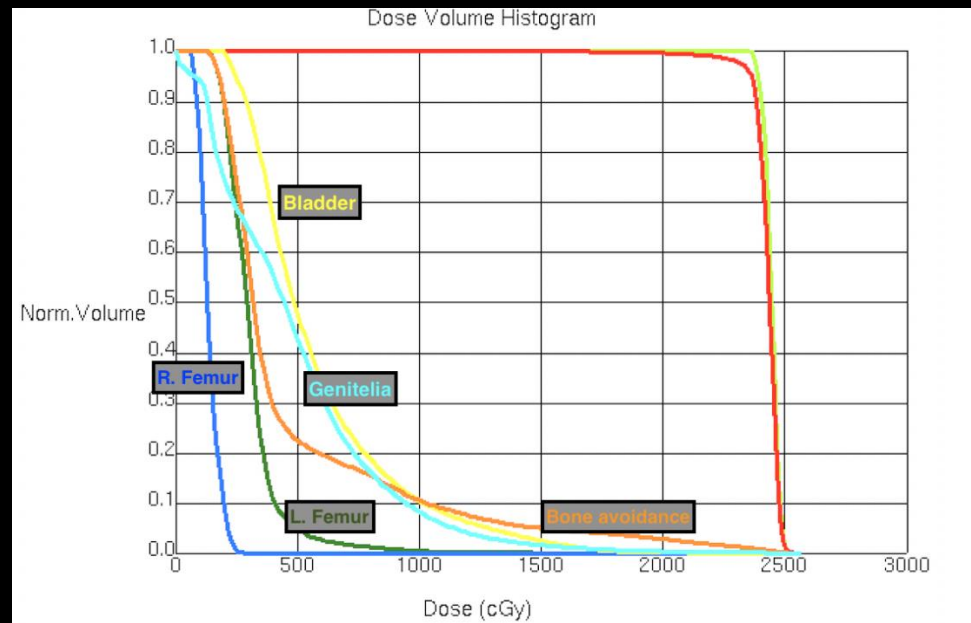
Normal Tissues: Bone/bone marrow (orange) and genitalia (teal).

Planning using IMRT encompassing the target with 24 Gy while avoiding the **bone marrow** and **genitalia**.



Plan Evaluation: Assess coverage of the CTV with prescription dose (24 Gy) as well as the impact of the 5 Gy line on normal tissues

Dose volume Histogram showing The organs at risk including Bone marrow, genitalia, Bladder and left femur.



ROI Statistics

Line Type	ROI	Trial or Record	Min.	Max.	Mean
<input type="radio"/>	GTV_2400	VMAT_BSD Aprvd	3039.5	3310.9	3196.1
<input type="radio"/>	CTV_2400	VMAT_BSD Aprvd	--	3310.9	3171.7
<input type="radio"/>	Femur_L	VMAT_BSD Aprvd	141.2	1922.7	400.7
<input type="radio"/>	Femur_R	VMAT_BSD Aprvd	81.0	361.2	178.3
<input type="radio"/>	Bladder	VMAT_BSD Aprvd	224.4	2746.8	759.8
<input type="radio"/>	Bone avoidance	VMAT_BSD Aprvd	154.3	3291.7	629.3
<input type="radio"/>	genitalia	VMAT_BSD Aprvd	--	3166.4	636.6
<input checked="" type="radio"/>	PTV 2400	VMAT_BSD Aprvd	--	3333.7	3041.0

Note that in the case where the patient is young and fertility is an issue, an alternative Technique may be considered (i.e. appositional electrons) to permit additional sparing of the genitalia from low RT doses.

Take home message:

When treating follicular lymphoma with definitive radiation therapy, ISRT is the preferred.

Even with low doses of 24 Gy care should be taken to limit dose to surrounding normal tissues.