Plan

Plan ID: IM130
Description: IMRT19fld PA: Imported and reoptimized
Creation time: 28 June 2023 01:34:11 (UTC+0)
Plan created for: Phase 1 fractions 1-25 (25 Fx)
Plan is used for: Phase 1 fractions 1-25 (25 Fx)
NOTE: Please refer to the latest RT intent report for an up-to-date number of fractions for which the plan is to be used.

Diagnosis

Anatomical site: Cervix
Diagnosis: Cervix

Phase

Template: Cervix+LNs (Push2)

Phase 1	4 targets	25 fractions
CTVp2	45.00 Gy	1.80 Gy/fx
CTVp1	45.00 Gy	1.80 Gy/fx
CTVn	45.00 Gy	1.80 Gy/fx
PTV_4500	45.00 Gy	1.80 Gy/fx

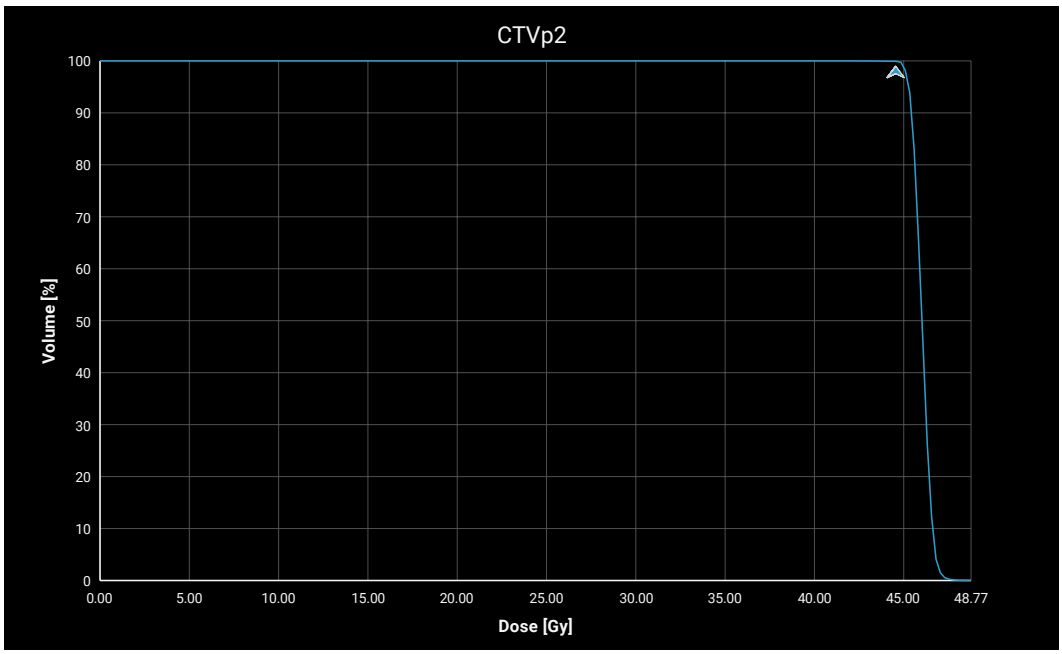
Plan type: Adaptive
Treatment frequency: One session per treatment day
Normalization to PTV_4500: V100.0 % 95.0 %
DVH estimation model: GYN node-negative - UC San Diego
Bolus: No

Clinical Goals and Achieved Values

Targets

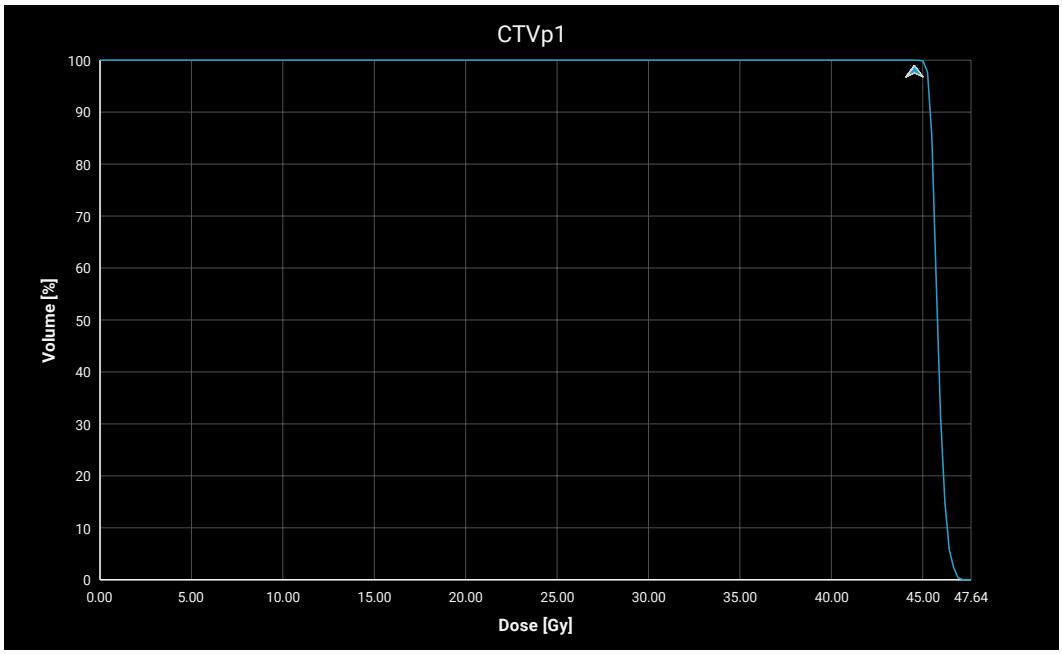
CTVp2

	Goal	Achieved Value	Goal status
P1	D99.0 % (73.02 cm3) > 99.0 % (44.55 Gy) Var: D99.0 % (73.02 cm3) ≥ 97.0 % (43.65 Gy)	100.0 % (45.01 Gy)	Met



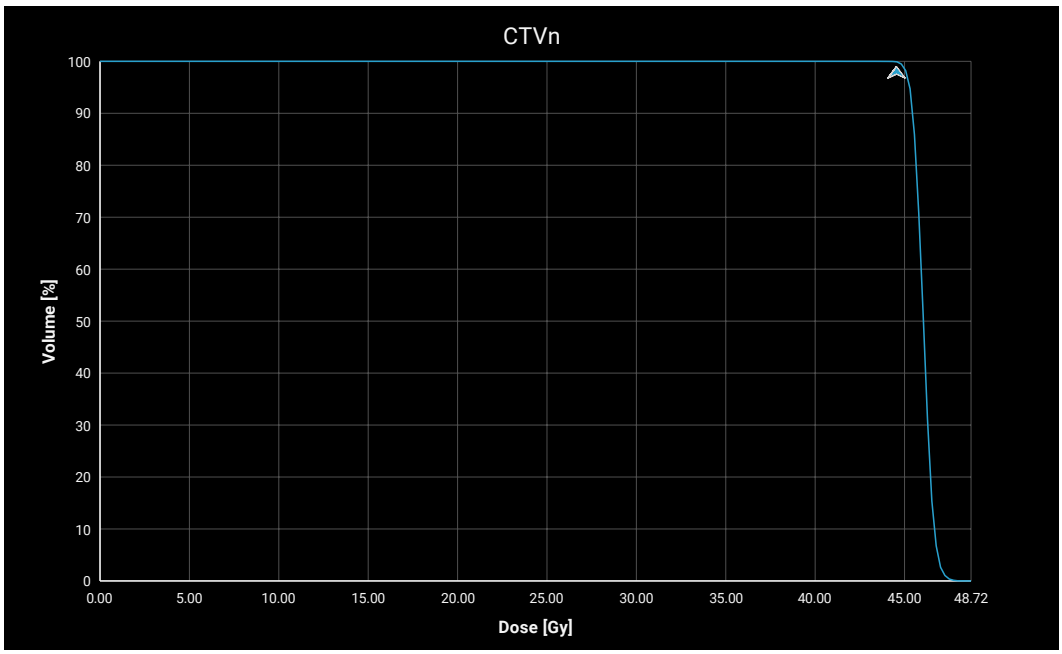
CTVp1

	Goal	Achieved Value	Goal status
P1	D99.0 % (43.62 cm3) > 99.0 % (44.55 Gy) Var: D99.0 % (43.62 cm3) ≥ 97.0 % (43.65 Gy)	100.4 % (45.18 Gy)	Met



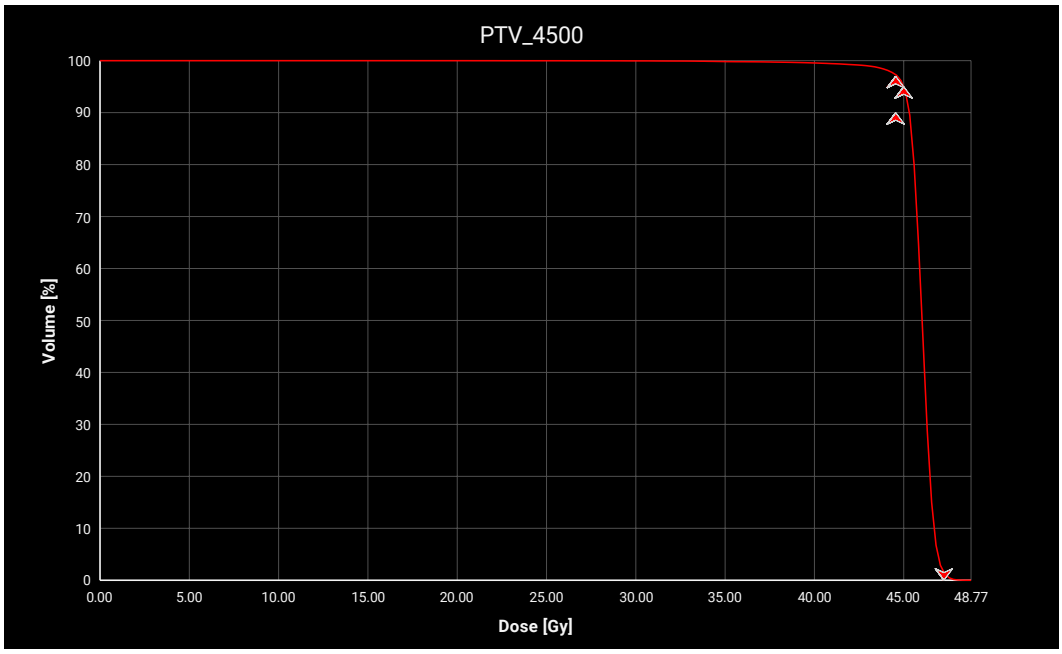
CTVn

	Goal	Achieved Value	Goal status
P1	D99.0 % (339.70 cm3) ≥ 99.0 % (44.55 Gy) Var: D99.0 % (339.70 cm3) ≥ 97.0 % (43.65 Gy)	99.9 % (44.94 Gy)	Met



PTV_4500

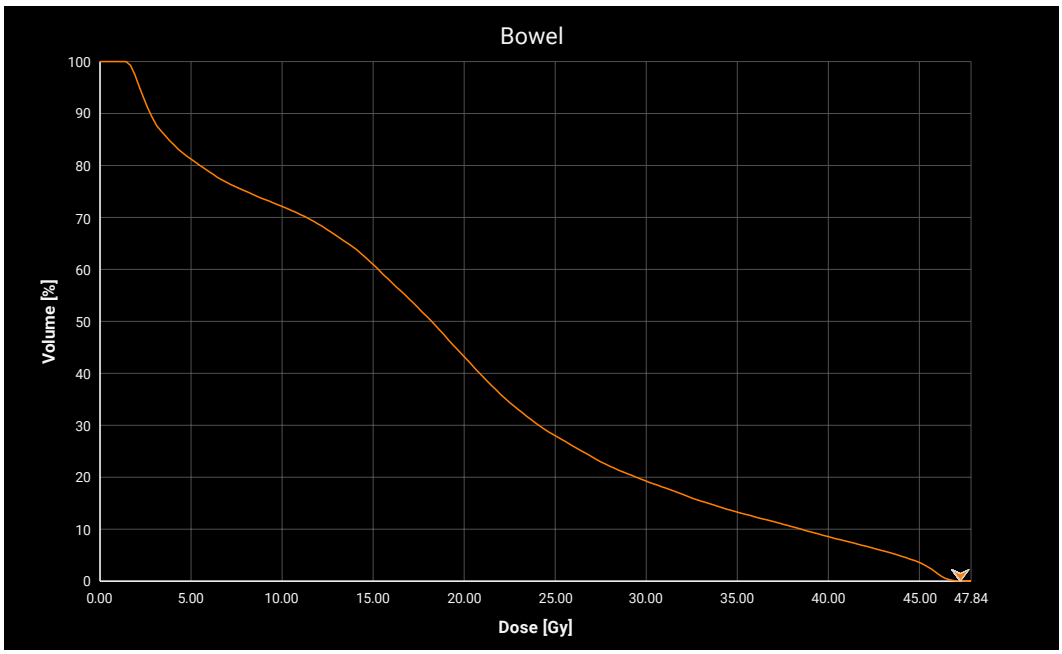
	Goal	Achieved Value	Goal status
P1	D0.03 cm3 ≤ 105.0 % (47.25 Gy) Var: D0.03 cm3 ≤ 115.0 % (51.75 Gy)	108.4 % (48.76 Gy)	Within variation
P1	D97.0 % (736.73 cm3) > 99.0 % (44.55 Gy) Var: D97.0 % (736.73 cm3) ≥ 90.0 % (40.50 Gy)	99.2 % (44.65 Gy)	Met
P1	D95.0 % (721.54 cm3) ≥ 100.0 % (45.00 Gy) Var: D95.0 % (721.54 cm3) ≥ 90.0 % (40.50 Gy)	100.0 % (45.00 Gy)	Met
PR	V99.0 % (44.55 Gy) ≥ 90.0 % (683.56 cm3)	97.3 % (739.04 cm3)	Met



Organs

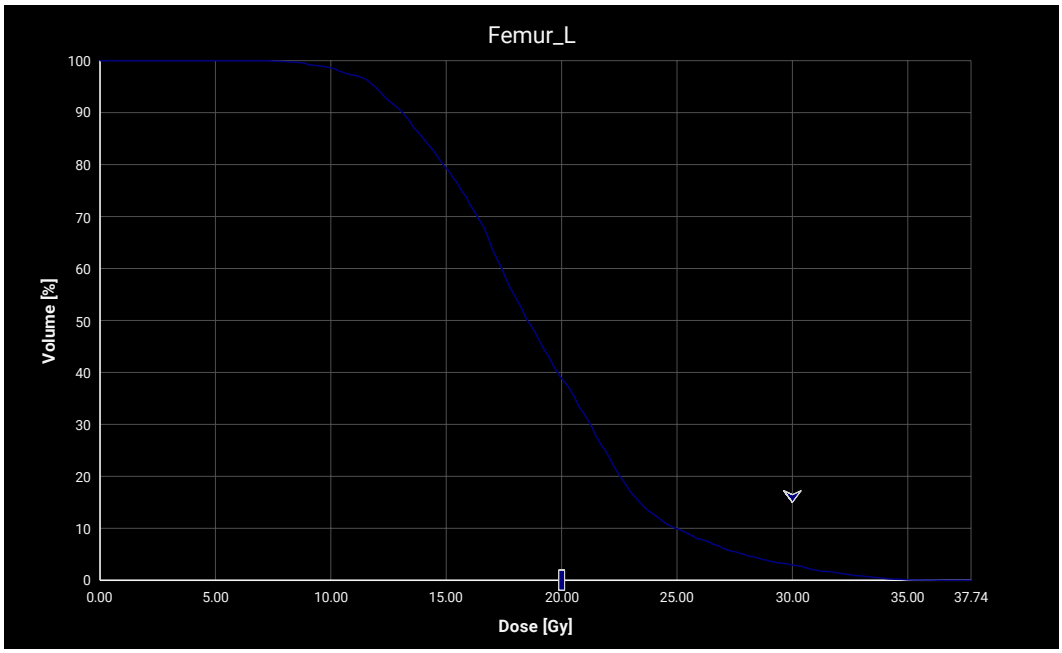
Bowel

	Goal	Achieved Value	Goal status
P1	D0.03 cm3 < 47.25 Gy Var: D0.03 cm3 ≤ 50.00 Gy	47.60 Gy	Within variation



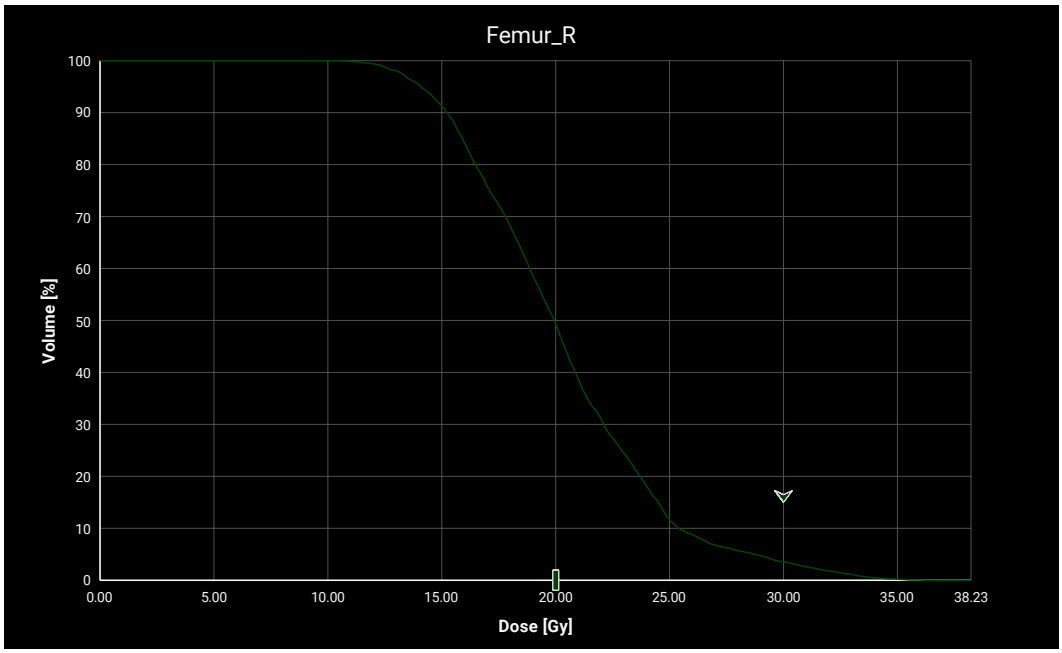
Femur_L

	Goal	Achieved Value	Goal status
P3	D15.0 % (6.01 cm3) ≤ 30.00 Gy Var: D15.0 % (6.01 cm3) ≤ 45.00 Gy	23.39 Gy	Met
P3	D0.03 cm3 ≤ 47.25 Gy Var: D0.03 cm3 ≤ 50.00 Gy	35.08 Gy	Met
P4	Dmean ≤ 20.00 Gy Var: Dmean ≤ 30.00 Gy	18.96 Gy	Met



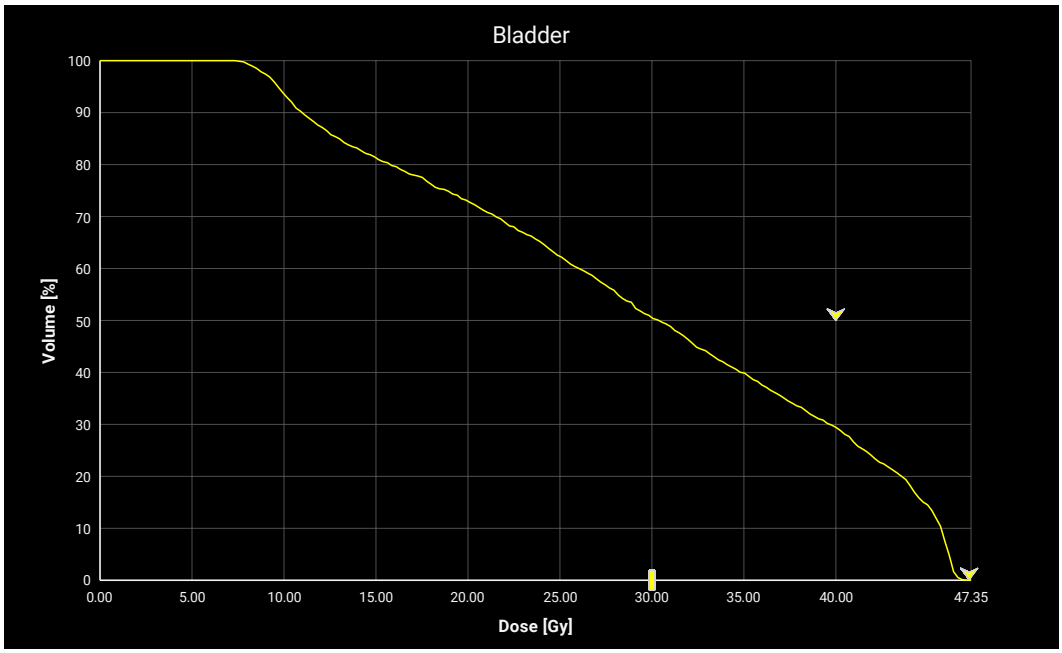
Femur_R

	Goal	Achieved Value	Goal status
P3	D15.0 % (6.18 cm3) ≤ 30.00 Gy Var: D15.0 % (6.18 cm3) ≤ 45.00 Gy	24.54 Gy	Met
P3	D0.03 cm3 ≤ 47.25 Gy Var: D0.03 cm3 ≤ 50.00 Gy	35.50 Gy	Met
P4	Dmean ≤ 20.00 Gy Var: Dmean ≤ 30.00 Gy	20.29 Gy	Within variation



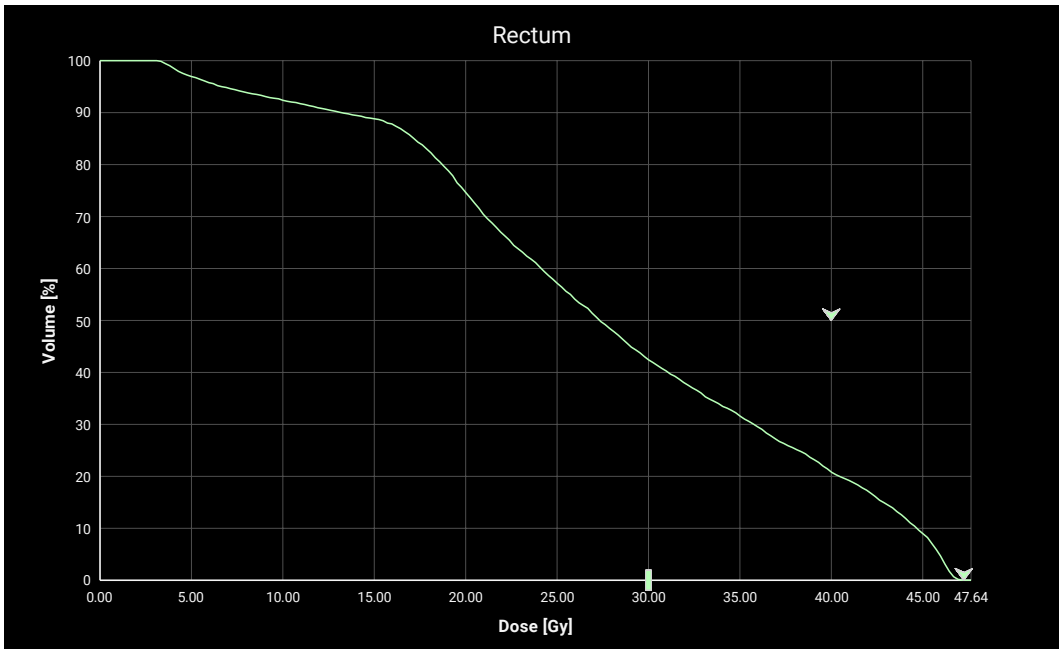
Bladder

	Goal	Achieved Value	Goal status
P2	D50.0 % (14.57 cm3) ≤ 40.00 Gy Var: D50.0 % (14.57 cm3) ≤ 45.00 Gy	30.33 Gy	Met
P2	D0.03 cm3 ≤ 47.25 Gy Var: D0.03 cm3 ≤ 50.00 Gy	46.87 Gy	Met
P4	Dmean ≤ 30.00 Gy Var: Dmean ≤ 40.00 Gy	29.57 Gy	Met



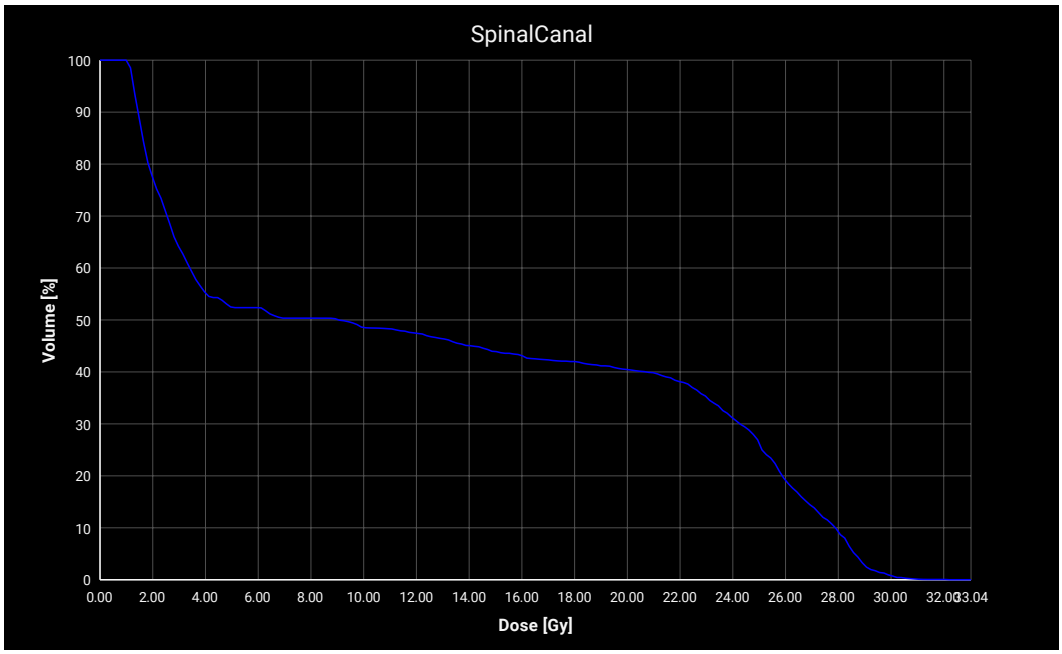
Rectum

	Goal	Achieved Value	Goal status
P2	D50.0 % (39.14 cm3) < 40.00 Gy Var: D50.0 % (39.14 cm3) ≤ 45.00 Gy	27.35 Gy	Met
P2	D0.03 cm3 ≤ 47.25 Gy Var: D0.03 cm3 ≤ 50.00 Gy	47.16 Gy	Met
P4	Dmean ≤ 30.00 Gy Var: Dmean ≤ 40.00 Gy	28.17 Gy	Met



SpinalCanal

	Goal	Achieved Value	Goal status
P1	D0.03 cm3 ≤ 40.00 Gy Var: D0.03 cm3 ≤ 47.50 Gy	31.03 Gy	Met



Global Maximum Dose: 49.01 Gy

Warnings and errors

Plan validation

Warnings

1. The image CT scanner GE MEDICAL SYSTEMS Optima CT580 * SIM1 has not been calibrated. Using calibration curves from default CT scanner DefaultCTScanner instead.

Plan

Planning directive

Phase 1	25 fx	4 targets
PTV_4500	45.00 Gy	1.80 Gy/Fx
CTVp1	45.00 Gy	1.80 Gy/Fx
CTVp2	45.00 Gy	1.80 Gy/Fx
CTVn	45.00 Gy	1.80 Gy/Fx

Normalization goal: PTV_4500: DVH point 95.0% 45.00 Gy
Normalization factor: 1.014

Treatment unit

TPS name:	Ethos Treatment Planning	Particle type:	Photon
Treatment units:	RDSMCH1, Halcyon 1	Energy:	6 MV
Dose calibration depth:	1.30 cm	Primary fluence mode:	FFF

Fields

Treatment orientation: HFS

Isocenter 1
Position (DICOM) X: 1.32 cm Y: 0.82 cm Z: -1.19 cm
Scale IEC61217

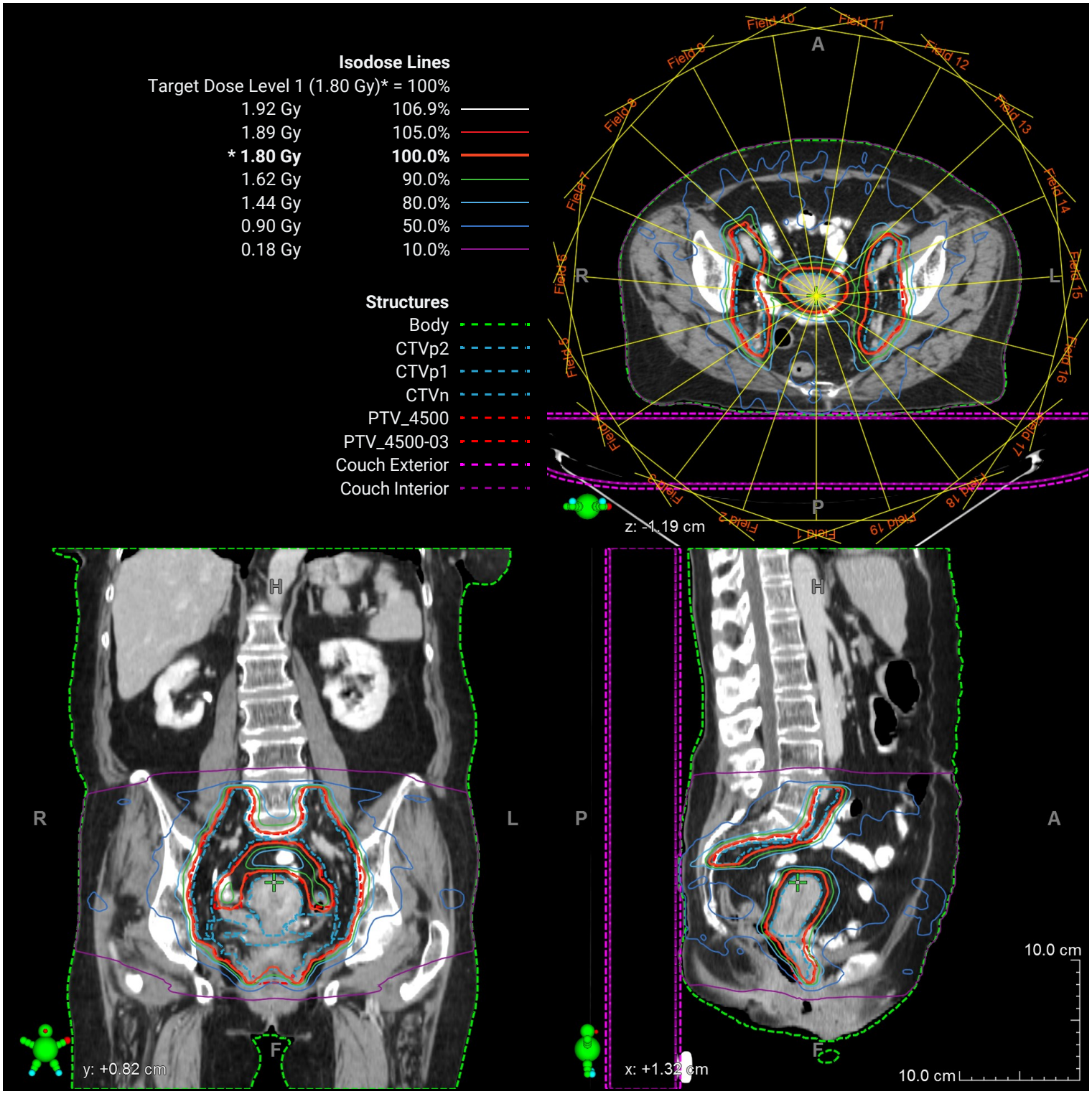
Field name		Gantry [°]	Collimator [°]	MU
Field 1	IMRT	180.0°	270.0°	182.6 MU
Field 2	IMRT	198.9°	279.5°	180.9 MU
Field 3	IMRT	217.9°	289.0°	151.9 MU
Field 4	IMRT	236.8°	298.5°	119.3 MU
Field 5	IMRT	255.8°	308.0°	176.4 MU
Field 6	IMRT	274.7°	317.5°	169.3 MU
Field 7	IMRT	293.7°	327.0°	151.6 MU
Field 8	IMRT	312.6°	336.5°	156.7 MU
Field 9	IMRT	331.6°	346.0°	184.4 MU
Field 10	IMRT	350.5°	355.5°	234.4 MU
Field 11	IMRT	9.5°	5.0°	233.5 MU
Field 12	IMRT	28.4°	14.5°	172.9 MU
Field 13	IMRT	47.4°	24.0°	157.1 MU
Field 14	IMRT	66.3°	33.5°	157.3 MU
Field 15	IMRT	85.3°	43.0°	184.8 MU
Field 16	IMRT	104.2°	52.5°	152.1 MU
Field 17	IMRT	123.2°	62.0°	115.4 MU
Field 18	IMRT	142.1°	71.5°	144.9 MU
Field 19	IMRT	161.1°	81.0°	160.2 MU

Total	3185.5 MU

Isocenter 1

Isocenter 1

X: 1.32 cm Y: 0.82 cm Z: -1.19 cm



Summary

Dose

Grid size:	X: 160 Y: 97 Z: 180
Grid resolution:	X: 0.25 cm Y: 0.25 cm Z: 0.25 cm
Dose reporting condition:	Dose to medium, transport in medium

Primary image

ID:	2.5mm
Size:	X: 512 Y: 512 Z: 180
Resolution:	X: 0.10 cm Y: 0.10 cm Z: 0.25 cm
Acquisition time:	08 January 2018 08:37:20 (UTC+0)
CT scanner:	DefaultCTScanner
Last approved by:	PhiTest01
Last approved on:	07 April 2021 09:43:52 (UTC+0)

Plan

DICOM UID:	1.2.246.352.800.5671482828530121336.5577681262864991916

Technical structures

Simulation isocenter

Position (DICOM)	X: 0.00 cm Y: 0.00 cm Z: 0.00 cm

Couch plane

Position (DICOM)	X: -25.00 cm Y: 10.60 cm Z: -18.25 cm
Couch type:	Halcyon couch

Calculation logs

Plan optimization

Algorithm version: 1.1.1001.148

Using the provided DVH estimation model in automated plan generation.
Language of dose calculation log messages: EN.
Device used for GPU acceleration: Tesla P100-PCIE-16GB
Planning Algorithm Library version 2.4.0.24 87d6b8bc6d761ca8d4c872c5d6986751cc69c21f
Device used for GPU acceleration: Tesla P100-PCIE-16GB
Beam data directory: C:\ProgramData\SF\Calculation\Fabric\work\Applications\CalculationQueueWorker_App39\CalculationQueueWorkerServiceManifest.Algorithms.1.1.1001.148.1.0.0\AutomatedPlanning.1.1.1001\BeamData//PO
Dose calculation algorithm = FTDCGPU
MLC Tongue and Groove width set to: Distal 0.040 cm, Proximal 0.056 cm.
Inhomogeneity correction = On
Air cavity correction = Off
Automatic feathering = Off
Field-grouping z-threshold = 30.00 mm
Dose calculation resolution = 2.50 mm
Structure resolution = 2.50 mm
Target projection margin = 6.00 mm
Automatic lower dose objective control = Off
Automatic target overlap control = On
IMRT minimum fluence factor = 0.000
Field 1: Fixed jaws on.
Field 2: Fixed jaws on.
Field 3: Fixed jaws on.
Field 4: Fixed jaws on.
Field 5: Fixed jaws on.
Field 6: Fixed jaws on.
Field 7: Fixed jaws on.
Field 8: Fixed jaws on.
Field 9: Fixed jaws on.
Field 10: Fixed jaws on.
Field 11: Fixed jaws on.
Field 12: Fixed jaws on.
Field 13: Fixed jaws on.
Field 14: Fixed jaws on.
Field 15: Fixed jaws on.
Field 16: Fixed jaws on.
Field 17: Fixed jaws on.
Field 18: Fixed jaws on.
Field 19: Fixed jaws on.
Patient support device 'Structure: 21' used in dose calculation, material: 'Water', density: 0.710938 g/cm3.
Patient support device 'Structure: 22' used in dose calculation, material: 'Air', density: 0.001110 g/cm3.
Highest mass density in dose calculation: 1.869 g/cm3.
Reporting dose to medium.
IMRT field normalization
Machine directory: C:\ProgramData\SF\Calculation\Fabric\work\Applications\CalculationQueueWorker_App39\CalculationQueueWorkerServiceManifest.Algorithms.1.1.1001.148.1.0.0\AutomatedPlanning.1.1.1001\BeamData//AXB/dmx/
Treatment unit: RDS_DMX, energy: 6X-FFF
Calculation is using Preconfigured Beam Data version 4.0.
MLC Tongue and Groove width set to: Distal 0.040 cm, Proximal 0.056 cm.
The automated planning task took 166.587 seconds.

Dose calculation

Algorithm version: 1.1.1001.148

Messages
Structure with type "PatientSupportDevice" and name "Couch Exterior" is used in dose calculation. The density of the structure is 0.711 g/cm3 and the material is "Water".
Structure with type "PatientSupportDevice" and name "Couch Interior" is used in dose calculation. The density of the structure is 0.001 g/cm3 and the material is "Air".
The image size is expanded to fully include the patient support device structures.
Language of dose calculation log messages: EN.
AcurosCalculationOptions.AutomaticHighDensityMaterial__ = Bone
AcurosCalculationOptions.CalculationGridSizeInCM = 0.250
AcurosCalculationOptions.DoseReportingMode = Dose to medium
AcurosCalculationOptions.FieldNormalizationType = No field normalization
AcurosCalculationOptions.HeterogeneityCorrection = ON
AcurosCalculationOptions.MaximumAutomaticHighDensityVolumeInCM3__ = 1.000
AcurosCalculationOptions.PlanDoseCalculation = ON
AcurosCalculationOptions.UseGPU = Yes
Machine directory: C:\ProgramData\SF\Calculation\Fabric\work\Applications\CalculationQueueWorker_App39\CalculationQueueWorkerServiceManifest.Algorithms.1.1.1001.148.1.0.0\DoseCalculationTask.1.1.1001\AcurosBeamData\/dmx/
Treatment unit: RDS_DMX, energy: 6X-FFF
Calculation is using Preconfigured Beam Data version 4.0.
Patient support device 'Couch Exterior' used in dose calculation, material: 'Water', density: 0.710938 g/cm3.
Patient support device 'Couch Interior' used in dose calculation, material: 'Air', density: 0.001110 g/cm3.
The following MLC dosimetric parameters read from MLC add-on beam data are used in dose calculation.
Distal MLC TnG step width = 0.040 cm.
Proximal MLC TnG step width = 0.056 cm.
MLC dosimetric leaf gap = 0.010 cm.
MLC leaf transmission factor = 0.005 .
MLC Tongue and Groove width set to: Distal 0.040 cm, Proximal 0.056 cm.
Fluence Pixel Size 1.250x1.250 mm2.
Effective interleaf gap = 0.00079 cm.
Modulation factor: 3.3463.
Modulation factor: 2.1424.
Modulation factor: 3.7649.
Modulation factor: 4.1344.
Modulation factor: 2.6641.
Modulation factor: 2.3454.
Modulation factor: 2.7999.
Modulation factor: 3.9104.
Modulation factor: 3.0362.
Modulation factor: 3.0719.
Modulation factor: 3.7807.
Modulation factor: 2.4472.
Modulation factor: 2.2679.
Modulation factor: 3.0838.
Modulation factor: 2.5775.
Modulation factor: 4.1513.
Modulation factor: 3.5528.
Modulation factor: 2.1317.
Modulation factor: 3.5151.
Highest mass density in dose calculation: 1.869 g/cm3.
Reporting dose to medium.
Flattening MLC sequence recognized on a Halcyon machine. IMRT normalization is not used, but instead the field normalization follows the regular normalization rules for a static field.
No field normalization
The dose calculation task took 51.180 seconds.

Current Plan Approval Status

Clinical Approval:	Not approved
Technical Approval:	Not approved

Plan Approval Log

There are no approvals for the plan.