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Anhang A

-

Schaubild zur Datenübermittlung

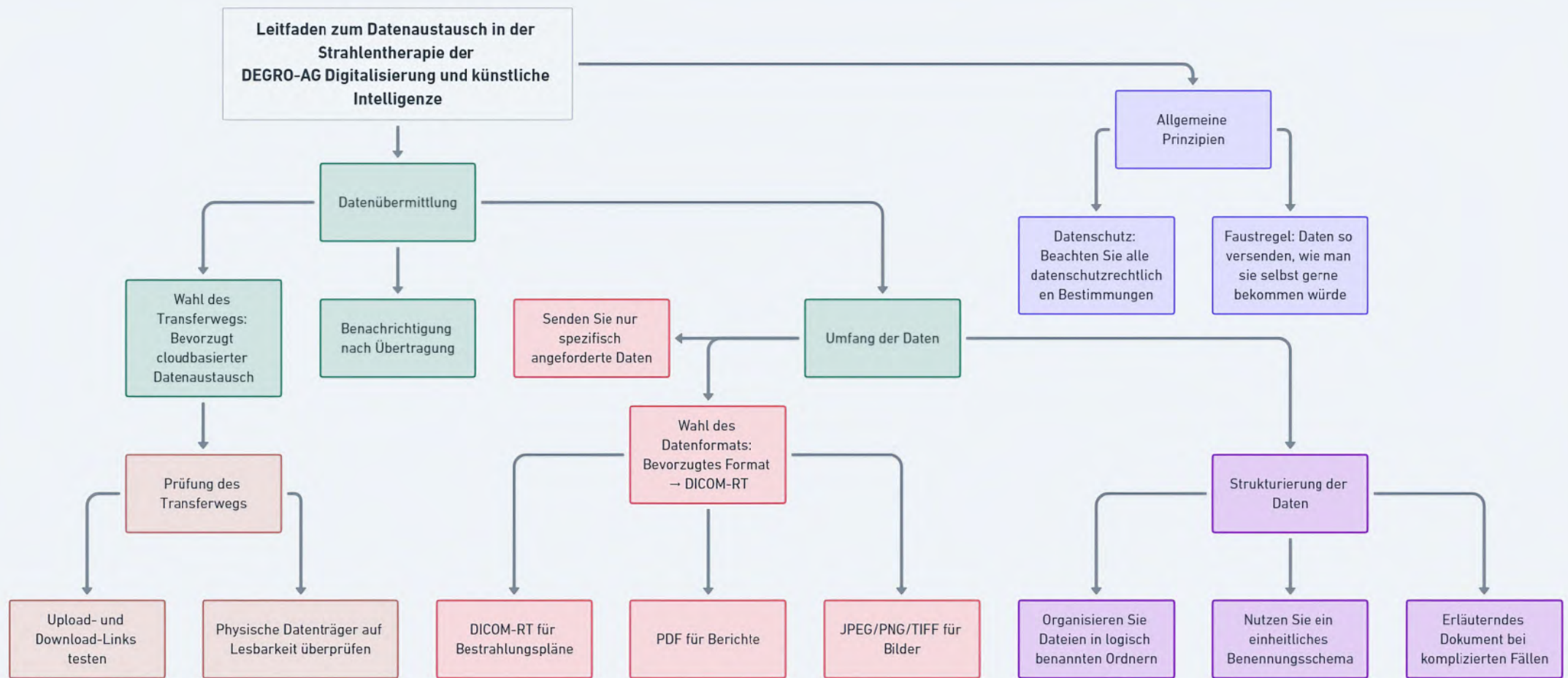
Info: Verbildlichung der Datenübermittlung in Form eines Schaubilds (Flowchart)

Projekt:

RadExchange – Standardisierung der Übermittlung von Behandlungsdaten in der Strahlentherapie

Trägerschaft:

AG Digitalisierung und künstliche Intelligenz der DEGRO (Deutsche Gesellschaft für Radioonkologie)



Anhang B

-

Bestrahlungsplanbericht (Kurzform)

Info: Beispiel eines rudimentärer Bestrahlungsplanberichts unter der Annahme, dass zusätzlich die DICOM-RT-Daten gesendet werden.

Beachte: Zur Orientierung vorm Import (oder bei Importproblemen) können zusätzliche 2D-Ansichten des Isozentrums (inklusive Konturen und Isodosenlinien) beigelegt werden.

Projekt:

RadExchange – Standardisierung der Übermittlung von Behandlungsdaten in der Strahlentherapie

Trägerschaft:

AG Digitalisierung und künstliche Intelligenz der DEGRO (Deutsche Gesellschaft für Radioonkologie)

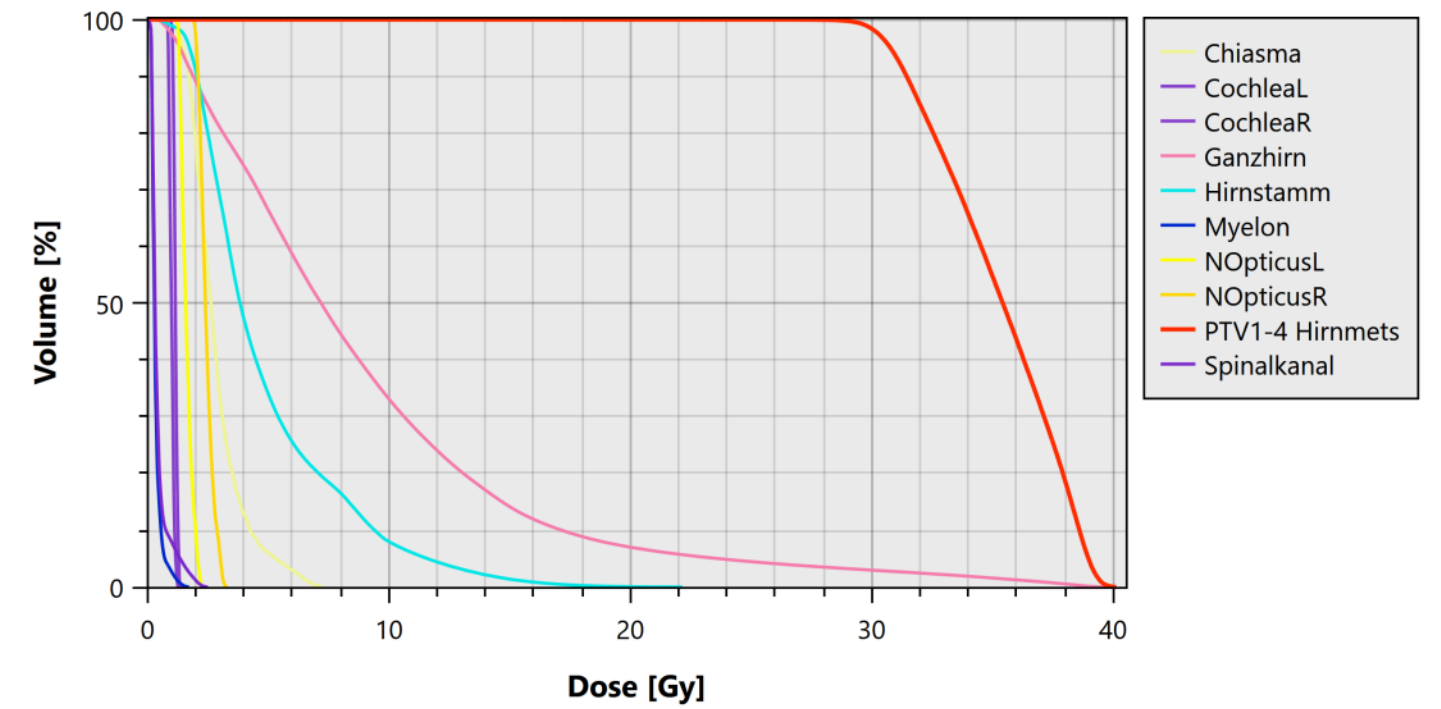
zzAnonym, anonym (zzAntonHeld) ♂

Birthdate: 10.07.2024 (age 0)
TreatmentApproved by: No TreatmentApproval

 Plan : C1 Kopf 2024/V1-4 Hirnmets

created 10.07.2024 13:02
Image: '20240704_iKopf0' taken 04.07.2024 15:07 | Orientation: HeadFirstSupine
Prescription: GD = 30 Gy, ED = 6 Gy, Fx = 5 | Gating: OFF, GantryExtended: No, Bolus: No
MLC: VMAT | Calculation Model: ACUROSXB_16.1.0 (0.1cm) | Planner: Maximilian Grohmann

Target Table							
RP-ID (Plan-ID)	GD [Gy]	ED [Gy]	Fx	D50[Gy]	D95[%]	D2[%]	D98[%]
PTV1-4 Hirnmets (V1-4 Hirnmets)	30	6	5	35.43	102.61	131.03	100.45



PQMs - 5Fx						
Template ID	Structure	Vol [cc]	Objective	Goal (Variation)	Achieved	Met
Target	PTV1-4 Hirnmets	39.99	V95%[%]	>=95 (1.0)	99.91 %	Goal
Target	PTV1-4 Hirnmets	39.99	D98%[%]	>=95 (1.0)	100.5 %	Goal
Target	PTV1-4 Hirnmets	39.99	D2%[%]	<=105 (200.0)	131.0 %	Variation
Target	PTV1-4 Hirnmets	39.99	D0.035cc[%]	<=107 (200.0)	133.1 %	Variation
Target	PTV1-4 Hirnmets	39.99	CI95%[%]	<=1.2 (50.0)	1.18	Goal
Body	BODY	5136.53	GI50%[%]	<=5 (500.0)	4.77	Goal

Chiasma	Chiasma	0.56	D0.2cc[Gy]	<=22 (23.0)	2.943 Gy	Goal
Chiasma	Chiasma	0.56	D0.035cc[Gy]	<=24 (25.0)	4.929 Gy	Goal
NOpticusL	NOpticusL	0.49	D0.2cc[Gy]	<=22 (23.0)	1.645 Gy	Goal
NOpticusL	NOpticusL	0.49	D0.035cc[Gy]	<=24 (25.0)	2.037 Gy	Goal
NOpticusR	NOpticusR	0.58	D0.2cc[Gy]	<=22 (23.0)	2.523 Gy	Goal
NOpticusR	NOpticusR	0.58	D0.035cc[Gy]	<=24 (25.0)	2.995 Gy	Goal
CochleaL	CochleaL	0.32	D0.035cc[Gy]	<=21 (22.0)	1.262 Gy	Goal
CochleaR	CochleaR	0.32	D0.035cc[Gy]	<=21 (22.0)	1.116 Gy	Goal
Hirnstamm	Hirnstamm	27.67	D0.5cc[Gy]	<=22 (23.0)	14.421 Gy	Goal
Hirnstamm	Hirnstamm	27.67	D0.035cc[Gy]	<=30 (31.0)	19.091 Gy	Goal
Myelon	Myelon	5.14	D0.35cc[Gy]	<=21 (22.0)	0.634 Gy	Goal
Myelon	Myelon	5.14	D0.035cc[Gy]	<=27 (28.0)	1.347 Gy	Goal
Ganzhirn	Ganzhirn	1389.20	D20cc[Gy]	<=23 (24.0)	35.441 Gy	Not met
Hirnstamm	Hirnstamm	27.67	D0.035cc[Gy]	<=30 (31.0)	19.091 Gy	Goal
Hirnstamm	Hirnstamm	27.67	D0.035cc[Gy]	<=22 (23.0)	19.091 Gy	Goal
CochleaL	CochleaL	0.32	Mean[Gy]	<=24 (25.0)	1.158 Gy	Goal
CochleaL	CochleaL	0.32	Max[Gy]	<=26.5 (27.5)	1.363 Gy	Goal
CochleaR	CochleaR	0.32	Mean[Gy]	<=24 (25.0)	0.996 Gy	Goal
CochleaR	CochleaR	0.32	Max[Gy]	<=26.5 (27.5)	1.266 Gy	Goal
Spinalkanal	Spinalkanal	17.04	D0.035cc[Gy]	<=24.3 (25.3)	2.262 Gy	Goal
Spinalkanal	Spinalkanal	17.04	Max[Gy]	<=29 (30.0)	2.497 Gy	Goal

DVH Metrics				
Structure	Volume [cc]	Max_D1% [Gy]	Min_D99% [Gy]	Mean_D50% [Gy]
Chiasma	0.56	7.25_6.64	1.20_1.28	2.84_2.63
CochleaL	0.32	1.36_1.33	1.00_1.02	1.16_1.15
CochleaR	0.32	1.27_1.23	0.80_0.83	1.00_0.99
Ganzhirn	1389.2	40.12_36.76	0.16_0.71	8.93_7.19
Hirnstamm	27.67	22.16_15.69	0.20_0.96	4.91_3.84
Myelon	5.14	1.71_1.27	0.07_0.11	0.34_0.29
NOpticusL	0.49	2.26_2.20	1.13_1.25	1.62_1.58
NOpticusR	0.58	3.30_3.15	1.89_1.95	2.44_2.40

PTV1-4 Hirnmets	39.99	40.12_39.48	25.73_29.75	35.22_35.43
Spinalkanal	17.04	2.50_2.03	0.03_0.11	0.43_0.31

Anhang C

-

Bestrahlungsplanbericht (Einzelplan)

Info: Beispiel eines ausführlichen Bestrahlungsplanberichts bei Ausbleiben der DICOM-RT-Daten.

Beachte:

- Hier wurden zusätzlich zu den Isozentrumsebenen noch viele repräsentative transversale CT-2D-Ansichten inklusive Konturen und Dosis dokumentiert. Dies kann durch ein Video ersetzt werden, solange die anfragende Klinik damit umgehen kann.
- Man sollte stets bemüht sein in absoluter Dosis zu dokumentieren

Projekt:

RadExchange – Standardisierung der Übermittlung von Behandlungsdaten in der Strahlentherapie

Trägerschaft:

AG Digitalisierung und künstliche Intelligenz der DEGRO (Deutsche Gesellschaft für Radioonkologie)

TREATMENT PLAN REPORT

Patient

Name:

XXX XXXX

ID:

XXX123

Birthdate:

XX.XX.XXXX

Sex:

Female

Plan

Plan ID:

1Mamma Re

Course ID:

C1 Mamma re

Course Intent:

Post-op

Image ID:

Thorax 16/08/23

Treatment Orientation:

Head First-Supine

Technique:

IMRT

Photon Calc. Model:

AAA_1612

Optimization Model

PO_1612

Dose Prescription

Target Volume:

1Mamma re_PTV

Plan Normalization Method:

100% in Target Mean

Prescribed Dose Percentage:

100.0 %

Fractionation:

Plan Dose:

42.560 Gy (2.660 Gy / fraction)

Number of Fractions:

16

Fields

	KVCBCT	52Mam R	35Mam R	228Mam R	218Mam R
Machine ID	Halcyon1062	Halcyon1062	Halcyon1062	Halcyon1062	Halcyon1062
Energy	6X-FFF	6X-FFF	6X-FFF	6X-FFF	6X-FFF
Field Size	28.0 cm x 28.0 cm	28.0 cm x 28.0 cm	28.0 cm x 28.0 cm	28.0 cm x 28.0 cm	28.0 cm x 28.0 cm
Gantry Angle	0.0 deg	52.0 deg	35.0 deg	228.0 deg	218.0 deg
Collimator Rtn	0.0 deg	330.0 deg	330.0 deg	30.0 deg	30.0 deg
Couch Rtn	0.0 deg	0.0 deg	0.0 deg	0.0 deg	0.0 deg
Scale	IEC61217	IEC61217	IEC61217	IEC61217	IEC61217
Wedge					
Isocenter X	-10.00 cm	-10.00 cm	-10.00 cm	-10.00 cm	-10.00 cm
Isocenter Y	-6.00 cm	-6.00 cm	-6.00 cm	-6.00 cm	-6.00 cm
Isocenter Z	-1.00 cm	-1.00 cm	-1.00 cm	-1.00 cm	-1.00 cm
SSD	92.5 cm	90.3 cm	91.6 cm	87.2 cm	85.9 cm
MU	Setup field	326.6 MU	237.9 MU	213.8 MU	312.6 MU

Reference Points

	Reference Point ID	Total Dose	Total Dose Per Fraction	Total Dose Limit	Daily Dose Limit	Session Dose Limit
Primary Reference Point	1Mamma re_PTV	42.560 Gy	2.660 Gy	42.560 Gy	2.660 Gy	2.660 Gy
Plan Dose				42.560 Gy		2.660 Gy

Approval

Plan Created:	Donnerstag, 17. August 2023 09:51:36	by	Haack, Yvonne
Plan Last Modified:	Freitag, 18. August 2023 10:41:51	by	Gerstein Dr., Johanna
Plan Approval:	Donnerstag, 17. August 2023 13:20:58	by	Tartz Dr., Michael
Treatment Approval:	Freitag, 18. August 2023 10:41:51	by	Gerstein Dr., Johanna

Plan verifiziert

Programm

Messung

Tabelle

Neueinstellung

MTRA:

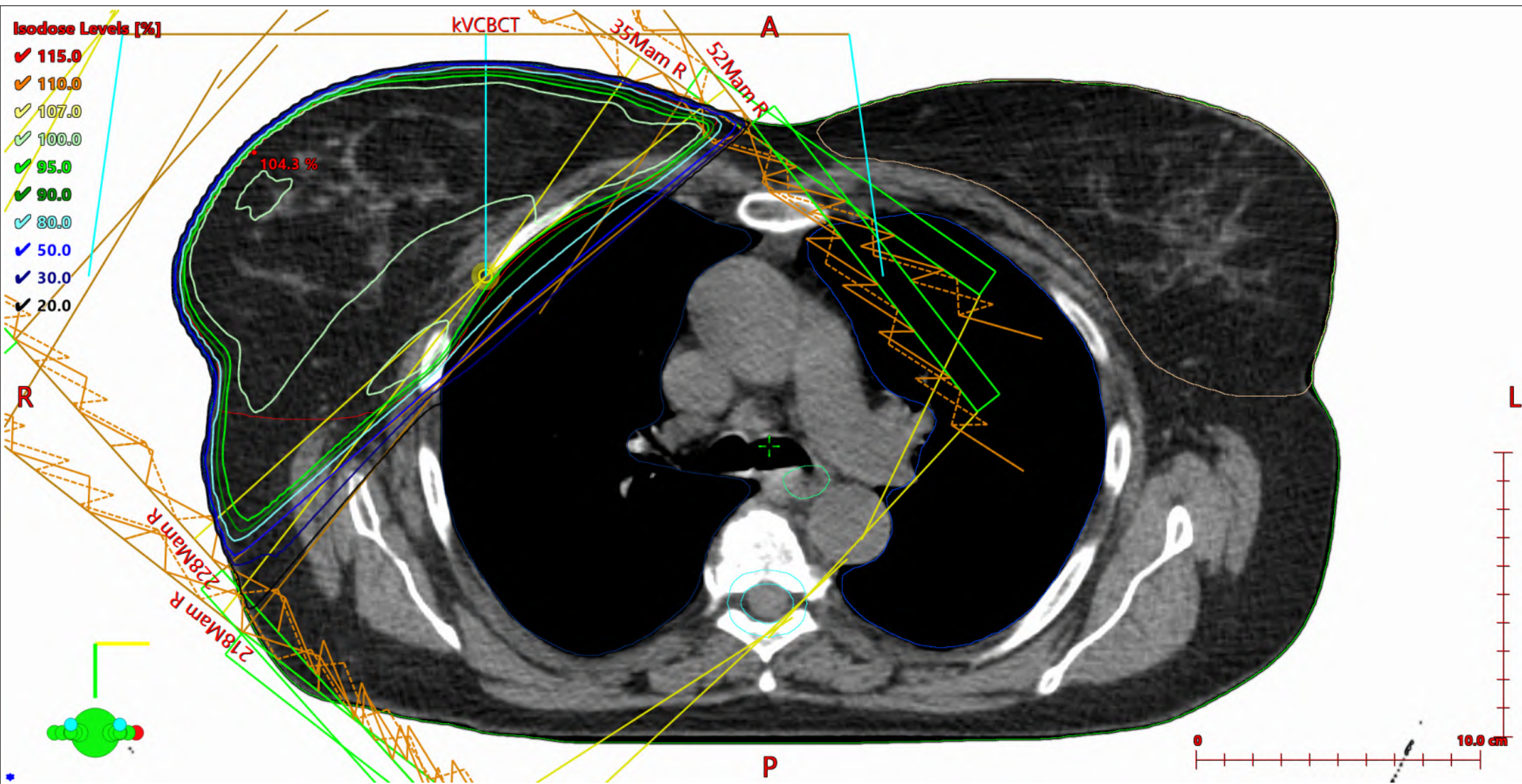
No patient name included in the report!
No patient ID included in the report!

Patient Name: Testpat, R (123456-0001)
Hospital: GMP, Hannover
Plan last modified: Dienstag, 21. November 2023 11:50 by Tartz Dr., Michael
Comment: Isozentrumsschicht

Course: C1 Mamma re
Plan: 1Mamma Re, _1 MammaRe_PTV
Image: Thorax 16/08/23

Plan normalization value: 100.0 %
Calculation grid: 2.5 mm
Maximum dose: 106.9 %

Fields in plan '1Mamma Re' of course 'C1 Mamma re'																		
Field ID	Technique	Machine	Energy	Scale	Wedge ID	Weight	X1 [cm]	X2 [cm]	Y1 [cm]	Y2 [cm]	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	X [cm]	Y [cm]	Z [cm]	SSD [cm]	MU
kVCBCT		STATIC-I	Halcyon1062	6X-FFF	IEC61217	0.000	-14.0	+14.0	-14.0	+14.0	0.0	0.0	0.0	-10.0	-6.0	-1.0	92.5	Setup field
52Mam R	IMRT	STATIC-I	Halcyon1062	6X-FFF	IEC61217	1.000	-14.0	+14.0	-14.0	+14.0	52.0	330.0	0.0	-10.0	-6.0	-1.0	90.3	326.6
35Mam R	IMRT	STATIC-I	Halcyon1062	6X-FFF	IEC61217	1.000	-14.0	+14.0	-14.0	+14.0	35.0	330.0	0.0	-10.0	-6.0	-1.0	91.6	237.9
228Mam R	IMRT	STATIC-I	Halcyon1062	6X-FFF	IEC61217	1.000	-14.0	+14.0	-14.0	+14.0	228.0	30.0	0.0	-10.0	-6.0	-1.0	87.2	213.8
218Mam R	IMRT	STATIC-I	Halcyon1062	6X-FFF	IEC61217	1.000	-14.0	+14.0	-14.0	+14.0	218.0	30.0	0.0	-10.0	-6.0	-1.0	85.9	312.6



Patient Name: Testpat, R (123456-0001)
Course: C1 Mamma re
Plan: 1Mamma Re - 3rd Party Approval

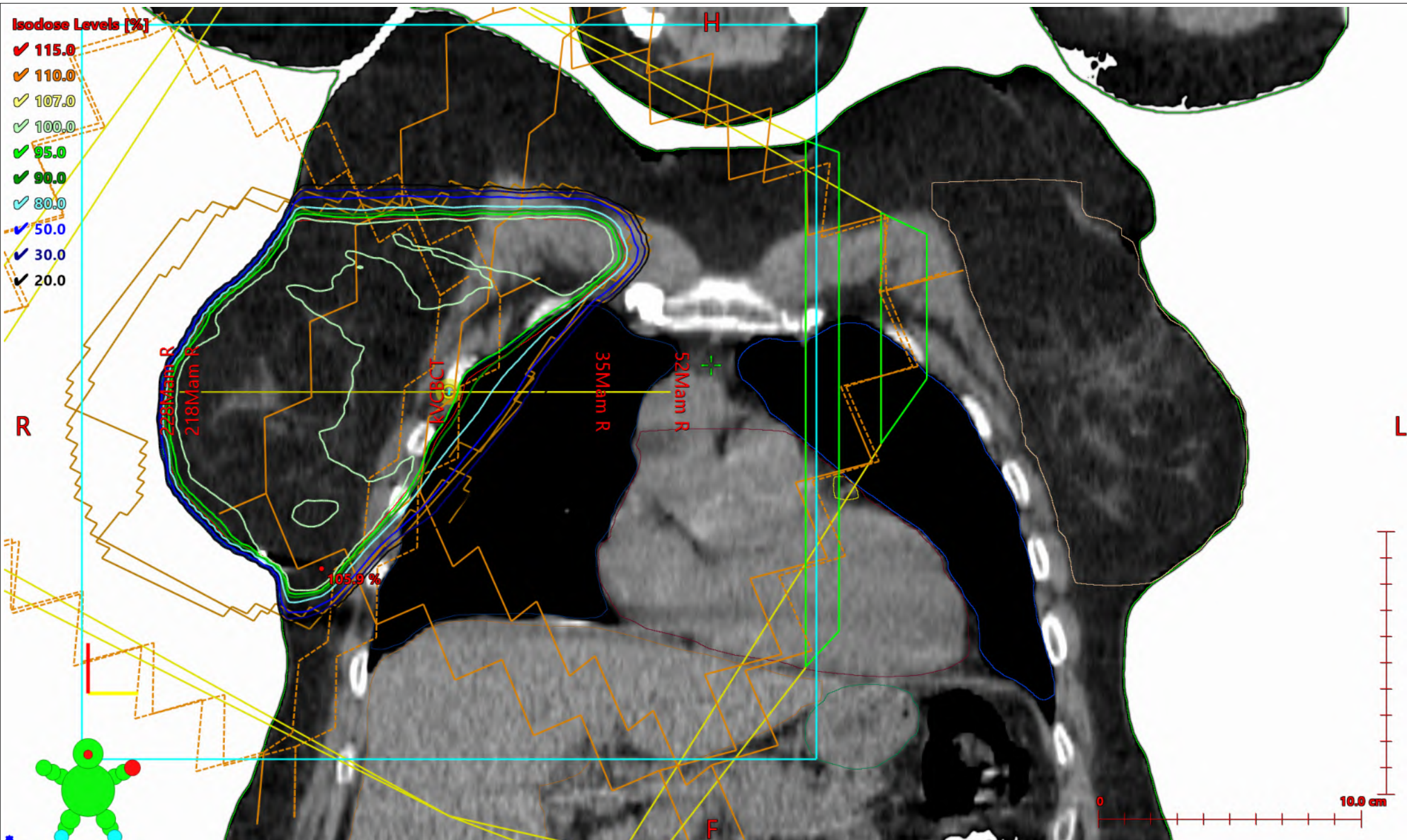
Z: -1.00 cm
Scaling Factor: 55%
Head First-Supine
User origin DICOM offset = (0.00cm, 0.00cm, 0.00cm)

External Beam Planning 16.1.5
Printed Freitag, 15. Dezember 2023 09:38 by Tartz Dr., Michael
Page 1/1

Patient Name: Testpat, R (123456-0001)
Hospital: GMP, Hannover
Plan last modified: Dienstag, 21. November 2023 11:50 by Tartz Dr., Michael
Comment: Isozentrumsschicht

Course: C1 Mamma re
Plan: 1Mamma Re, _1 MammaRe_PTV
Image: Thorax 16/08/23

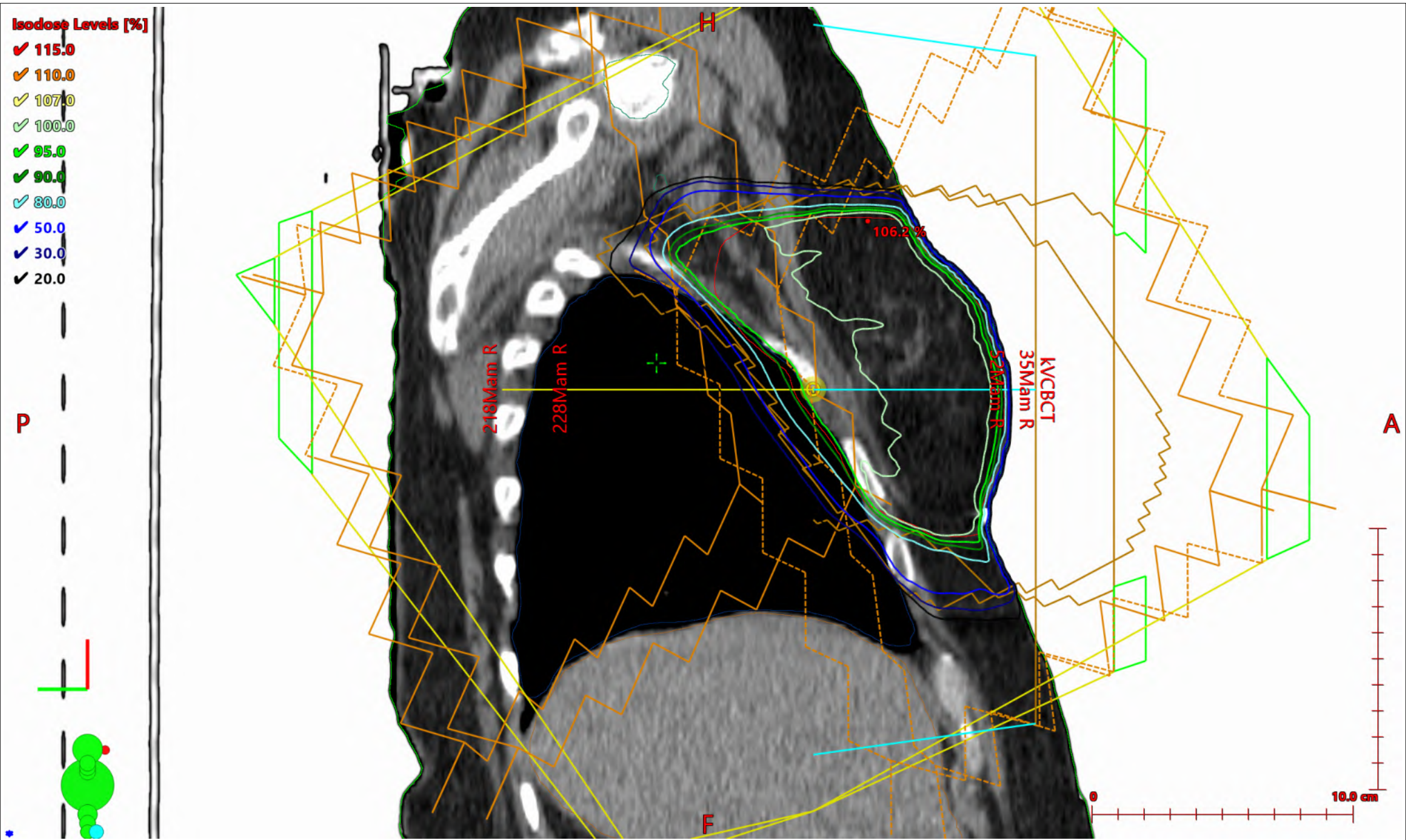
Plan normalization value: 100.0 %
Calculation grid: 2.5 mm
Maximum dose: 106.9 %



Patient Name: Testpat, R (123456-0001)
Course: C1 Mamma re
Plan: 1Mamma Re - 3rd Party Approval

Y: -6.00 cm
Scaling Factor: 55%
Head First-Supine
User origin DICOM offset = (0.00cm, 0.00cm, 0.00cm)

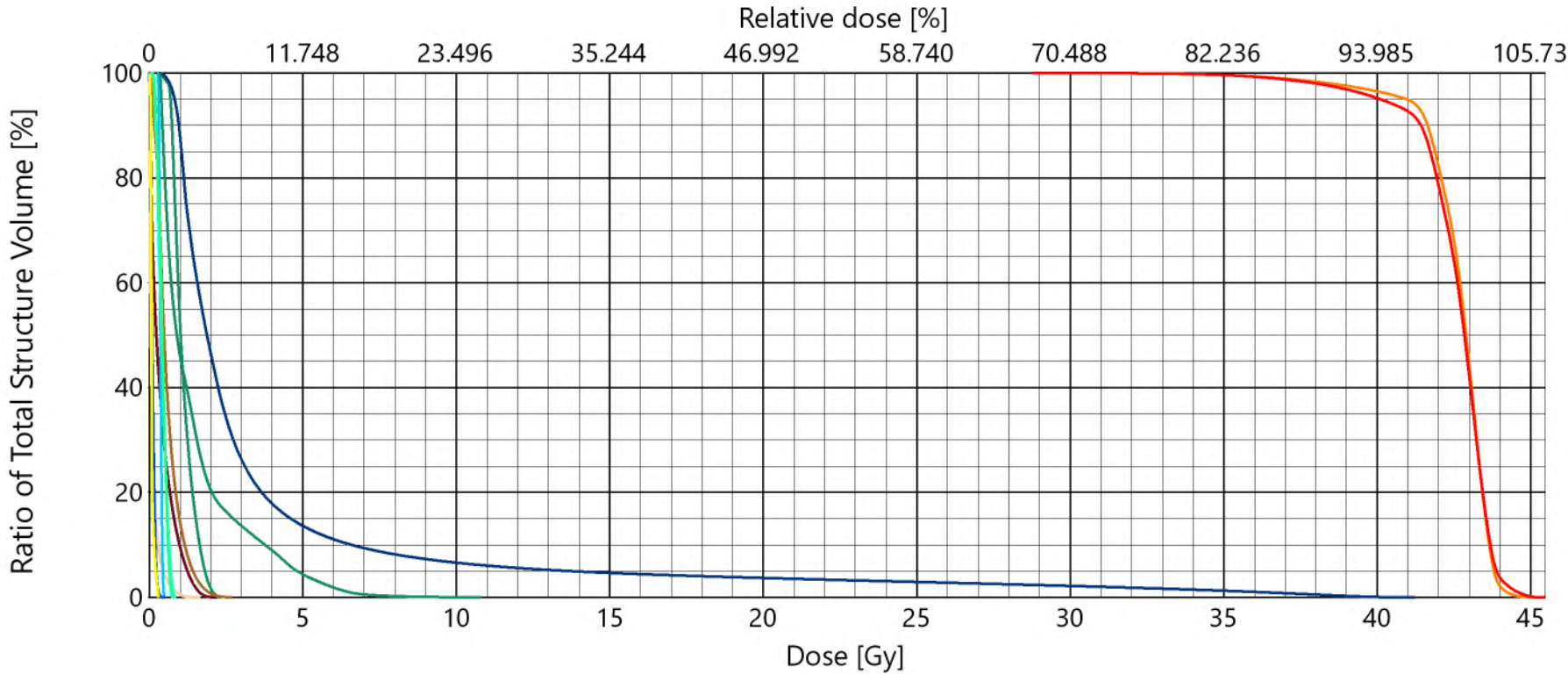
External Beam Planning 16.1.5
Printed Freitag, 15. Dezember 2023 09:38 by Tartz Dr., Michael
Page 1/1



Patient: Testpat, R
Patient IDs: 123456-0001
Comment:

Plan	Plan Course	Plan History
1Mamma Re	C1 Mamma re	Last Modified: Dienstag, 21. November 2023 11:50:23 by Tartz Dr., Michael 3rd Party Approval: Freitag, 18. August 2023 10:41:51 by Tartz Dr., Michael

Cumulative Dose Volume Histogram



DVH	Structure	Structure Status	Coverage [%/%]	Volume	Min Dose	Max Dose	Mean Dose	Modal Dose	Median Dose	Std Dev
Yellow	RIVA	Approved	100.0 / 100.0	5.7 cm³	0.0 Gy	0.3 Gy	0.1 Gy	0.1 Gy	0.1 Gy	0.1 Gy
Cyan	Larynx	Approved	100.0 / 99.9	10.7 cm³	0.3 Gy	0.5 Gy	0.4 Gy	0.4 Gy	0.4 Gy	0.0 Gy
Green	Plexus re	Approved	100.0 / 100.1	11.6 cm³	0.3 Gy	10.8 Gy	1.5 Gy	0.4 Gy	0.9 Gy	1.4 Gy

External Beam Planning

External Beam Planning 16.1.5

GMP, Hannover

DVH	Structure	Structure Status	Coverage [%/%]	Volume	Min Dose	Max Dose	Mean Dose	Modal Dose	Median Dose	Std Dev
	Ösophagus	Approved	100.0 / 100.0	29.3 cm³	0.1 Gy	0.8 Gy	0.4 Gy	0.4 Gy	0.4 Gy	0.1 Gy
	Humeruskopf re	Approved	100.0 / 99.6	62.3 cm³	0.3 Gy	2.3 Gy	1.1 Gy	0.8 Gy	1.0 Gy	0.4 Gy
	RM	Approved	100.0 / 99.9	63.1 cm³	0.1 Gy	0.8 Gy	0.4 Gy	0.3 Gy	0.4 Gy	0.1 Gy
	RM+5mm	Approved	100.0 / 100.0	172.7 cm³	0.1 Gy	0.9 Gy	0.4 Gy	0.3 Gy	0.4 Gy	0.2 Gy
	Herz	Approved	100.0 / 100.0	719.5 cm³	0.0 Gy	2.2 Gy	0.4 Gy	0.0 Gy	0.2 Gy	0.4 Gy
	Brust li	Approved	100.0 / 100.0	1174.6 cm³	0.0 Gy	1.7 Gy	0.1 Gy	0.0 Gy	0.0 Gy	0.2 Gy
	1Mamma re_CTV	Approved	100.0 / 100.0	1199.6 cm³	29.2 Gy	45.3 Gy	42.6 Gy	43.2 Gy	42.9 Gy	1.2 Gy
	Leber	Approved	100.0 / 100.0	1259.2 cm³	0.0 Gy	2.7 Gy	0.6 Gy	0.4 Gy	0.5 Gy	0.4 Gy
	1Mamma re_PTV	Approved	100.0 / 100.0	1386.9 cm³	28.6 Gy	45.5 Gy	42.6 Gy	43.2 Gy	42.8 Gy	1.4 Gy
	Lunge li	Approved	100.0 / 100.0	1499.7 cm³	0.0 Gy	0.5 Gy	0.1 Gy	0.0 Gy	0.1 Gy	0.1 Gy
	Lunge re	Approved	100.0 / 100.0	1871.0 cm³	0.3 Gy	41.2 Gy	3.7 Gy	1.1 Gy	1.9 Gy	6.1 Gy

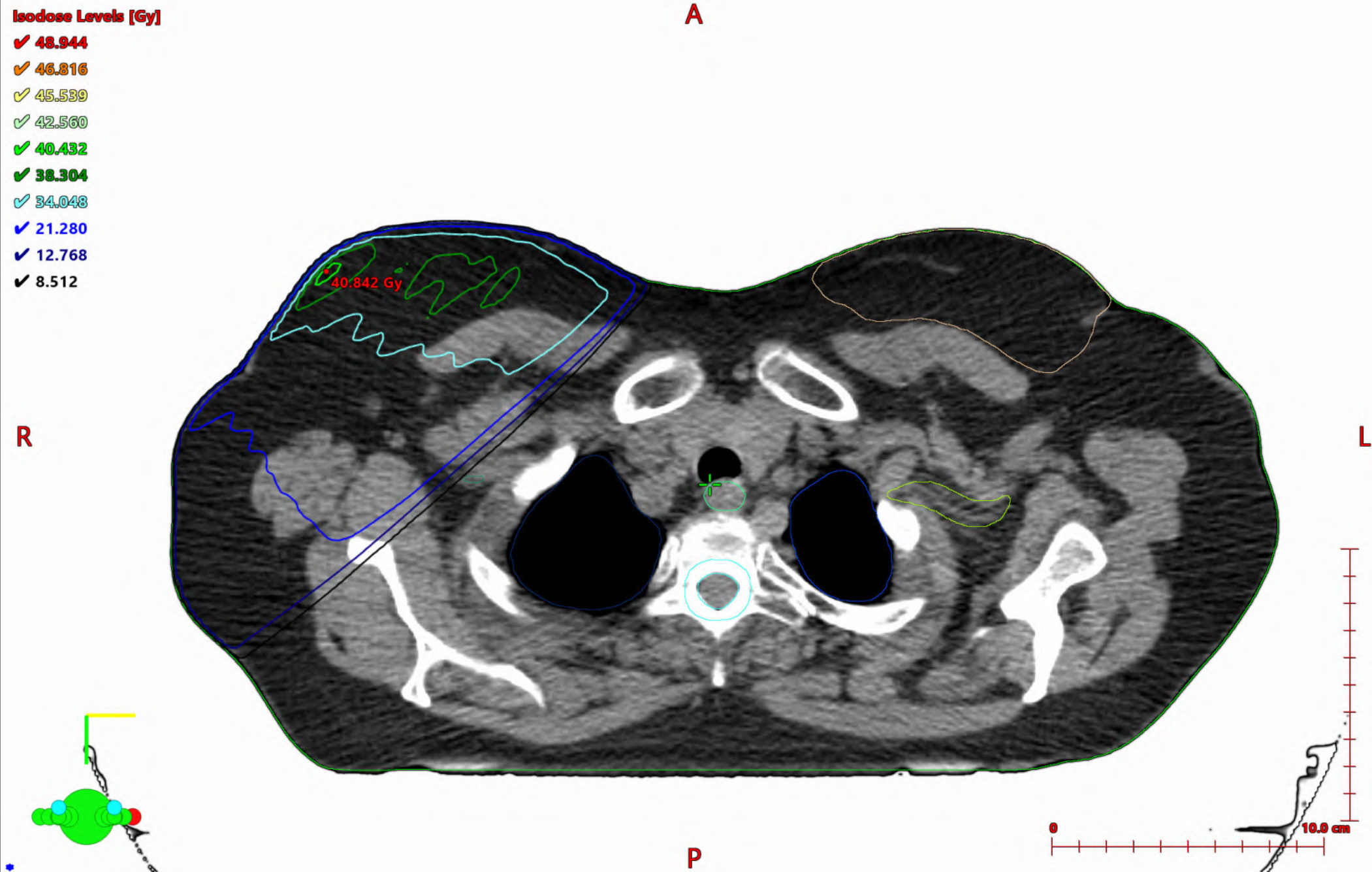
Plan prescription

Plan Sum	Plan Sum Course	Plan Weight	Plan	Plan Course	Total Dose	Dose per Fraction	Number of Fractions	Planned Total Dose	Treatment Percentage	Normalization Mode	Normalization Value
-	-	-	1Mamma Re	C1 Mamma re	42.560 Gy	2.660 Gy	16	42.560 Gy	100.0 %	No plan normalization	100.0 %

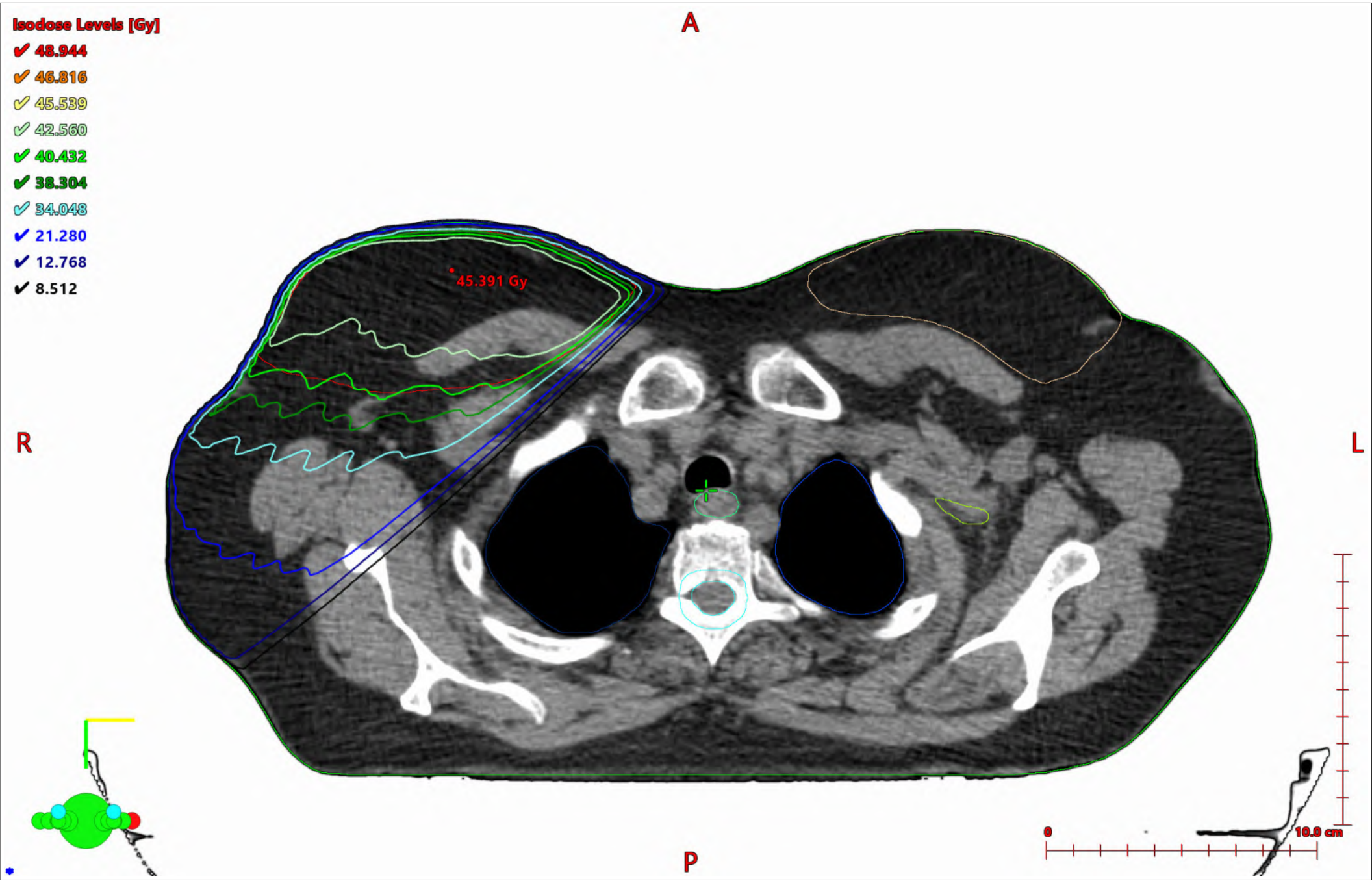
Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

✓ 48.944
✓ 46.816
✓ 45.539
✓ 42.560
✓ 40.432
✓ 38.304
✓ 34.048
✓ 21.280
✓ 12.768
✓ 8.512



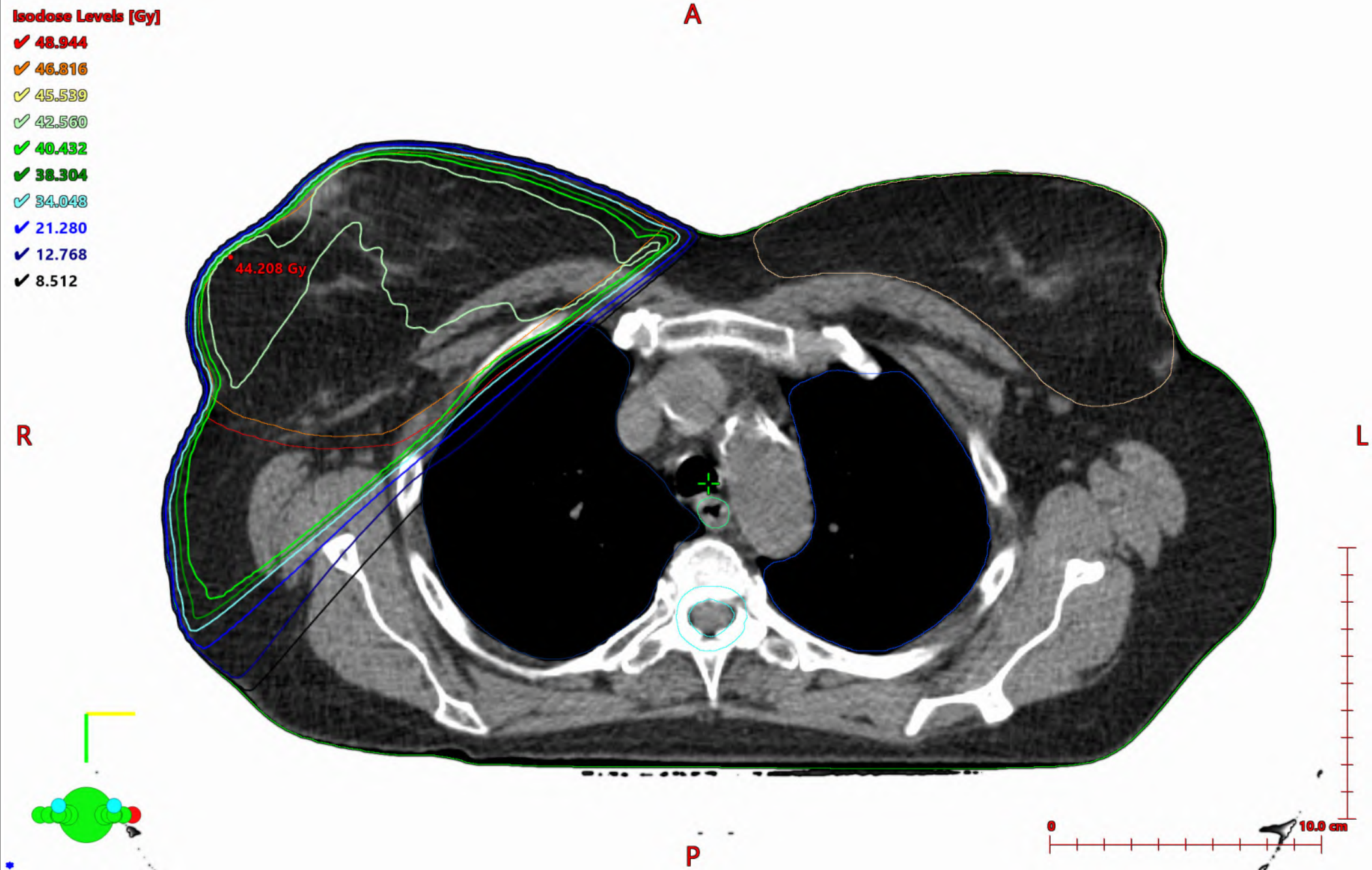
Hidden field and field accessory outlines not included in the printout



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

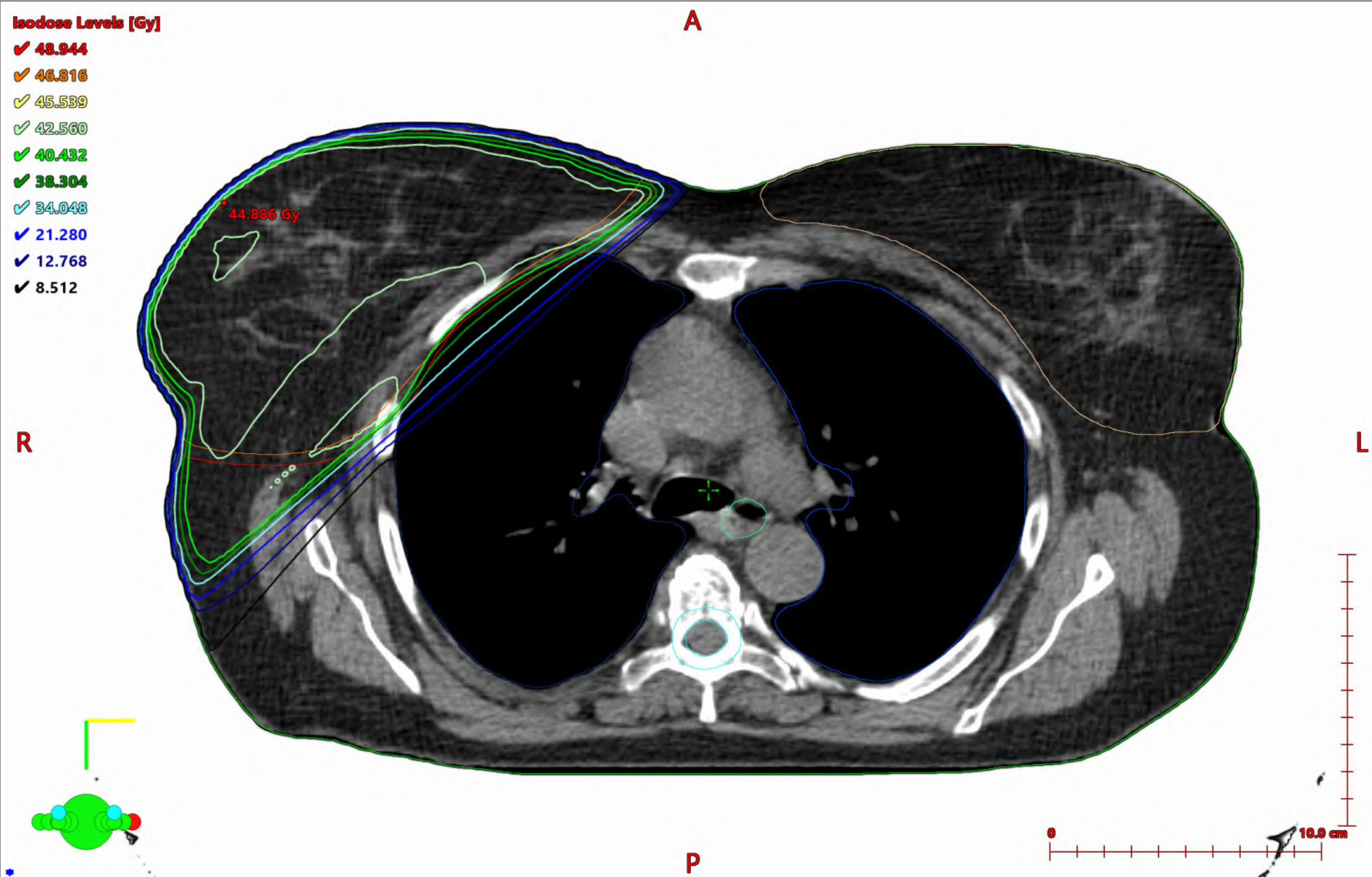
✓ 48.944
✓ 46.816
✓ 45.539
✓ 42.560
✓ 40.432
✓ 38.304
✓ 34.048
✓ 21.280
✓ 12.768
✓ 8.512



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

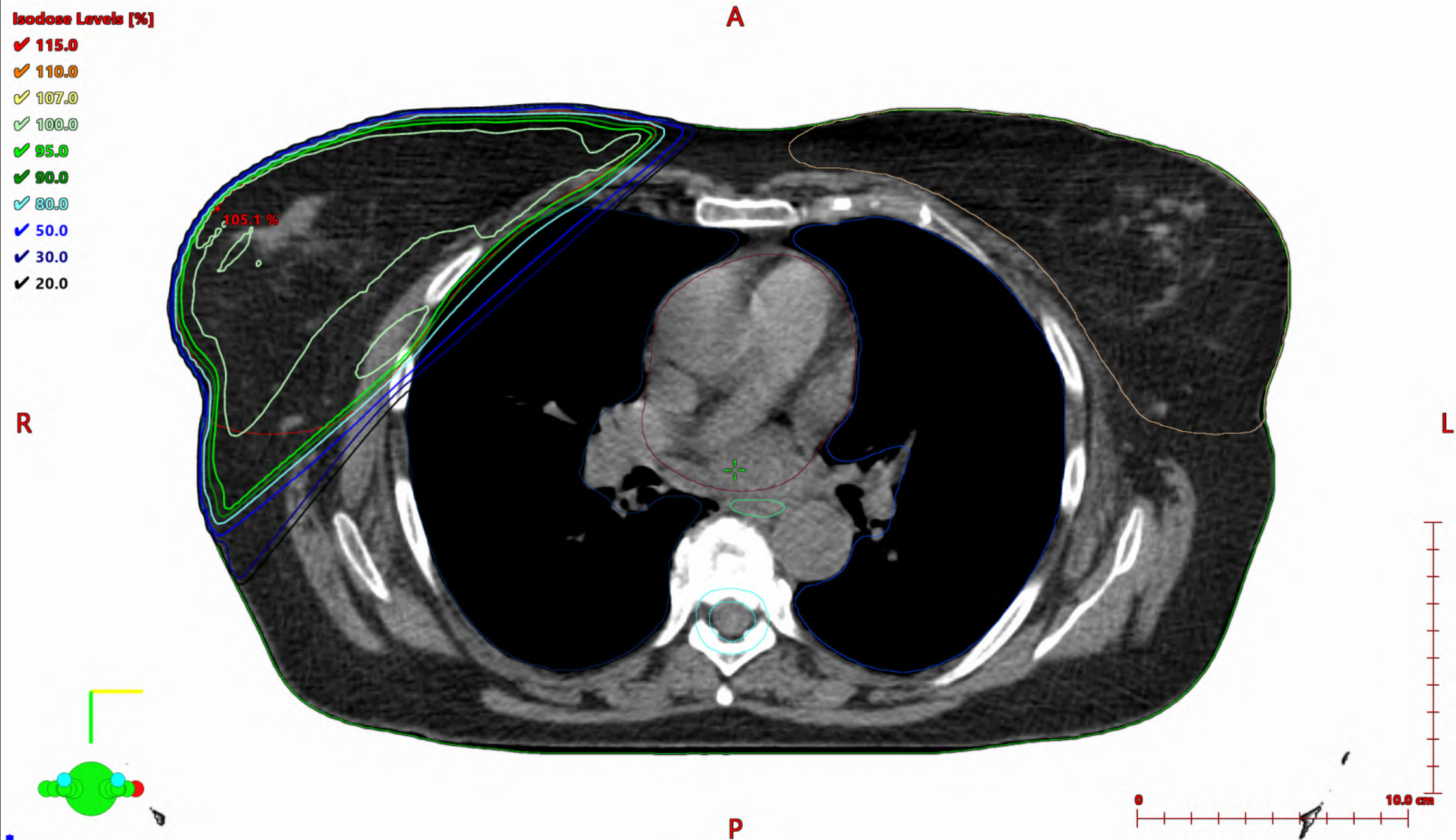
- ✓ 48.944
- ✓ 46.816
- ✓ 45.539
- ✓ 42.560
- ✓ 40.432
- ✓ 38.304
- ✓ 34.048
- ✓ 21.280
- ✓ 12.768
- ✓ 8.512



Hidden field and field accessory outlines not included in the printout

Isodose Levels [%]

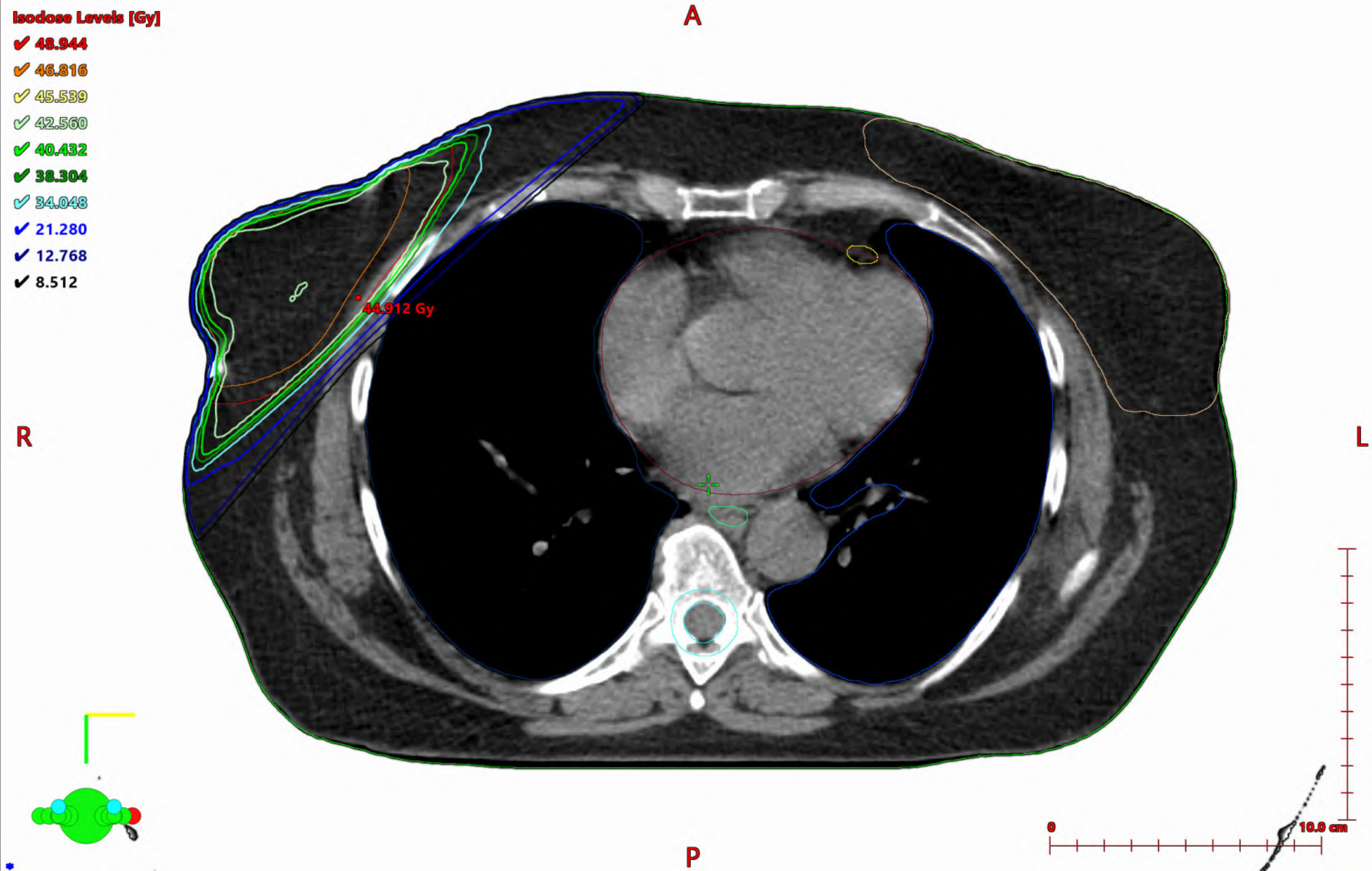
- ✓ 115.0
- ✓ 110.0
- ✓ 107.0
- ✓ 100.0
- ✓ 95.0
- ✓ 90.0
- ✓ 80.0
- ✓ 50.0
- ✓ 30.0
- ✓ 20.0



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

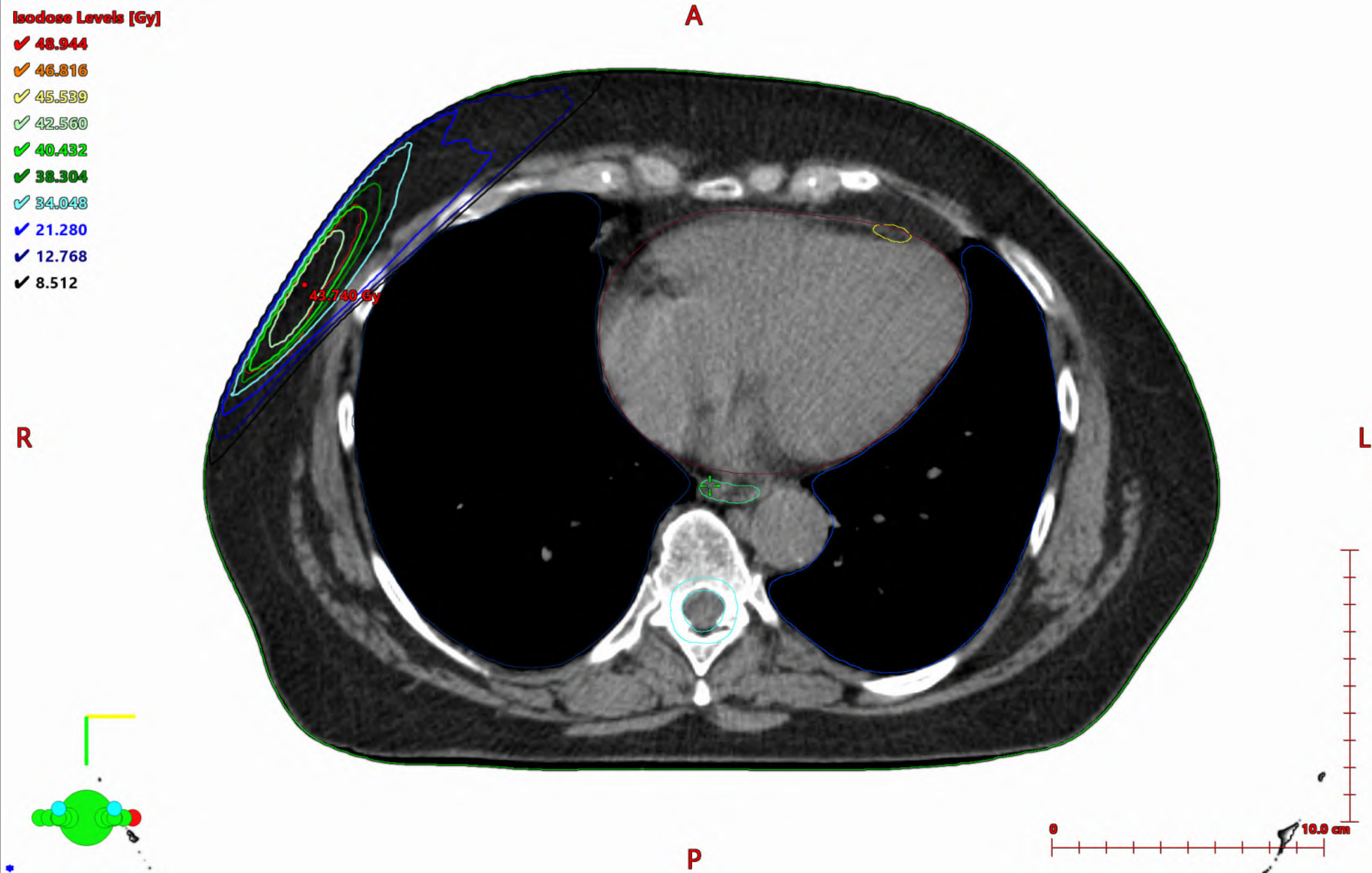
✓ 48.944
✓ 46.816
✓ 45.539
✓ 42.560
✓ 40.432
✓ 38.304
✓ 34.048
✓ 21.280
✓ 12.768
✓ 8.512



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

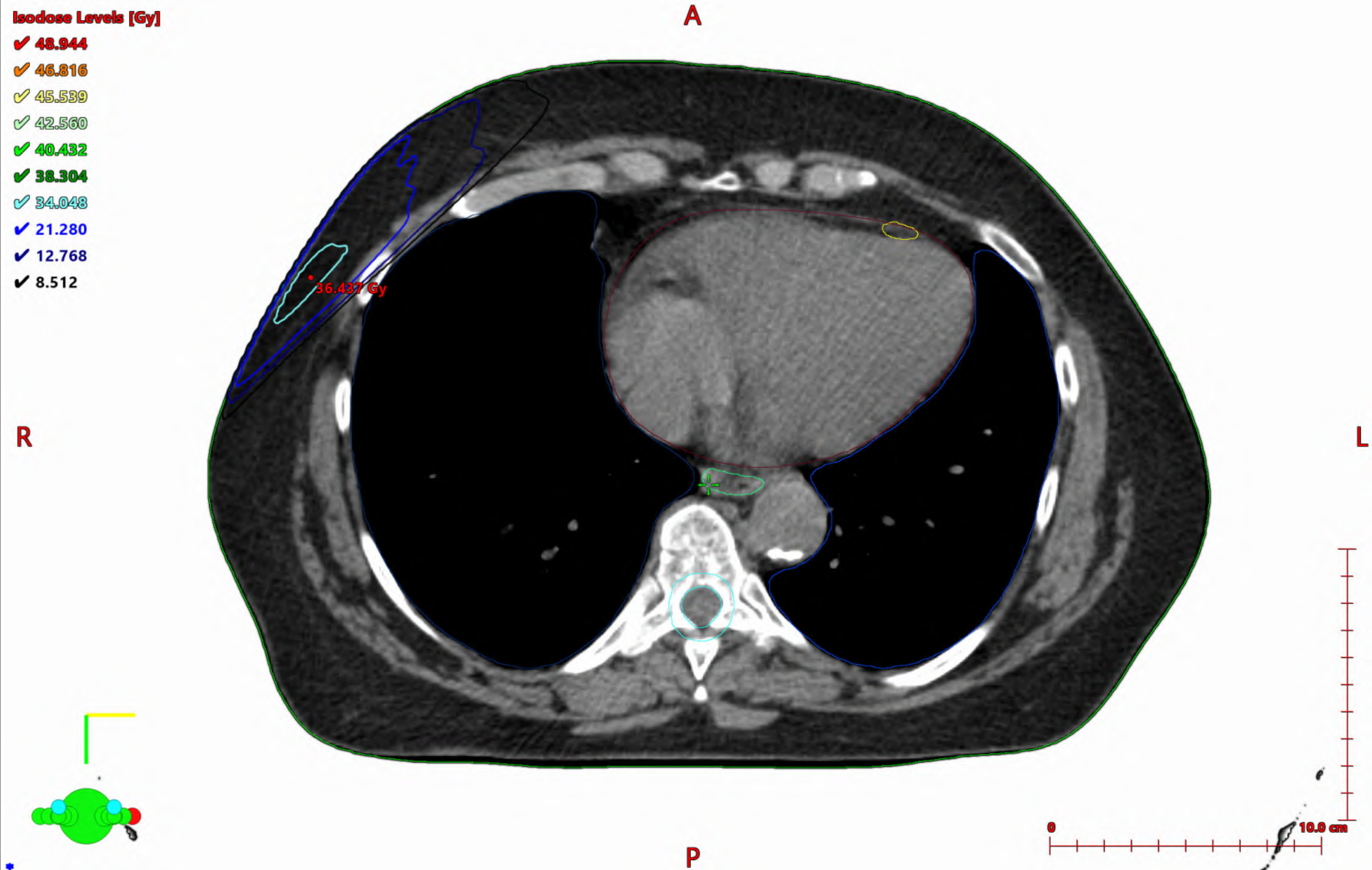
✓ 48.944
✓ 46.816
✓ 45.539
✓ 42.560
✓ 40.432
✓ 38.304
✓ 34.048
✓ 21.280
✓ 12.768
✓ 8.512



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

✓ 48.944
✓ 46.816
✓ 45.539
✓ 42.560
✓ 40.432
✓ 38.304
✓ 34.048
✓ 21.280
✓ 12.768
✓ 8.512



Anhang D

-

Bestrahlungsplanbericht (Summenplan)

Info: Beispiel eines ausführlichen Summen-Bestrahlungsplanberichts bei Ausbleiben der DICOM-RT-Daten.

Beachte:

- Hier wurden viele repräsentative transversale CT-2D-Ansichten inklusive Konturen und Dosis dokumentiert. Dies kann durch ein Video ersetzt werden, solange die anfragende Klinik damit umgehen kann.
- Man sollte stets bemüht sein in absoluter Dosis zu dokumentieren

Projekt:

RadExchange – Standardisierung der Übermittlung von Behandlungsdaten in der Strahlentherapie

Trägerschaft:

AG Digitalisierung und künstliche Intelligenz der DEGRO (Deutsche Gesellschaft für Radioonkologie)

TREATMENT PLAN REPORT

Patient

Name: XXX XXXX ID: XXX123
Birthdate: XX.XX.XXXX Sex: Male

Plan

Plan ID: 1erw P-loge
Course ID: C1
Course Intent: Post-op
Image ID: Becken 12/06/23
Treatment Orientation: Head First-Supine
Technique: VMAT
Photon Calc. Model: AAA_1612
Optimization Model: PO_1612

Dose Prescription

Target Volume: 1PTV_P-loge
Plan Normalization Method: 100% in Target Mean
Prescribed Dose Percentage: 100.0 %
Fractionation:
Plan Dose: 50.400 Gy (1.800 Gy / fraction)
Number of Fractions: 28

Fields

	CBCT	cwPCA	ccwPCA	0Setup	90Setup
Machine ID	TB1549	TB1549	TB1549	TB1549	TB1549
Energy	6X	6X	6X	6X	6X
Field Size	18.0 cm x 15.0 cm	13.1 cm x 11.3 cm	11.2 cm x 14.0 cm	18.0 cm x 15.0 cm	17.0 cm x 15.0 cm
Gantry Angle	0.0 deg	181.0 deg	179.0 deg	0.0 deg	90.0 deg
Collimator Rtn	0.0 deg	23.0 deg	293.0 deg	0.0 deg	0.0 deg
Couch Rtn	0.0 deg	0.0 deg	0.0 deg	0.0 deg	0.0 deg
Scale	Varian IEC	Varian IEC	Varian IEC	Varian IEC	Varian IEC
Wedge					
Isocenter X	-1.00 cm	-1.00 cm	-1.00 cm	-1.00 cm	-1.00 cm
Isocenter Y	2.00 cm	2.00 cm	2.00 cm	2.00 cm	2.00 cm
Isocenter Z	-10.00 cm	-10.00 cm	-10.00 cm	-10.00 cm	-10.00 cm
SSD	89.3 cm	90.2 cm	90.2 cm	89.3 cm	81.7 cm
MU	Setup field	443 MU	448 MU	Setup field	Setup field

Reference Points

	Reference Point ID	Total Dose	Total Dose Per Fraction	Total Dose Limit	Daily Dose Limit	Session Dose Limit
Primary Reference Point	1PTV_P-loge	50.400 Gy	1.800 Gy	50.400 Gy	1.800 Gy	1.800 Gy
Plan Dose				50.400 Gy		1.800 Gy

Approval

Plan Created:	Mittwoch, 14. Juni 2023 10:49:20	by	Tartz Dr., Michael
Plan Last Modified:	Donnerstag, 15. Juni 2023 12:09:08	by	Meinecke Dr., Daniela
Plan Approval:	Donnerstag, 15. Juni 2023 09:29:50	by	Tartz Dr., Michael
Treatment Approval:	Donnerstag, 15. Juni 2023 12:09:08	by	Meinecke Dr., Daniela

Plan verifiziert

Programm

Messung

Tabelle

Neueinstellung

MTRA:

No patient name included in the report!
No patient ID included in the report!

TREATMENT PLAN REPORT

Patient

Name: XXX XXXX ID: XXX123
Birthdate: XX.XX.XXXX Sex: Male

Plan

Plan ID: 2Boost P-Loge
Course ID: C1
Course Intent: Post-op
Image ID: Becken 12/06/23
Treatment Orientation: Head First-Supine
Technique: VMAT
Photon Calc. Model: AAA_1612
Optimization Model: PO_1612

Dose Prescription

Target Volume: 2PTV_P-loge_Boost
Plan Normalization Method: 100% in Target Mean
Prescribed Dose Percentage: 100.0 %
Fractionation:
Plan Dose: 16.200 Gy (1.800 Gy / fraction)
Number of Fractions: 9

Fields

	CBCT	cwPCA	ccwPCA	0Setup	90Setup
Machine ID	TB1549	TB1549	TB1549	TB1549	TB1549
Energy	6X	6X	6X	6X	6X
Field Size	18.0 cm x 15.0 cm	11.7 cm x 9.4 cm	9.3 cm x 11.5 cm	18.0 cm x 15.0 cm	17.0 cm x 15.0 cm
Gantry Angle	0.0 deg	181.0 deg	179.0 deg	0.0 deg	90.0 deg
Collimator Rtn	0.0 deg	23.0 deg	293.0 deg	0.0 deg	0.0 deg
Couch Rtn	0.0 deg	0.0 deg	0.0 deg	0.0 deg	0.0 deg
Scale	Varian IEC	Varian IEC	Varian IEC	Varian IEC	Varian IEC
Wedge					
Isocenter X	-1.00 cm	-1.00 cm	-1.00 cm	-1.00 cm	-1.00 cm
Isocenter Y	2.00 cm	2.00 cm	2.00 cm	2.00 cm	2.00 cm
Isocenter Z	-10.00 cm	-10.00 cm	-10.00 cm	-10.00 cm	-10.00 cm
SSD	89.3 cm	90.2 cm	90.2 cm	89.3 cm	81.7 cm
MU	Setup field	440 MU	464 MU	Setup field	Setup field

Reference Points

	Reference Point ID	Total Dose	Total Dose Per Fraction	Total Dose Limit	Daily Dose Limit	Session Dose Limit
Primary Reference Point	2PTV_P-loge_Boos	16.200 Gy	1.800 Gy	16.200 Gy	1.800 Gy	1.800 Gy
Plan Dose				16.200 Gy		1.800 Gy

Approval

Plan Created:	Mittwoch, 14. Juni 2023 11:04:49	by	Tartz Dr., Michael
Plan Last Modified:	Freitag, 28. Juli 2023 08:32:22	by	Warszawski Dr., Antje
Plan Approval:	Donnerstag, 15. Juni 2023 09:31:18	by	Tartz Dr., Michael
Treatment Approval:	Freitag, 28. Juli 2023 08:32:22	by	Warszawski Dr., Antje

Plan verifiziert

Programm

Messung

Tabelle

Neueinstellung

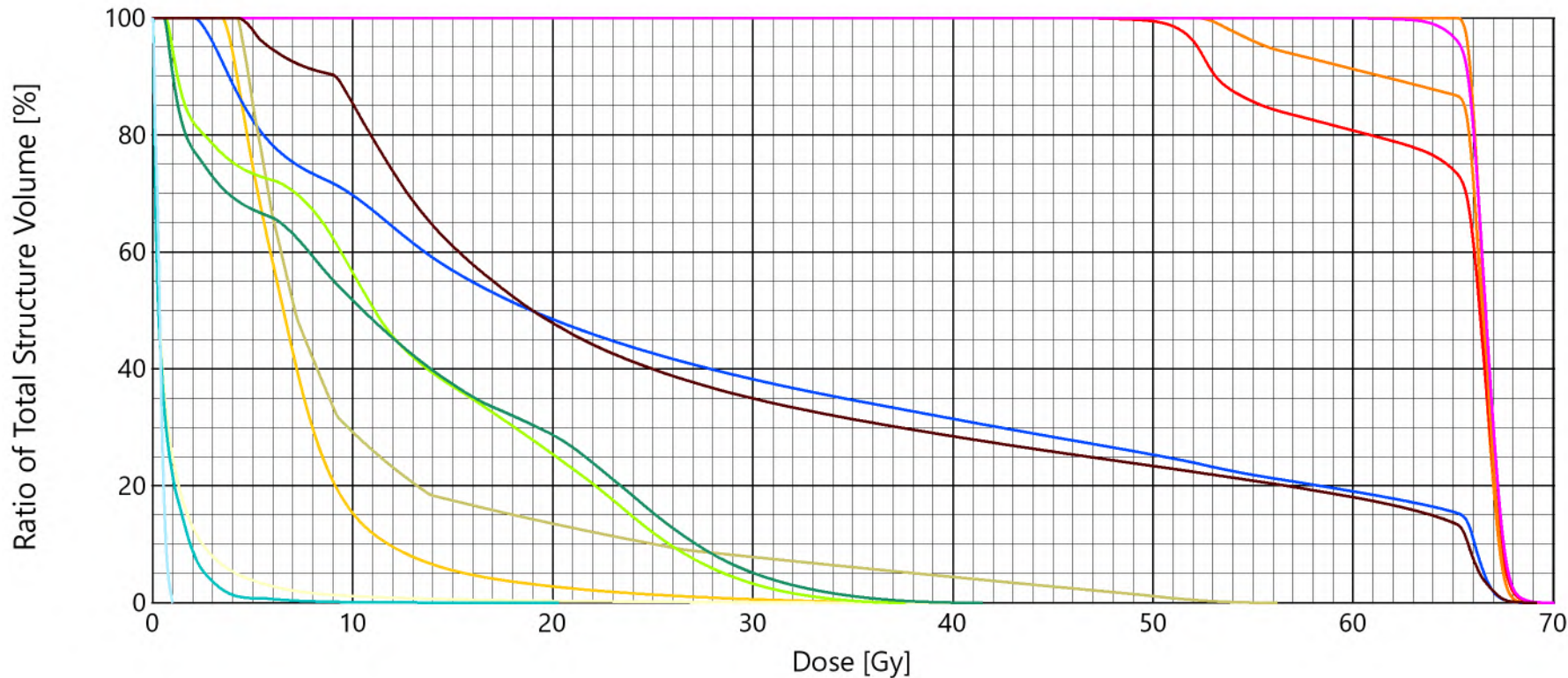
MTRA:

No patient name included in the report!
No patient ID included in the report!

Patient: Anonymous, A.
Patient IDs: P1998384762349X
Comment:

Plan Sum	Plan Sum Course	Plan	Plan Course	Plan History
Plan Sum	C1	1erw P-loge	C1	Last Modified: Donnerstag, 14. Dezember 2023 16:32:13 by Behnke Dr., Berit 3rd Party Approval: Donnerstag, 15. Juni 2023 12:09:08 by Behnke Dr., Berit
Plan Sum	C1	2Boost P-Loge	C1	Last Modified: Donnerstag, 14. Dezember 2023 16:32:13 by Behnke Dr., Berit 3rd Party Approval: Freitag, 28. Juli 2023 08:32:22 by Behnke Dr., Berit

Cumulative Dose Volume Histogram



DVH	Structure	Structure Status	Coverage [%/%]	Volume	Min Dose	Max Dose	Mean Dose	Modal Dose	Median Dose	Std Dev
	Bulbus penis	Approved	100.0 / 99.7	3.8 cm³	4.2 Gy	56.2 Gy	11.3 Gy	5.0 Gy	7.1 Gy	10.3 Gy

External Beam Planning

External Beam Planning 16.1.5

GMP, Hannover

DVH	Structure	Structure Status	Coverage [%/%]	Volume	Min Dose	Max Dose	Mean Dose	Modal Dose	Median Dose	Std Dev
	Analkanal	Approved	100.0 / 100.2	6.8 cm³	3.5 Gy	39.9 Gy	7.6 Gy	4.6 Gy	6.5 Gy	4.3 Gy
	Spinalkanal cau	Approved	100.0 / 100.2	19.7 cm³	0.0 Gy	1.0 Gy	0.4 Gy	0.1 Gy	0.3 Gy	0.2 Gy
	Rectum	Approved	100.0 / 100.0	65.3 cm³	4.2 Gy	69.2 Gy	28.7 Gy	65.7 Gy	19.0 Gy	21.3 Gy
	2CTV_P-loge_Boost	Approved	100.0 / 100.0	73.9 cm³	64.9 Gy	69.7 Gy	66.6 Gy	66.4 Gy	66.6 Gy	0.6 Gy
	1CTV_P-loge	Approved	100.0 / 100.0	103.8 cm³	51.4 Gy	69.7 Gy	65.4 Gy	66.3 Gy	66.4 Gy	3.2 Gy
	2PTV_P-loge_Boost	Approved	100.0 / 100.0	190.6 cm³	57.1 Gy	70.1 Gy	66.6 Gy	66.4 Gy	66.6 Gy	0.8 Gy
	Hüftkopf re	Approved	100.0 / 100.0	198.7 cm³	0.5 Gy	41.5 Gy	12.6 Gy	0.8 Gy	10.5 Gy	10.1 Gy
	Hüftkopf li	Approved	100.0 / 100.0	203.9 cm³	0.6 Gy	37.6 Gy	12.7 Gy	0.9 Gy	11.1 Gy	9.1 Gy
	Blase	Approved	100.0 / 100.0	224.4 cm³	2.0 Gy	69.1 Gy	28.2 Gy	66.0 Gy	18.9 Gy	23.3 Gy
	1PTV_P-loge	Approved	100.0 / 100.0	253.5 cm³	44.4 Gy	70.1 Gy	63.9 Gy	66.4 Gy	66.3 Gy	5.2 Gy
	Darmschlingen	Approved	100.0 / 99.8	490.1 cm³	0.0 Gy	20.3 Gy	0.7 Gy	0.1 Gy	0.3 Gy	1.1 Gy
	Darm	Approved	100.0 / 100.0	1611.4 cm³	0.0 Gy	40.7 Gy	1.0 Gy	0.1 Gy	0.3 Gy	2.3 Gy

Plan prescription

Plan Sum	Plan Sum Course	Plan Weight	Plan	Plan Course	Total Dose	Dose per Fraction	Number of Fractions	Planned Total Dose	Treatment Percentage	Normalization Mode	Normalization Value
Plan Sum	C1	1.0	1erw P-loge	C1	50.400 Gy	1.800 Gy	28	50.400 Gy	100.0 %	No plan normalization	100.0 %
Plan Sum	C1	1.0	2Boost P-Loge	C1	16.200 Gy	1.800 Gy	9	16.200 Gy	100.0 %	No plan normalization	100.0 %

Patient Name: Anonymous, A. (P1998384762349X)
Hospital: GMP, Hannover
Summed plans: 1erw P-loge (C1); 2Boost P-Loge (C1)
Comment: Isozentrumsschicht

Image: Becken 12/06/23
Plan Sum: Plan Sum
Visible Image: Becken 12/06/23

Fields in plan '1erw P-loge' of course 'C1' (Plan Weight: 1.00)

Field ID	Technique	Machine	Energy	Scale	Wedge ID	Weight	X1 [cm]	X2 [cm]	Y1 [cm]	Y2 [cm]	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	X [cm]	Y [cm]	Z [cm]	SSD [cm]	MU
CBCT	STATIC-I	TB1549	6X	Varian IEC		0.000	+9.0	+9.0	+7.0	+8.0	0.0	0.0	0.0	-1.0	2.0	-10.0	89.3	Setup field
cwPCA	ARC-I	TB1549	6X	Varian IEC		1.000	+5.8	+7.2	+5.4	+6.0	181.0 - 179.0	23.0	0.0	-1.0	2.0	-10.0	90.2	443
ccwPCA	ARC-I	TB1549	6X	Varian IEC		1.000	+6.0	+5.2	+6.0	+8.0	179.0 - 181.0	293.0	0.0	-1.0	2.0	-10.0	90.2	448
0Setup	STATIC-I	TB1549	6X	Varian IEC		0.000	+9.0	+9.0	+7.0	+8.0	0.0	0.0	0.0	-1.0	2.0	-10.0	89.3	Setup field
90Setup	STATIC-I	TB1549	6X	Varian IEC		0.000	+8.0	+9.0	+7.0	+8.0	90.0	0.0	0.0	-1.0	2.0	-10.0	81.7	Setup field

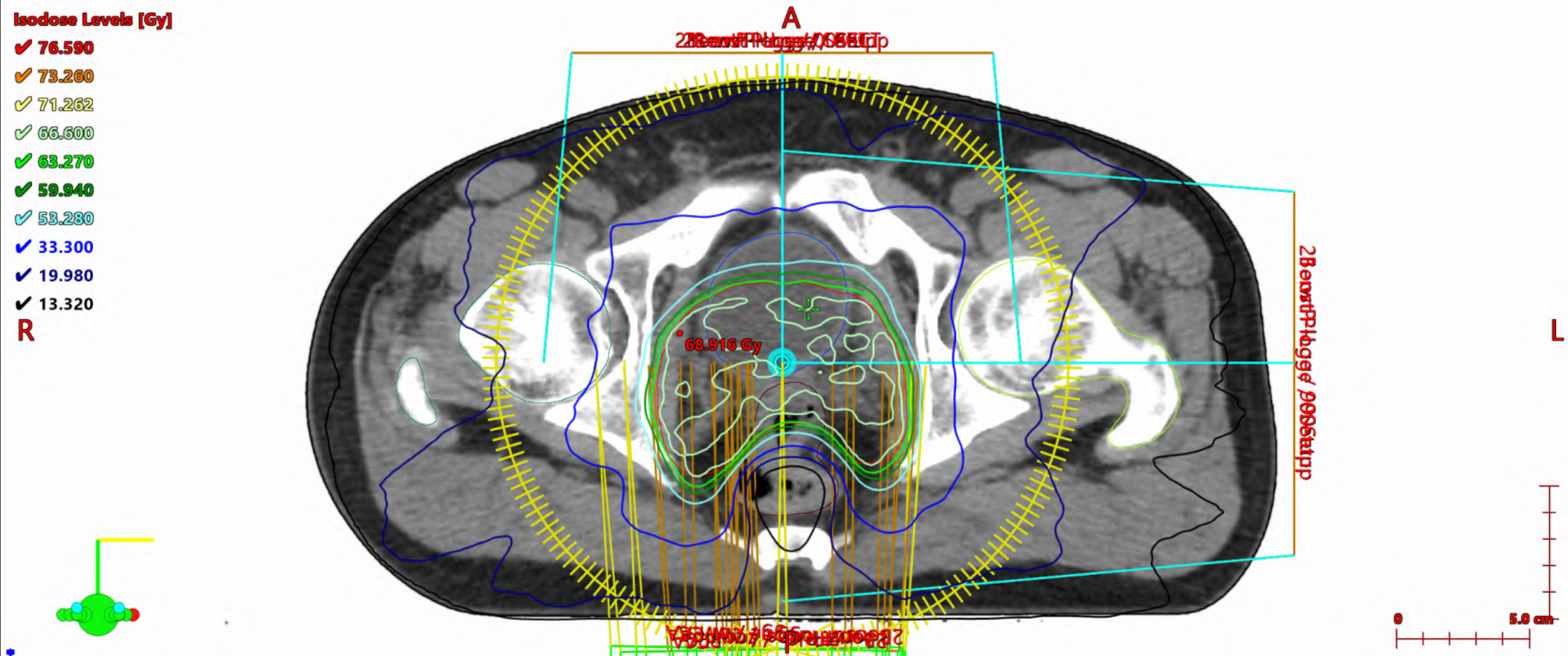
Fields in plan '2Boost P-Loge' of course 'C1' (Plan Weight: 1.00)

Field ID	Technique	Machine	Energy	Scale	Wedge ID	Weight	X1 [cm]	X2 [cm]	Y1 [cm]	Y2 [cm]	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	X [cm]	Y [cm]	Z [cm]	SSD [cm]	MU
CBCT	STATIC-I	TB1549	6X	Varian IEC		0.000	+9.0	+9.0	+7.0	+8.0	0.0	0.0	0.0	-1.0	2.0	-10.0	89.3	Setup field
cwPCA	ARC-I	TB1549	6X	Varian IEC		1.000	+5.7	+6.0	+5.4	+4.0	181.0 - 179.0	23.0	0.0	-1.0	2.0	-10.0	90.2	440
ccwPCA	ARC-I	TB1549	6X	Varian IEC		1.000	+4.0	+5.2	+5.5	+6.0	179.0 - 181.0	293.0	0.0	-1.0	2.0	-10.0	90.2	464
0Setup	STATIC-I	TB1549	6X	Varian IEC		0.000	+9.0	+9.0	+7.0	+8.0	0.0	0.0	0.0	-1.0	2.0	-10.0	89.3	Setup field
90Setup	STATIC-I	TB1549	6X	Varian IEC		0.000	+8.0	+9.0	+7.0	+8.0	90.0	0.0	0.0	-1.0	2.0	-10.0	81.7	Setup field

Isodose Levels [Gy]

✓ 76.590
✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320

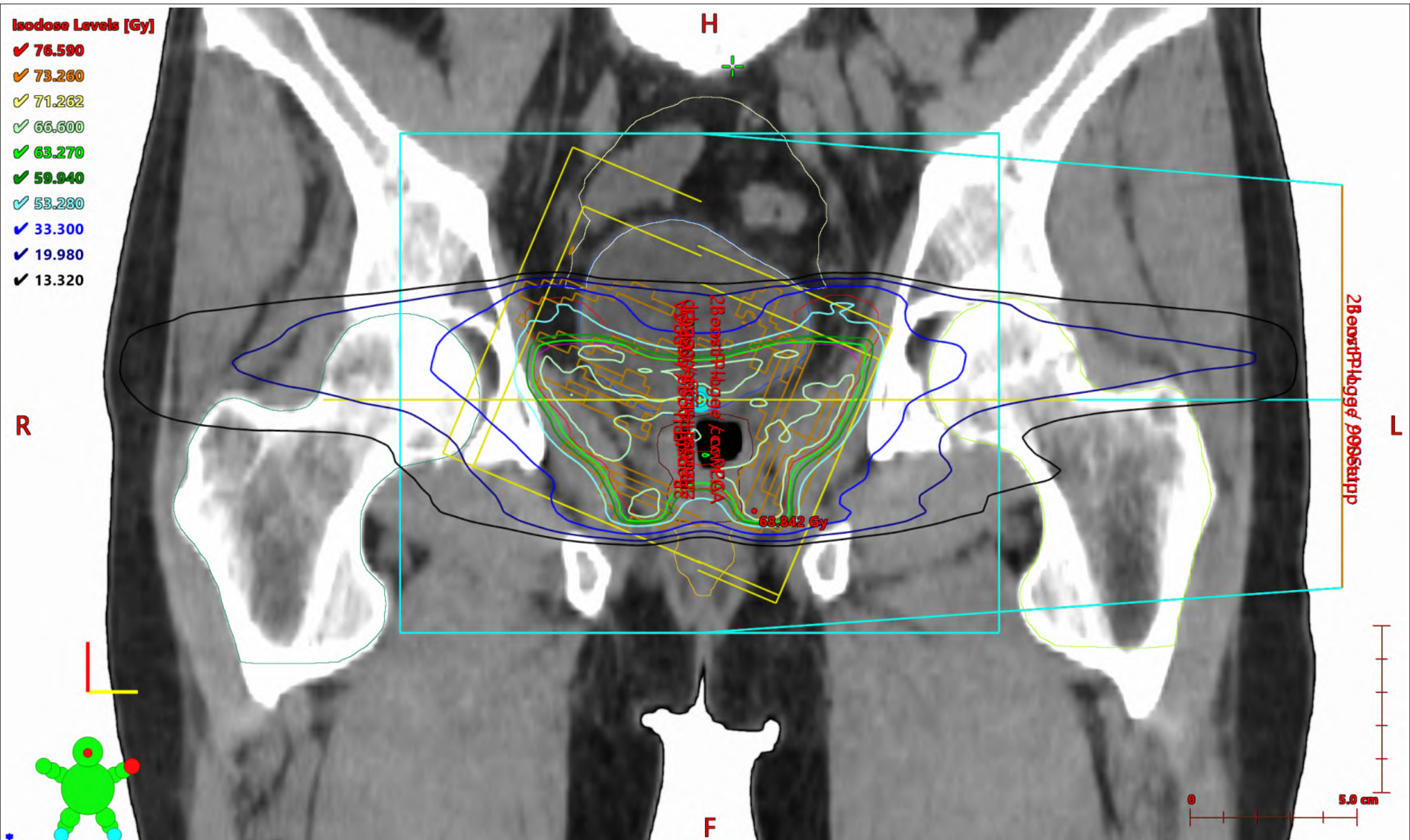
R



Patient Name: Anonymous, A. (P1998384762349X)
Image: Becken 12/06/23
Plan Sum: Plan Sum

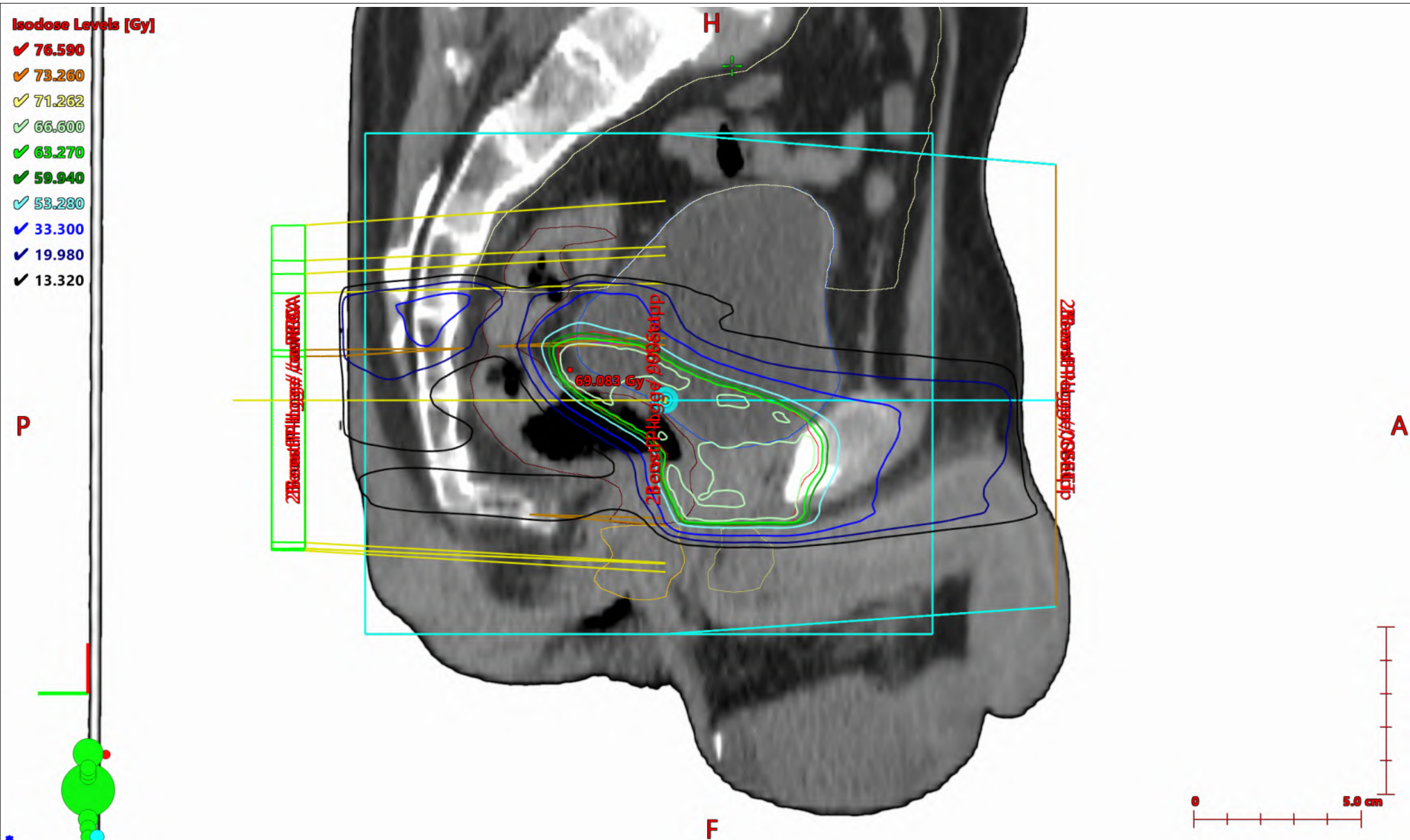
Z: -10.00 cm
Scaling Factor: 50%
Head First-Supine
User origin DICOM offset = (0.00cm, 0.00cm, 0.00cm)

External Beam Planning 16.1.5
Printed Freitag, 15. Dezember 2023 09:25 by Behnke Dr., Berit
Page 1/1



Isodose Levels [Gy]

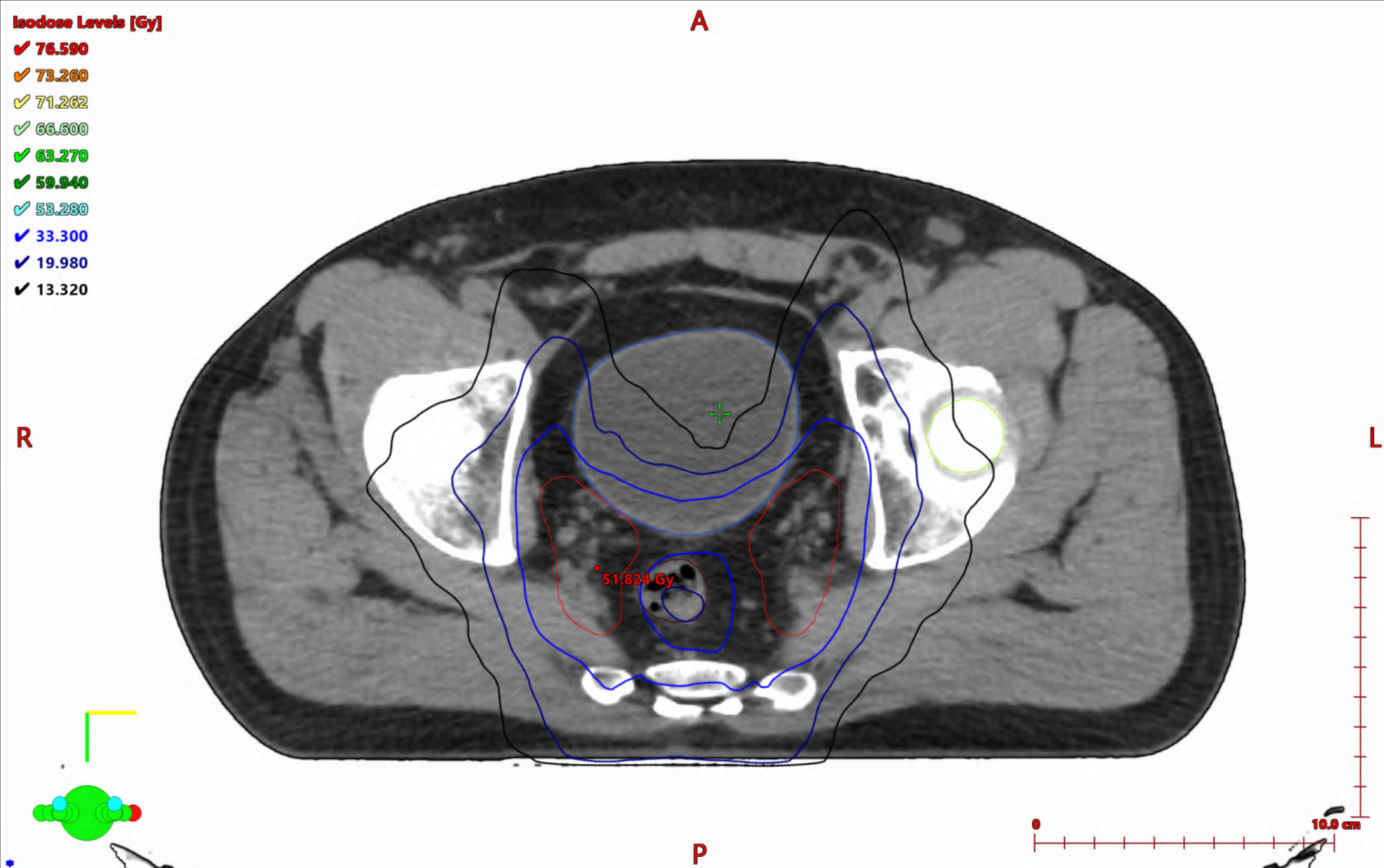
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✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
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✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

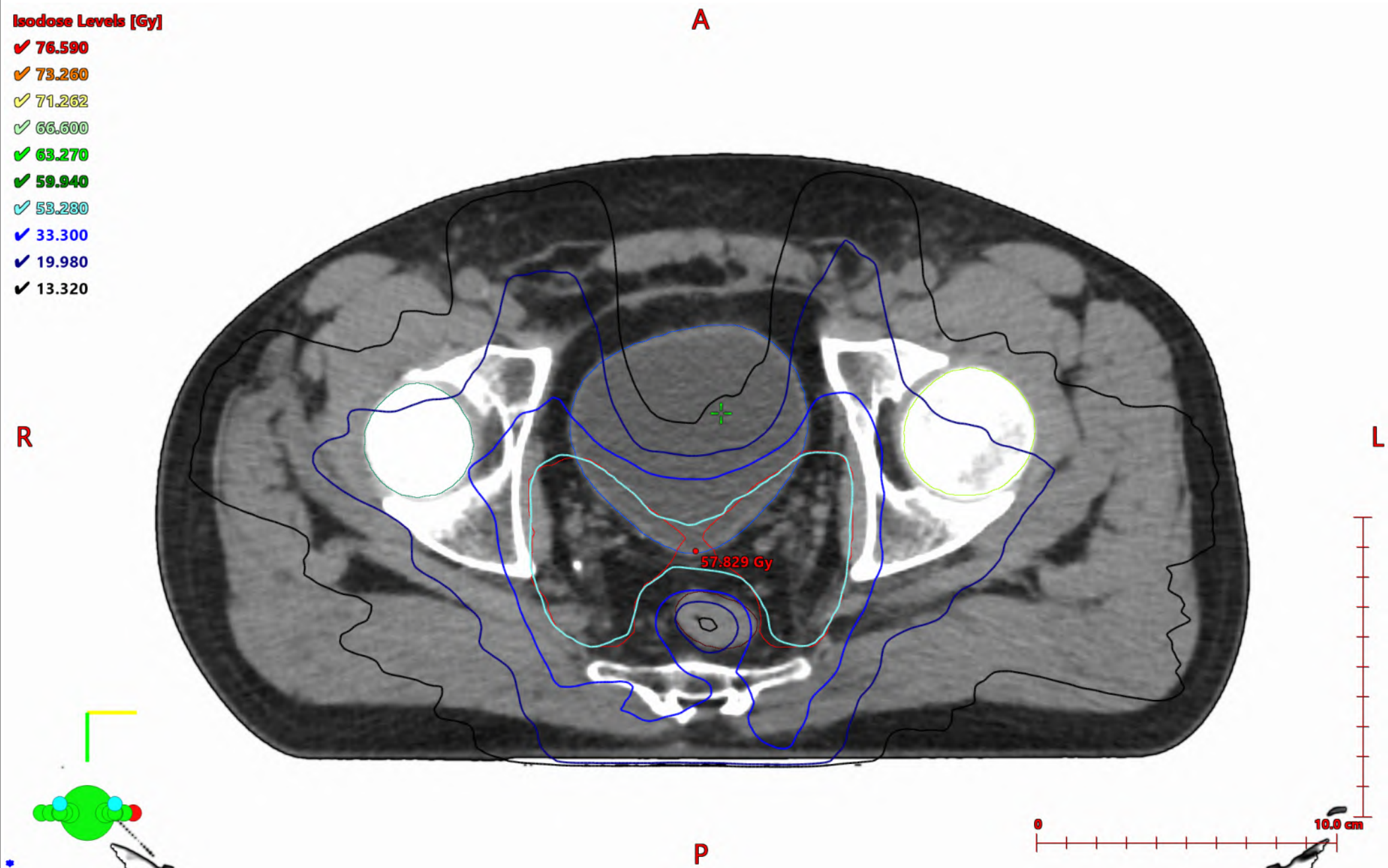
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✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

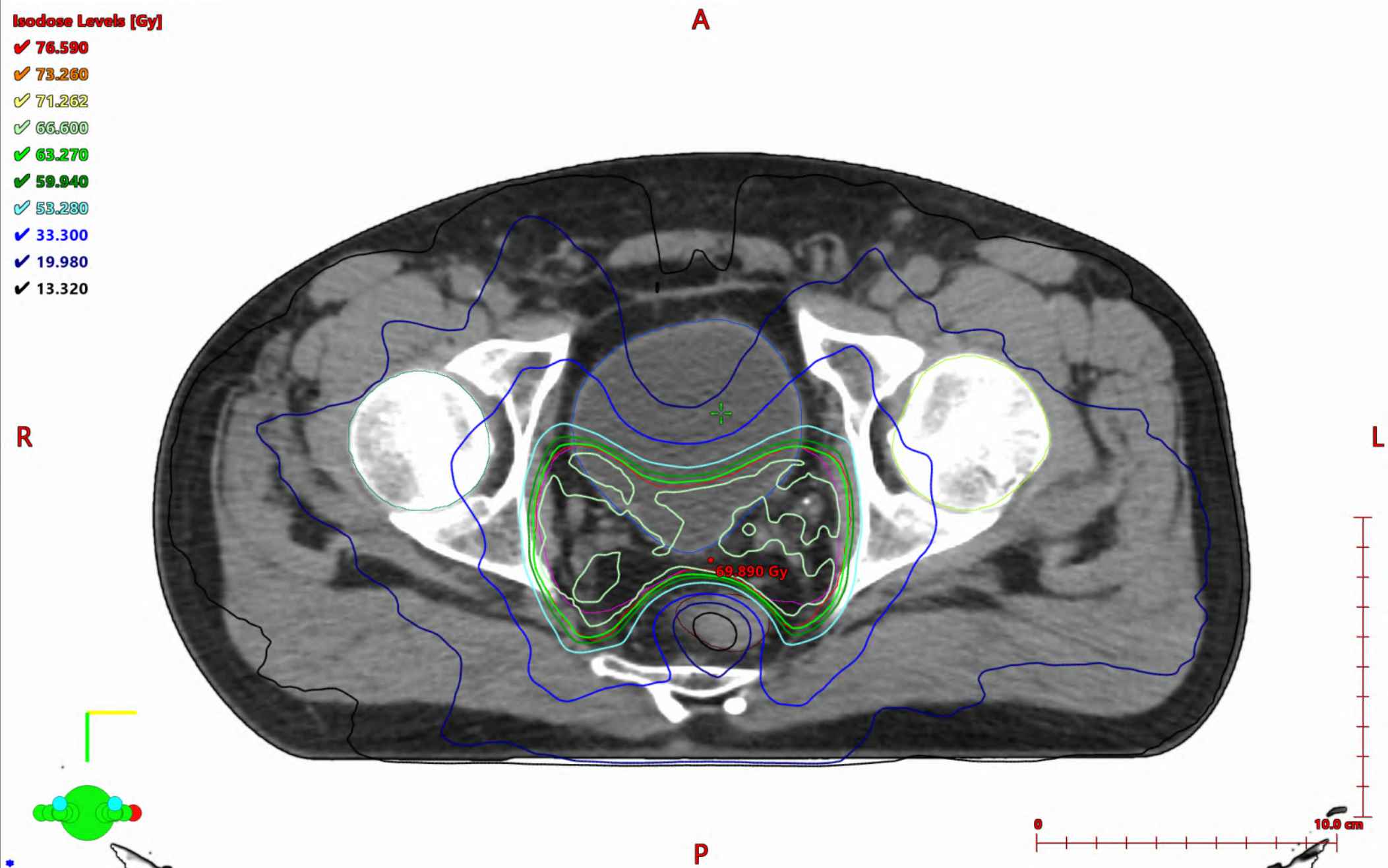
✓ 76.590
✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

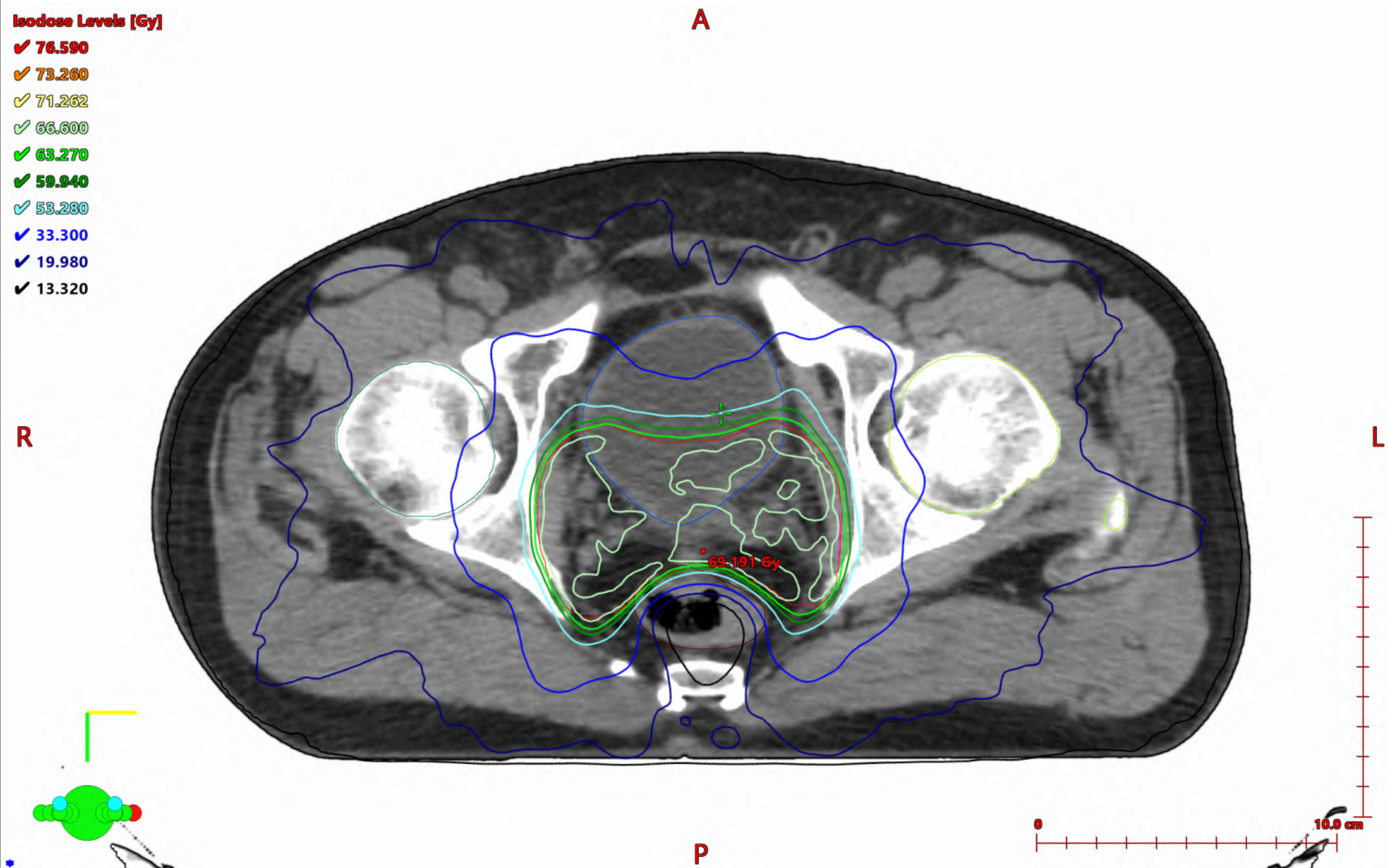
✓ 76.590
✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

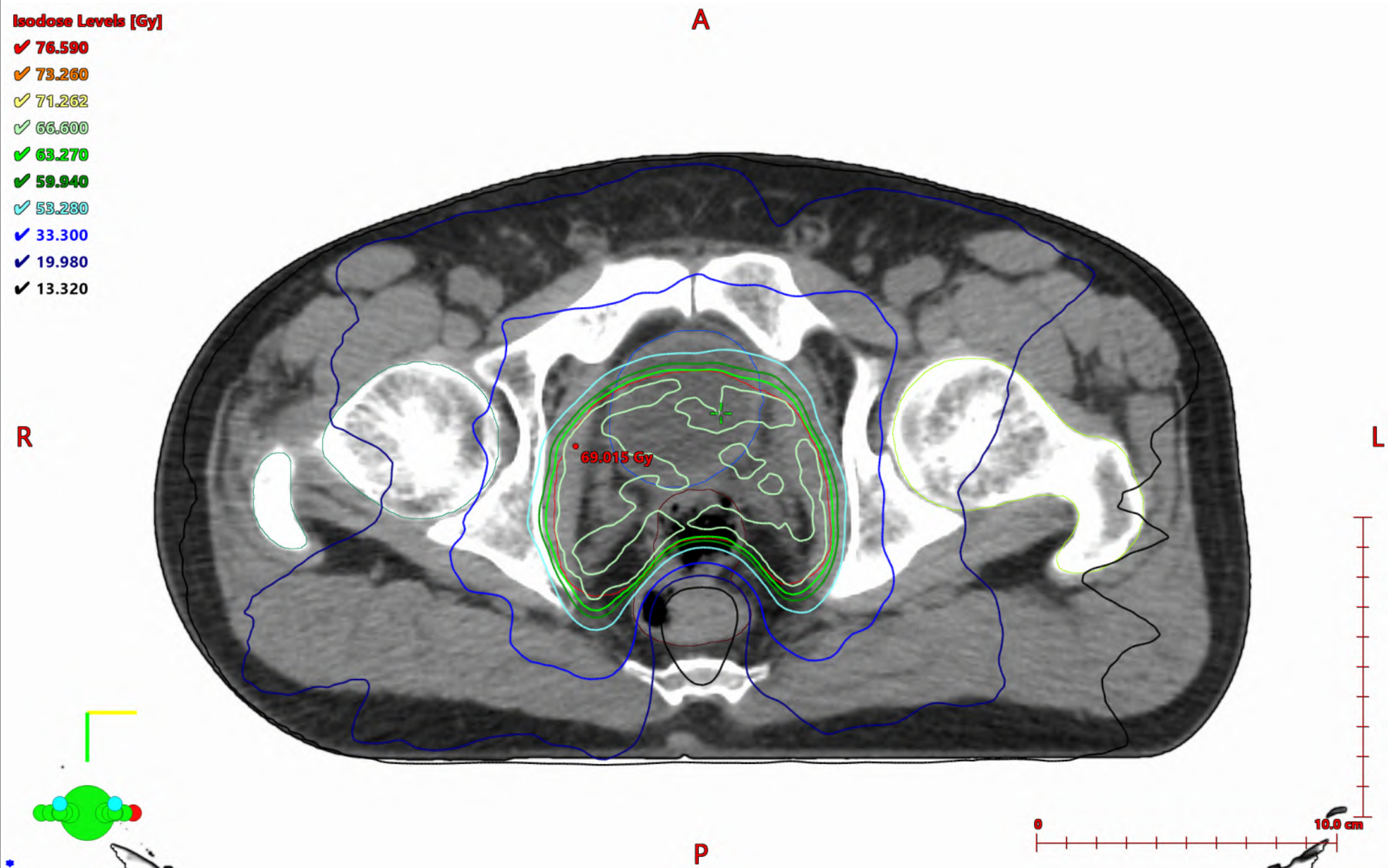
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✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

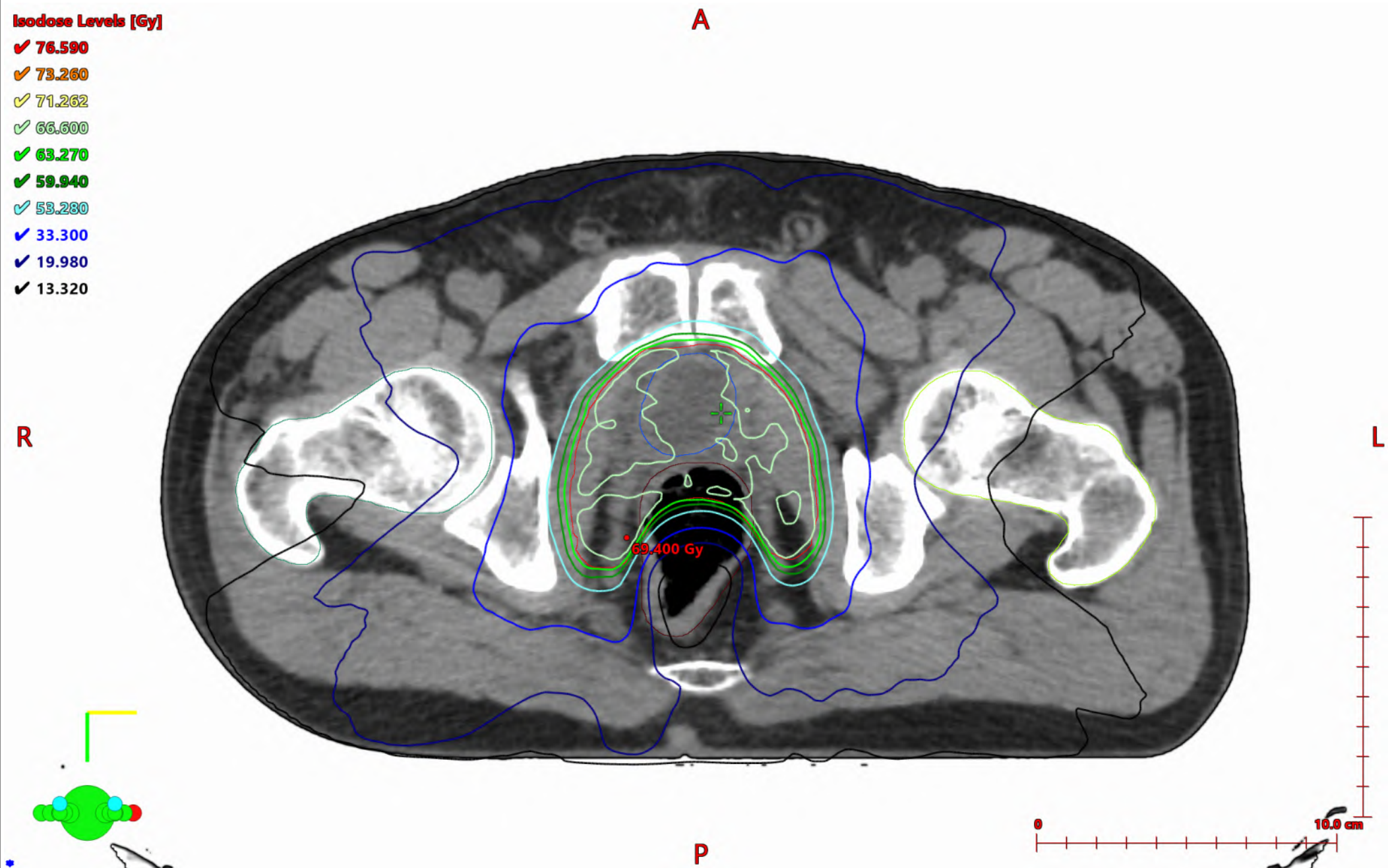
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✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

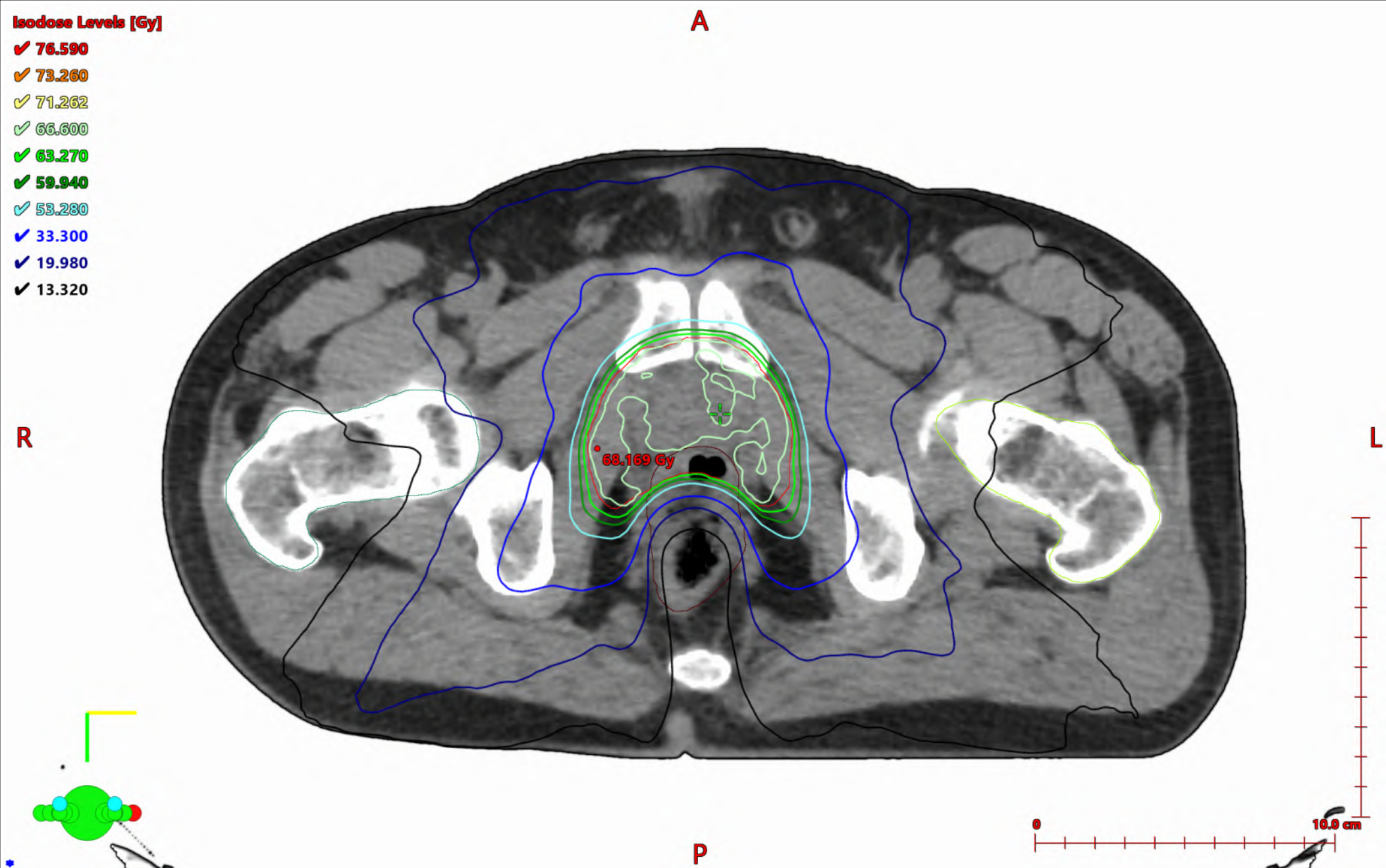
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✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

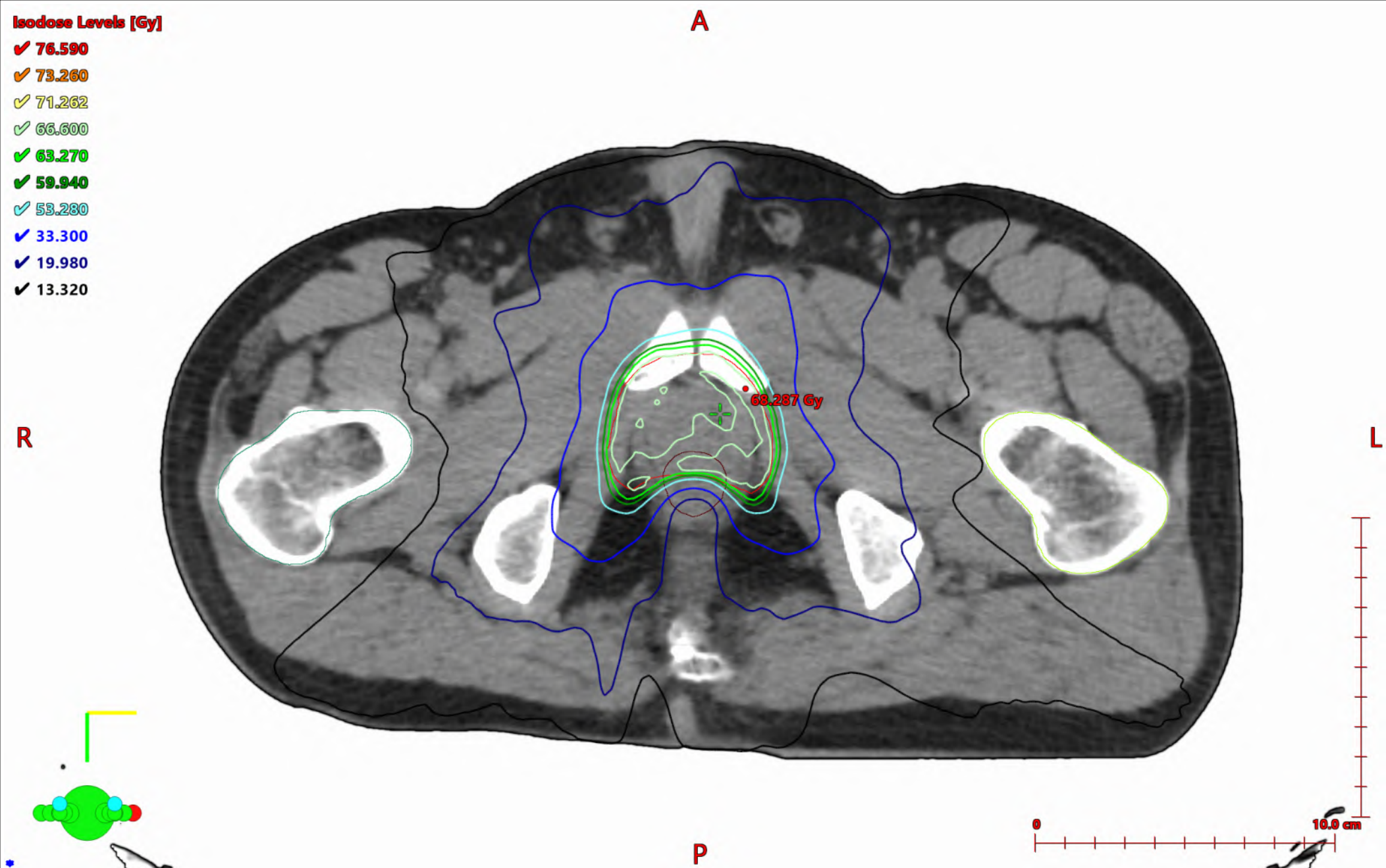
- ✓ 76.590
- ✓ 73.260
- ✓ 71.262
- ✓ 66.600
- ✓ 63.270
- ✓ 59.940
- ✓ 53.280
- ✓ 33.300
- ✓ 19.980
- ✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

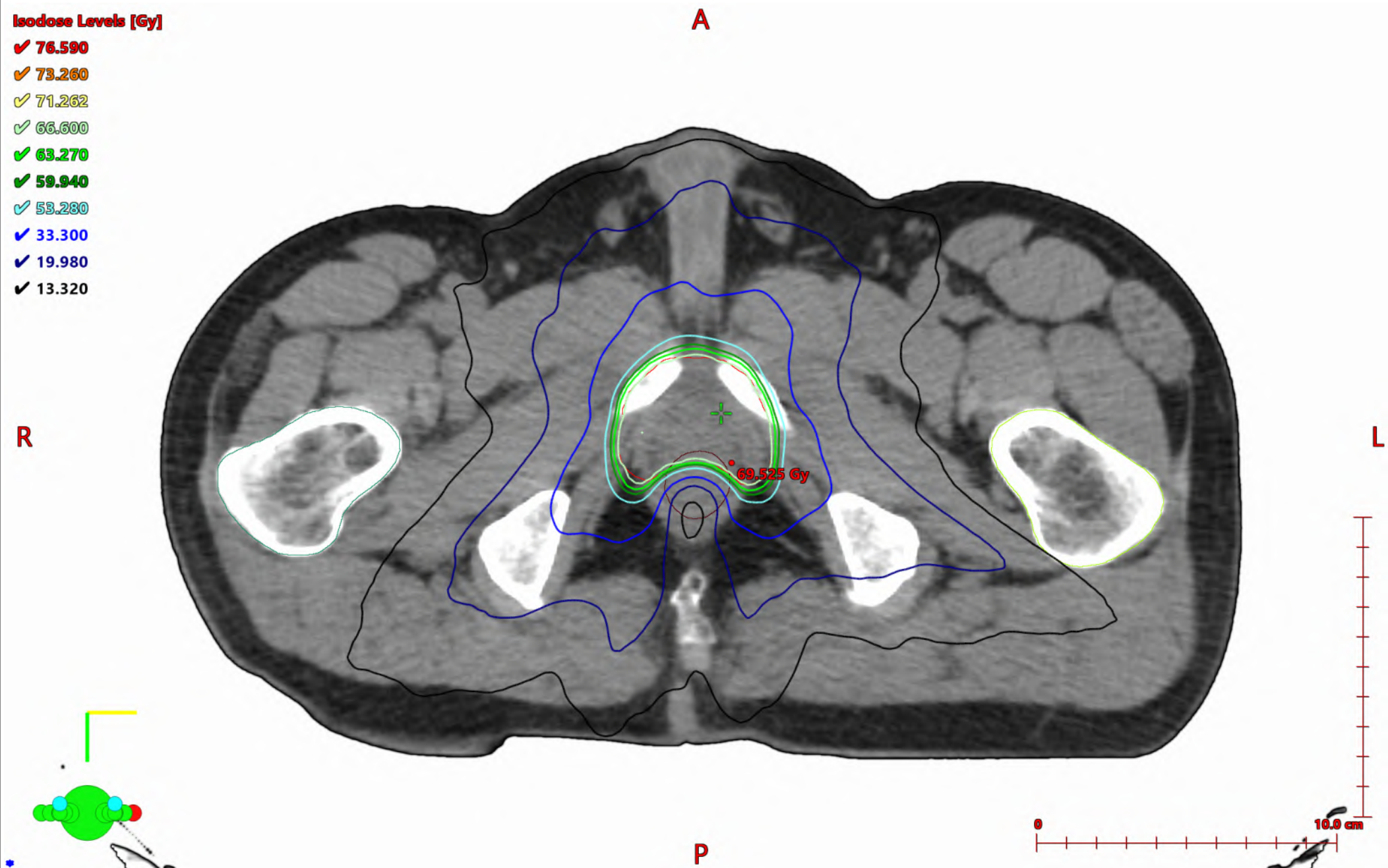
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✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

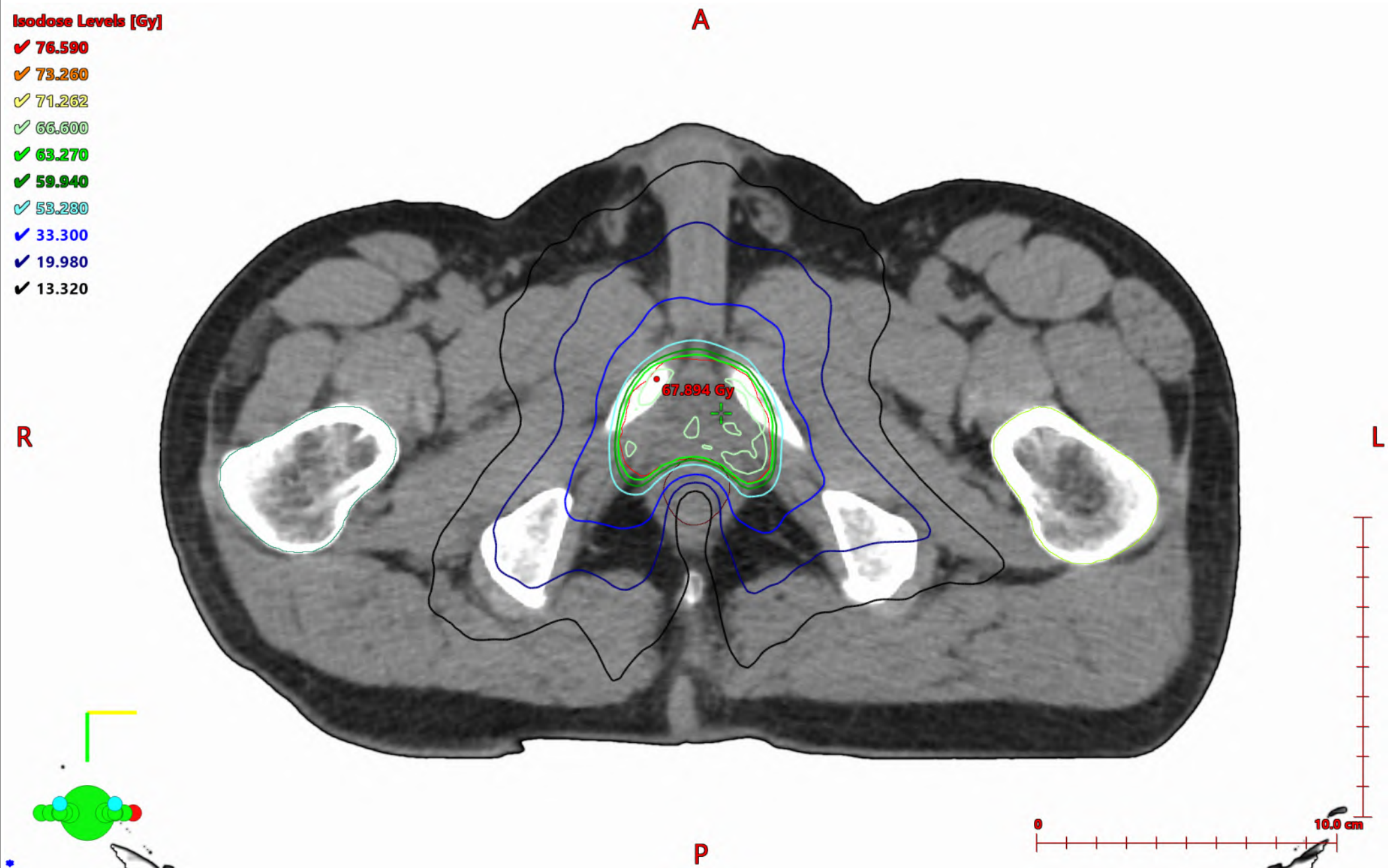
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✓ 73.260
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✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



Hidden field and field accessory outlines not included in the printout

Isodose Levels [Gy]

✓ 76.590
✓ 73.260
✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320



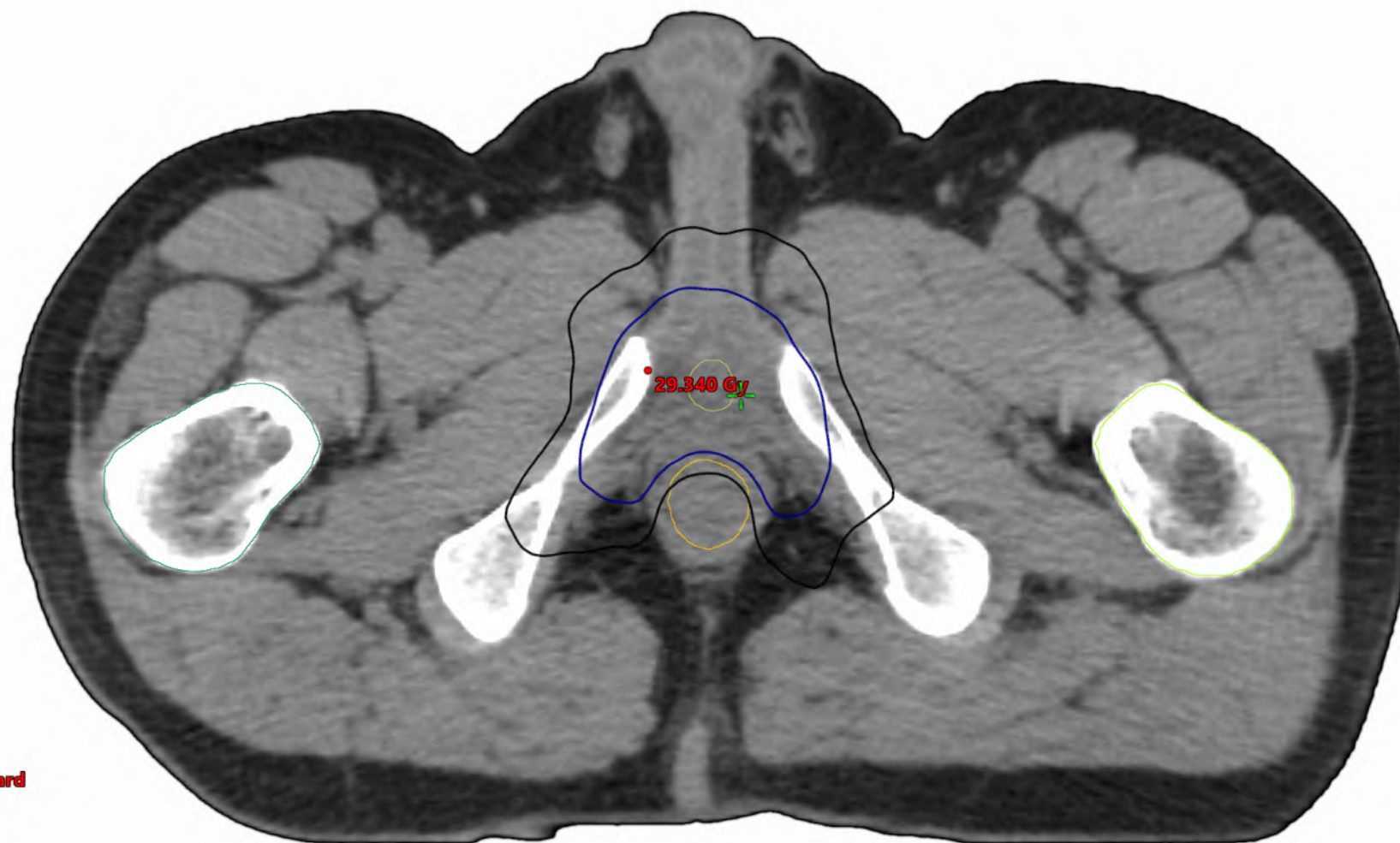
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Isodose Levels [Gy]

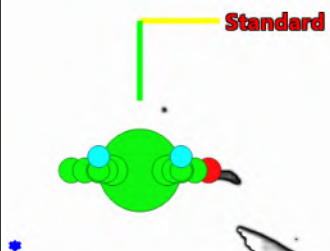
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✓ 71.262
✓ 66.600
✓ 63.270
✓ 59.940
✓ 53.280
✓ 33.300
✓ 19.980
✓ 13.320

R

A



L



Anhang E

-

Übersichtlichkeitsstufen der Ordnerstruktur eines DICOM-RT-Exports

Info: Beispielhafte Ordnerstruktur für den Austausch von DICOM-RT-Daten

Der Beispielsexport umfasst zwei Planungs-CTs (nicht alle CT-Slices sind aufgelistet zur besseren Übersicht) und drei Behandlungspläne, die in verschiedene Übersichtlichkeitsstufen zum Austausch vorbereitet worden sind:

- Unzureichend: Dateinamen ohne klare Struktur oder zusätzliche Informationen.
- Mittel: Dateinamen mit einer gewissen Struktur, jedoch ohne umfassende Kontextinformationen.
- Gut: Klare und detaillierte Dateinamen und Ordnerenteilung inklusive optionalen Textdokumenten

Projekt:

RadExchange – Standardisierung der Übermittlung von Behandlungsdaten in der Strahlentherapie

Trägerschaft:

AG Digitalisierung und künstliche Intelligenz der DEGRO (Deutsche Gesellschaft für Radioonkologie)

Übersichtlichkeitsstufen		
Unzureichend	Mittel	Gut
patID.UID1234500.dcm	CT1.patID.Image1.dcm	!+-patID_Institution_TreatmentYear
patID.UID1234501.dcm	CT1.patID.Image2-xxx.dcm	optional: Arztbrief.pdf
patID.UID1234502.dcm	CT1.patID.Image338.dcm	optional: Notiz bzw. Kommentar.txt
patID.UID1234503.dcm	CT2.patID.Image1.dcm	!+--Study1
patID.UID1234504.dcm	CT2.patID.Image2-xxx.dcm	CT1.patID.Image 1.dcm
patID.UID1234505.dcm	CT2.patID.Image301.dcm	CT1.patID.Image 2-xxx.dcm
patID.UID1234506.dcm	RD.patID.BWK10+LWK2.dcm	CT1.patID.Image 338.dcm
patID.UID1234507.dcm	RD.patID.liOA.dcm	RD.patID.li OA.dcm
patID.UID1234508.dcm	RD.patID.Osiliumli.dcm	RP.patID.li OA.dcm
patID.UID1234509.dcm	RP.patID.BWK10+LWK2.dcm	RS.patID.CT_01.01.01OArm.dcm
patID.UID1234510.dcm	RP.patID.liOA.dcm	PlanReport.pdf
patID.UID1234511.dcm	RP.patID.Osiliumli.dcm	!+--Study2
patID.UID1234512.dcm	RS.patID.Auto+POI_Abdomen.dcm	CT2.patID.Image 1.dcm
patID.UID1234513.dcm	RS.patID.CT_01.01.01OArm.dcm	CT2.patID.Image 2-xxx.dcm
Beispielhafte Ordnerstruktur für den Austausch von DICOM-RT-Daten Der Beispielexport umfasst zwei Planungs-CTs (nicht alle CT-Slices sind aufgelistet zur besseren Übersicht) und drei Behandlungspläne, die in verschiedene Übersichtlichkeitsstufen zum Austausch vorbereitet worden sind: <u>Unzureichend</u> : Dateinamen ohne klare Struktur oder zusätzliche Informationen. <u>Mittel</u> : Dateinamen mit einer gewissen Struktur, jedoch ohne umfassende Kontextinformationen. <u>Gut</u> : Klare und detaillierte Dateinamen und Ordnerreinteilung inklusive optionalen Textdokumenten. <u>Hinweise zu Textdokumenten</u> : PlanReport: Unterstützt die Überprüfung des Imports. Notiz: Ergänzende Informationen, z.B. wenn nicht alle Pläne vollständig bestrahlt wurden. Arztbrief: Optional, da dieser meist zusätzlich per Fax übermittelt wird.		CT2.patID.Image 301.dcm
		optional: RD.patID.Sum_Plan1+2.dcm
		RS.patID.Auto+POI_Abdomen.dcm
		optional: SumReport or SumDVH.pdf
		!+---Plan1
		RD.patID.BWK10+LWK2.dcm
		RP.patID.BWK10+LWK2.dcm
		PlanReport_Plan1.pdf
		!+---Plan2
		RD.patID.Os ilium li.dcm
		RP.patID.Os ilium li.dcm
		PlanReport_Plan2.pdf
<u>Vorteile einer strukturierten Ordnerstruktur:</u> Erhöhte Nachvollziehbarkeit reduziert die Zeit und Fehleranfälligkeit beim Import der Daten. Weiterhin werden Nachfragen reduziert.		

Anhang F

-

Beispiel eines Anforderungsschreiben

Info: Exemplarisches Beispiel eines Anforderungsschreibens, wobei der Fokus auf die Verlinkung zum Projekt steht.

Projekt:

RadExchange – Standardisierung der Übermittlung von Behandlungsdaten in der Strahlentherapie

Trägerschaft:

AG Digitalisierung und künstliche Intelligenz der DEGRO (Deutsche Gesellschaft für Radioonkologie)

Eigene Klinik-Kontakt

Anschrift Klinik/Praxis

Datum:

Anforderung von Bestrahlungsunterlagen

Name, Vorname:

Geburtsdatum:

Sehr geehrte Damen und Herren,

wir wenden uns an Sie bezüglich des oben genannten Patienten bzw. Patientin. Für die Weiterbehandlung in unserem Haus sind wir auf die Bestrahlungsunterlagen von der bei Ihnen durchgeführten Therapie angewiesen. **Bitte übersenden Sie uns die Unterlagen möglichst bald.**

Die Bestrahlungsunterlagen sollten je Plan die folgenden Komponenten beinhalten:

- Abschlussbericht/ Arztbrief der radio-onkologischen Behandlung
- Bestrahlungsplan: Der Bestrahlungsplan sollte im DICOM-RT-Format vorliegen und die typischen vier Bestandteile – Planungs-CT, StructureSet, Dosis und Plan – umfassen. Ergänzend kann, oder zwingend falls DICOM-Daten nicht verfügbar sind, ein aussagekräftiger Bestrahlungsplan-PDF-Bericht hinzugefügt werden.

Bitte orientieren Sie sich am RadExchange-Leitfaden der DEGRO-AG-Digitalisierung und künstliche Intelligenz (<https://www.degro.org/digitalisierung/radexchange-empfehlung/>) für einen optimierten Datenaustausch.

Die Einwilligung des Patienten bzw. der Patientin liegt vor und ist dieser Anforderung beigelegt.

Ansprechpartner dieser Anfrage: XX

Postanschrift:

Eigene Klinik