AUTONOME PROVINZ BOZEN – SÜDTIROL
PROVINCIA AUTONOMA DI BOLZANO – ALTO ADIGE
PROVINZIA AUTONOMA DE BULSAN – SUDTIROL

Südtiroler Sanitätsbetrieb
Azienda Sanitaria dell'Alto Adige
Azienda Sanitera de Sudtirol

GESUNDHEITSBEZIRK BOZEN
Krankenhausbereich
Betrieblicher Dienst für Strahlentherapie

COMPRENSORIO SANITARIO DI BOLZANO
Area Ospedaliera
Servizio Aziendale di Radioterapia

ALLEGATO 4

Prova pratica: mammella

Paziente di 50aa; Npl Mammella destra; duttale invasivo pT1b N0 G2 R0 L0 V0 ER 100%; PR 100%; c-erb neg, ki 67 5%; esiti di quadrantectomia, margini indenni:

a) descrivi il processo di pianificazione dalla TAC alla prima seduta

b) nomina gli organi a rischio e le corrispondenti dosi tollerate (TD 5/5) in trattamento radiante, nonché i possibili effetti tardivi sulla base della pubblicazione di Emami nel Red Journal 1995 e secondo i recenti dati QUANTEC.

c) diussione e interpretazion del piano

d) conosce technice alternative

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Clinica Universitaria Radiooncologica di Innsbruck
Casa di Cura Bonvicini

Plan Report

Patient data

Patient ID	Anonymized 31 May 2018, 12:42:47 (hr:min:sec)
Patient name	Anonymized 31 May 2018, 12:42:47 (hr:min:sec)
Patient gender	Other
Patient birth date	31 May 2018
Case data	
Case name	CASE 1
Physician	-
Body site	-

Treatment plan data

Treatment plan name	v2 mamma re VMAT
Plan last save time	31 May 2018, 12:44:35 (hr:min:sec)
Planned by	
Number of beam sets	1
Patient treatment position	HFS : Head First Supine
Treatment plan approval data	
Approved	Yes
Approved by	Anonymized
Approval time	12 Dec 2005, 12:00:00 (hr:min:sec)
Plan comment	Imported plan
Planning image set	
Name	CT 1
Modality	CT
Imaging system	Anonymized 26 Jun 2012, 17:19:23 (hr:min:sec)
Patient scanning position	HFS
Series date and time	21 Mar 2018, 08:29:23 (hr:min:sec)
Acquisition date and time	21 Mar 2018, 08:29:33 (hr:min:sec)
External ROI	External

General data

Treatment planning system	RayStation 7 (7.0.0.19)
Report creation time	31 May 2018, 12:44:49 (hr:min:sec)
Time zone info	UTC+02:00 (using daylight saving time)
Template name	Report BZ_Ver12_7
Patient coordinate system	IEC 61217

Signatures

Signature 1 (Name/Signature/Date)

Signature 2 (Name/Signature/Date)

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Treatment plan name	v2 mamma re VMAT	Plan approved by	Anonymized
Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

ROI properties

Name	Material	Mass density [g/cm³]
ibeam	Carbon fiber	1.700

Beam Set overview

Beam Set name	v2 mamma re VMAT
Treatment technique	VMAT
Treatment unit	SynBz-3160
Number of beams	2

Warnings [v2 mamma re VMAT]

Warnings confirmed at report creation by: RAYSTATION\raybz.

- The beam set dose used in the plan is an imported dose from an external system.

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Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

Beam Set Report

Beam Set data

Beam Set name	v2 mamma re VMAT
Modality	Photons
Treatment technique	VMAT
Number of beams	2
Number of segments	150
DICOM Plan UID	1.2.752.243.1.1.20180531124435017.1260.63711
Planning image set	CT 1
CT to density table	Anonymized 26 Jun 2012, 17:19:23 (hr:min:sec)
Treatment unit	SynBz-3160
Commission time	18 May 2016, 15:07:11 (hr:min:sec)
Treatment machine scale	IEC 61217
Jaw labeling standard	IEC 61217
Energy [MV]	6.00
Dose calculation algorithm	Imported
Density calculation algorithm version	Unknown
MU per fraction	359.95
Number of fractions	28
ROI(s) with density override	ibeam
Beam set approval data	
Approved	No
Approved by	-
Approval time	-
Structure set UID	1.2.752.243.1.1.20180531124426112.1210.50701
Structure set approval data	
Approved	Yes
Approved by	Anonymized
Approval time	28 Dec 1995, 12:00:00 (hr:min:sec)

Beam Data Overview [Right-Left: -6.84 Inf-Sup: 7.34 Post-Ant: 5.90]

#	Beam name	Number of segments	Maximum jaw aperture [cm] Y1	Y2	Start gantry angle [deg]	Stop gantry angle [deg]	Coll. angle [deg]	Couch angle [deg]	MU per fraction	Bolus [Y/N]
1	arc1	75	-8.00	9.00	210.0	70.0	350.0	0.0	183.39	N
2	arc2	75	-8.00	9.00	70.0	210.0	10.0	0.0	176.56	N

Prescription

Prescription	200 cGy x 28 fx = 5600 cGy
Prescription Type	Median dose (D50%)
ROI	PTV
Fulfillment	Fulfilled (200 cGy x 28 fx = 5600 cGy)
Dose type	Relates to beam set dose

Patient setup

Localization point	
POI	Reference point
Treatment position	HFS : Head First Supine
Position [cm]	X(Right-Left) = -0.17 , Y(Inf-Sup) = -0.3 , Z(Post-Ant) = -0.37
Patient setup	
Beams	arc1, arc2
Isocenter [cm]	v2 mamma re VMAT 1 - X(R-L) = -6.84 , Y(I-S) = 7.34 , Z(P-A) = 5.9
Localization point - Isocenter [cm]	X(R-L) = 6.68 , Y(I-S) = -7.64 , Z(P-A) = -6.27

Position patient such that lasers line up with patient marks.
Perform the couch shift so that the PATIENT is moved according to the instructions below:

- Left 6.68 cm (patient's left)
- Inferior 7.64 cm
- Posterior 6.27 cm

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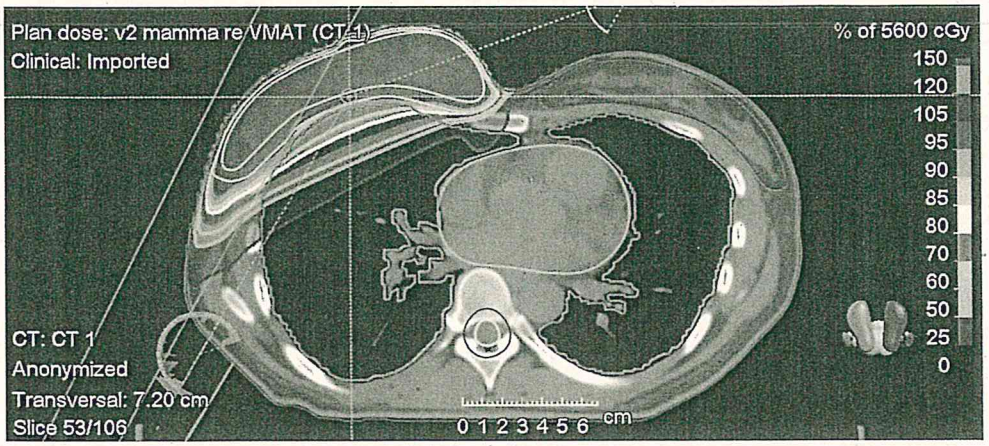
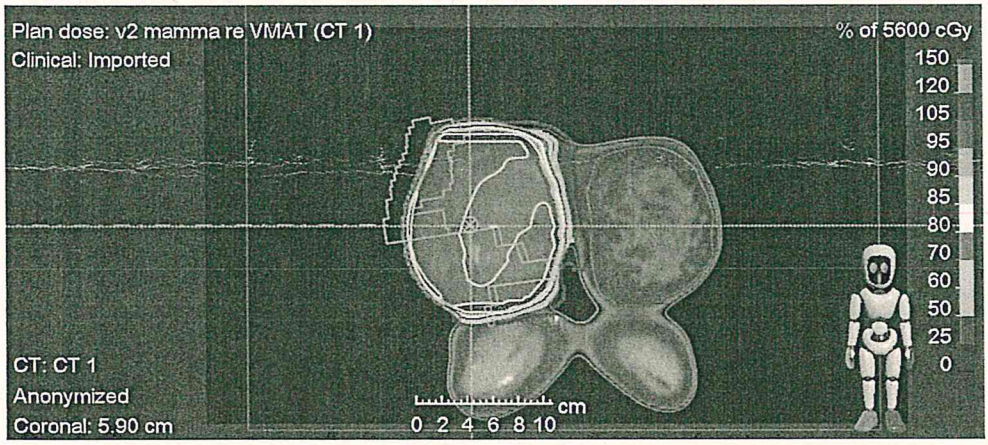
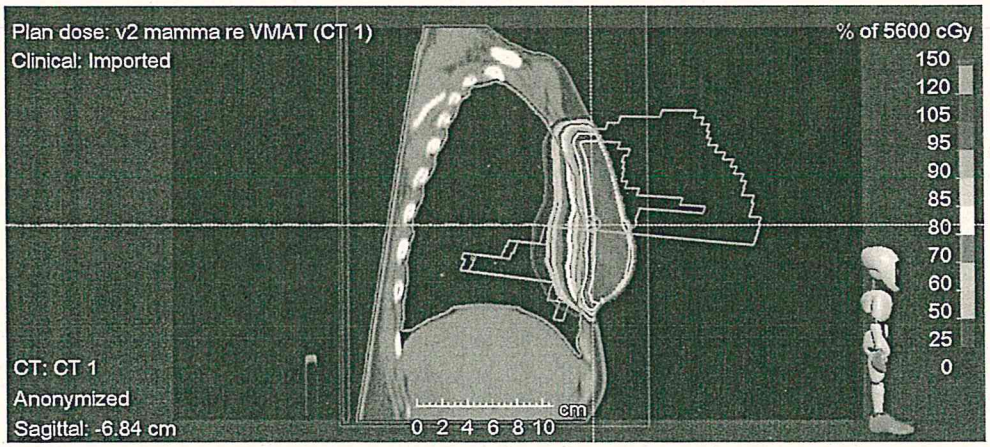
Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

Beamset dose data

Isocenter name	v2 mamma re VMAT 1
Isocenter [cm]	Right-Left: -6.84 Inf-Sup: 7.34 Post-Ant: 5.90
Dose grid resolution [cm]	Right-Left: 0.20 Inf-Sup: 0.20 Post-Ant: 0.20
Beams	arc1, arc2







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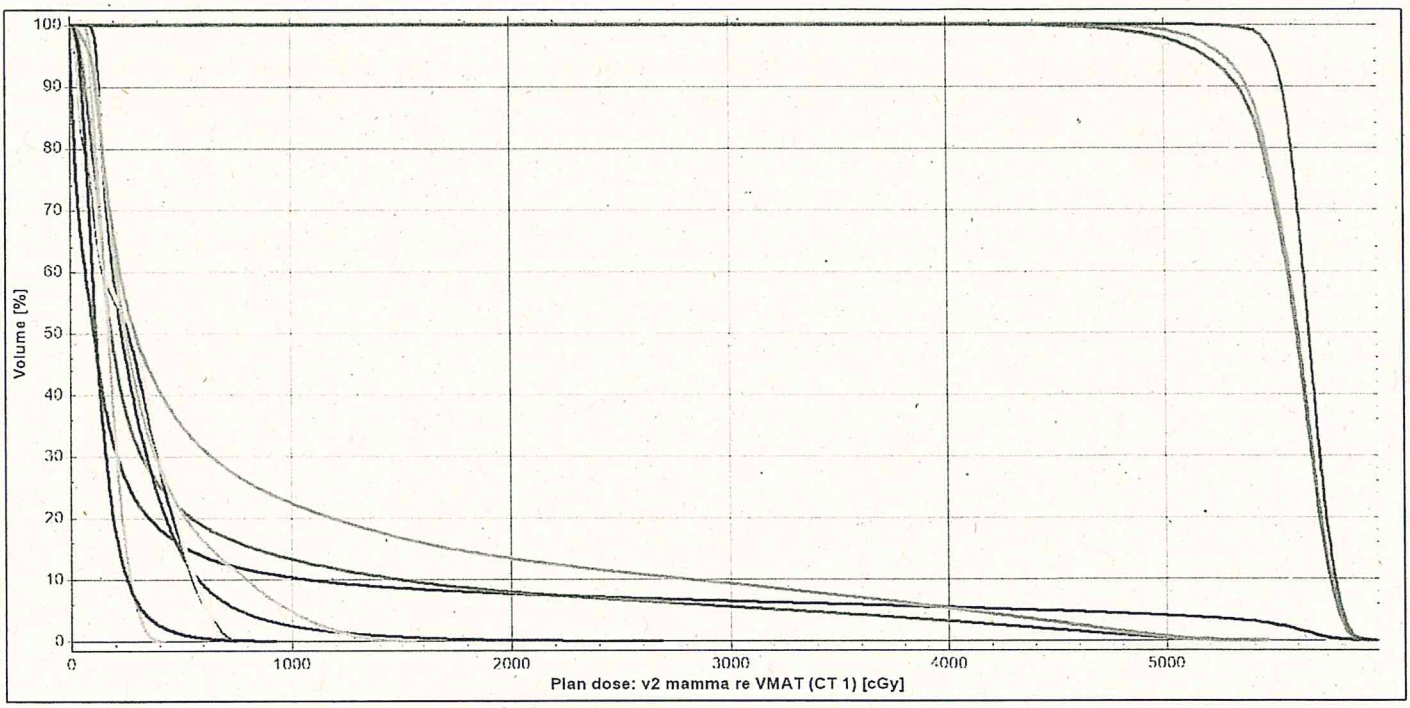
Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

Points Of Interest

		Beam isocenters [cm]	Point - Isocenter [cm]
Name	**Reference point**	**Right-Left: -6.84**	**Right-Left: 6.68**
Type	**Localization point**	**Inf-Sup: 7.34**	**Inf-Sup: -7.64**
Dose [cGy]	**195 [Interpolated]**	**Post-Ant: 5.90**	**Post-Ant: -6.27**
Location [cm]	**Right-Left: -0.17** **Inf-Sup: -0.3** **Post-Ant: -0.37**		



POI Dose statistics

Dose	POI	Dose [cGy]	Position		
			Right-Left: [cm]	Inf-Sup: [cm]	Post-Ant: [cm]
Plan dose: v2 mamma re VMAT (CT 1)	Reference point	195	-0.17	-0.3	-0.37

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Treatment plan name	v2 mamma re VMAT	Plan approved by	Anonymized
Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

ROI Dose statistics [Beam Set dose]

Name	Volume [cm³]	D99 [cGy]	D98 [cGy]	D95 [cGy]	Average [cGy]	D50 [cGy]	D2 [cGy]	D1 [cGy]	% outside grid
breast left	281.92	109	118	125	316	235	1076	1341	0
CTV	337.14	5408	5447	5498	5653	5655	5831	5848	0
External	14730.81	0	1	6	521	110	5570	5672	0
Heart	514.02	83	89	101	356	252	1173	1265	0
help	148.73	4820	4932	5080	5405	5441	5650	5680	0
left ventricle	171.17	80	84	94	184	176	337	354	0
Lung	2992.67	34	41	56	561	188	4406	4757	0
Lung left	1210.99	26	34	46	144	119	432	516	0
Lung right	1780.95	44	61	100	845	299	4690	4910	0
PRV spinal cord	103.56	24	26	34	275	266	671	695	0
PTV	508.02	4804	4976	5190	5558	5600	5818	5839	0
PTV-skin	491.96	5015	5125	5271	5576	5606	5819	5840	0
Spinal Cord	31.23	26	27	38	285	292	658	675	0

External — This ROI is set as the external ROI that defines the outer border of the patient

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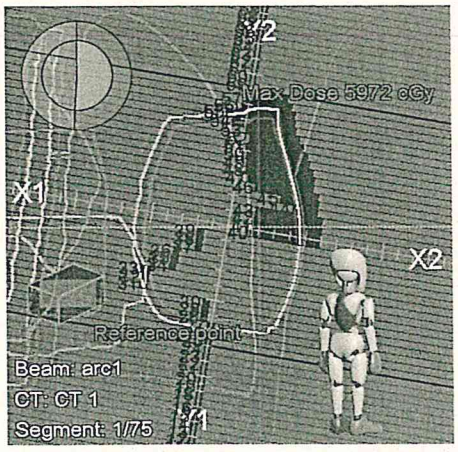
Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

Beam data

Beam name	arc1
Beam number	1
Beam description	
Patient coordinate system	IEC 61217
Isocenter [cm]	v2 mamma re VMAT 1 - Right-Left: -6.84 Inf-Sup: 7.34 Post-Ant: 5.90
Start gantry angle [deg]	210.0
Stop gantry angle [deg]	70.0
Rotation direction	CW
Collimator angle [deg]	350.0
Couch angle [deg]	0.0
Treatment technique	VMAT
Number of fractions	28
Beam MU/fraction	183.39
Total beam MU	5134.90
Beam weight [%]	50.9
Number of segments	75
Dose calculation algorithm	Imported
Treatment unit	SynBz-3160
Commission time	18 May 2016, 15:07:11 (hr:min:sec)
Energy [MV]	6.00
Jaw max aperture width [cm]	-
X1 [cm]	-
X2 [cm]	-
Jaw max aperture height [cm]	17.00
Y1 [cm]	-8.00
Y2 [cm]	9.00
Source to skin distance (isocenter) [cm]	85.86
Source to surface distance (isocenter) [cm]	77.03
Bolus data	
No bolus	

Beam dose specification point

Coordinates [cm]	Isocenter
Dose per fraction [cGy]	-
Physical depth [cm]	-
Water equivalent depth [cm]	-
Source to skin distance [cm]	85.86
Source to surface distance [cm]	77.03



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Treatment plan name	v2 mamma re VMAT	Plan approved by	Anonymized
Plan approved	Yes	Plan approval time	12 Dec 2005, 12:00:00 (hr:min:sec)

Beam data

Beam name	arc2
Beam number	2
Beam description	
Patient coordinate system	IEC 61217
Isocenter [cm]	v2 mamma re VMAT 1 - Right-Left: -6.84 Inf-Sup: 7.34 Post-Ant: 5.90
Start gantry angle [deg]	70.0
Stop gantry angle [deg]	210.0
Rotation direction	CCW
Collimator angle [deg]	10.0
Couch angle [deg]	0.0
Treatment technique	VMAT
Number of fractions	28
Beam MU/fraction	176.56
Total beam MU	4943.59
Beam weight [%]	49.1
Number of segments	75
Dose calculation algorithm	Imported
Treatment unit	SynBz-3160
Commission time	18 May 2016, 15:07:11 (hr:min:sec)
Energy [MV]	6.00
Jaw max aperture width [cm]	-
X1 [cm]	-
X2 [cm]	-
Jaw max aperture height [cm]	17.00
Y1 [cm]	-8.00
Y2 [cm]	9.00
Source to skin distance (isocenter) [cm]	93.37
Source to surface distance (isocenter) [cm]	93.37
Bolus data	
No bolus	

Beam dose specification point

Coordinates [cm]	Isocenter
Dose per fraction [cGy]	-
Physical depth [cm]	-
Water equivalent depth [cm]	-
Source to skin distance [cm]	93.37
Source to surface distance [cm]	93.37