### Planning Benchmark Case

**Post-operative chemoradiotherapy for T3 N3 M0 G3 SCC of penis**

History: Patient with T3 N3 M0 grade 3 squamous cell carcinoma of the penis and bilateral inguinal nodal involvement. He underwent total penectomy, and was subsequently randomised to receive neoadjuvant chemotherapy in arm B of the InPACT trial. Following this, bilateral inguinal dissection was performed.

Post-operative histology (inguinal lymph node dissection): 1 lymph node in the left groin and 3 lymph nodes in the right groin are infiltrated with SCC. There is evidence of extracapsular spread in bilateral groins.

Post-operative staging: Appearance is consistent with presence of residual right inguinal macroscopic disease, in addition to bilateral external iliac and right common iliac nodal involvement. There is no evidence of distant metastatic disease.

Adjuvant treatment: Patient received adjuvant chemoradiotherapy to the groin and pelvis.

**Radiotherapy Planning Exercise:**

Please import the CT and structure sets of patient **InPACT\_Planningcase** into your TPS.

Structures:

The CT has been delineated by a trial clinician with the following structures:

|  |  |  |
| --- | --- | --- |
| **Structure** | **No. of slices** | **Volume (cc)** |
| GTV\_I | 5 | 0.8 |
| GTV\_P | 28 | 10.3 |
| CTV\_5700 | 9 | 5.4 |
| CTV\_5400 | 83 | 878.9 |
| CTV\_4500 | 26 | 117.5 |
| Rectum | 48 | 124.7 |
| BowelBag | 70 | 1811.6 |
| Bladder | 20 | 111.3 |
| FemoralHeadNeck\_R | 41 | 181.1 |
| FemoralHeadNeck\_L | 40 | 182.5 |
| Scrotum | 19 | 105.0 |
| Body | 161 | 26125.5 |

Please DO NOT edit any of these structures. The number of slices on which the structures appear on have been given and volumes so that you can check that the structures have imported properly.

If you need to modify the Body outline for dose calculation or optimisation, please copy and rename the structure (keeping the original) and inform the QA team when submitting your plans.

Margins:

Grow the PTVs using your locally-determined margins. This should be based on an assessment of the immobilisation and setup used locally.

* + - PTV\_5700: 57 Gy in 25 fractions
    - PTV\_5400: 54 Gy in 25 fractions
    - PTV\_4500: 45 Gy in 25 fractions

Once the planning benchmark case has been accepted by the QA team, plan specific QA should be performed following standard local procedure for IMRT QA, and the QA data should be sent for review to the QA team. It is recommended that this is carried out once the plan has been accepted to avoid the centre carrying out QA unnecessarily.