

Northside Forsyth Gamma Knife  
Treatment Planning Protocol  
for  
Leksell Gamma Knife® Icon™  
Leksell GammaPlan® 11.3.2

Patient: Goodwin, Marcus  
Patient ID: 03272682  
Diagnosis: Metastases - multiple  
Diagnosis Code: R1802  
Plan ID: 20250211-003  
Approval Version: 11.3.2  
Approval Time: 2025-02-11 15:58:47  
Print Date: 2025-02-11  
Operator: JK  
Gamma Knife: 6240 (6240)

0025785 DOB: 07/17/1947 77Y  
GOODWIN, MARCUS CLAY  
ZHANG, BINGCHAN 70314  
2503508057 M 02/04/25 1300  
F HSN

Approved for Treatment

*Q. Y. Zhang* Feb 11, 2025 @ 3:55 pm  
*Josh Kessler* 2/11/25 3:55 pm

Gamma Knife Data

Calibration dose	3.364 Gy/min at 2020-10-22
Days since calibration at approval date	1573
Treatment dose rate (2025-02-11)	1.907 Gy/min
Effective output factors (4, 8, 16)	0.814, 0.9, 1
Ring 1 output factors (4, 8, 16)	0.812, 0.934, 0.961
Ring 2 output factors (4, 8, 16)	0.823, 0.919, 1.000
Ring 3 output factors (4, 8, 16)	0.795, 0.874, 0.981
Ring 4 output factors (4, 8, 16)	0.726, 0.782, 0.914
Ring 5 output factors (4, 8, 16)	0.664, 0.708, 0.847

Fixation Configuration

Mask

Treatment Data

Target	Shots	Prescription	100% [Gy]	Max [Gy]	X [mm]	Y [mm]	Z [mm]	Width [mm]
A:L cerebellar met PTV	20	20.0 Gy @ 50% I7	40.0	40.0	114.5	55.4	109.1	38

Number of fractions: 1

Total number of shots: 20

Treatment plan name: Plan1

Dose algorithm: TMR 10

Dose grid resolution in targets: standard

**Treatment Data Per Fraction**

Target	Shots	Prescription	100% [Gy]	Max [Gy]	X [mm]	Y [mm]	Z [mm]	Width [mm]
A:L cerebellar met PTV	20	20.0 Gy @ 50%	40.0	40.0	114.5	55.4	109.1	38

Total number of shots: 20

Treatment plan name: Plan1

Dose algorithm: TMR 10

Beam-on time: 44.7 min

Dose grid resolution in targets: standard

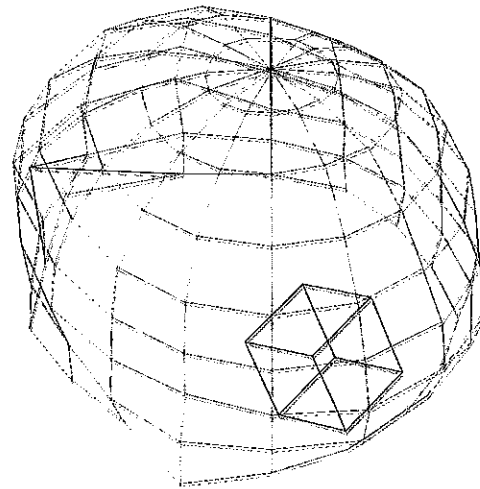
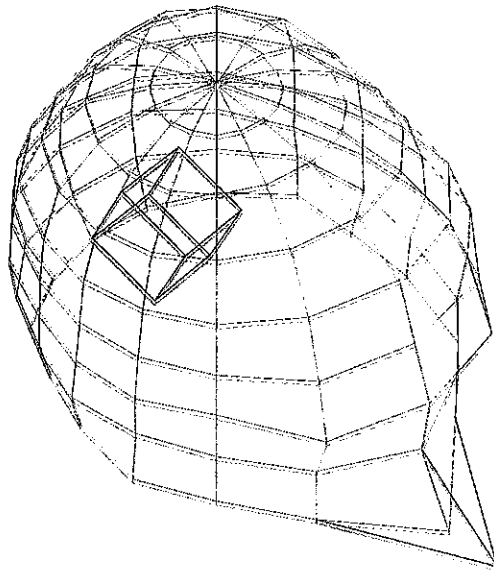
**Run 1 (90 degrees)**

Run-Step	Shot	X [mm]	Y [mm]	Z [mm]	Collimator [sectors 1-8]	Time [min]	Notes
1-1	A18	115.4	49.5	103.0	8 8 8 8 8 8 8 8	2.56	
1-2	A11	112.8	48.2	106.4	16 8 8 4 16 4 4 4	3.23	
1-3	A3	111.9	49.6	109.2	16 4 8 4 4 4 8 8	3.33	
1-4	A15	112.1	48.6	113.2	8 8 8 8 8 8 8 8	2.11	
1-5	A1	114.1	53.7	109.6	8 16 8 16 16 4 16 4	4.14	
1-6	A10	112.6	53.6	108.0	16 16 8 4 4 8 16 8	1.72	
1-7	A5	109.2	54.1	108.9	8 8 16 8 4 8 8 4	0.63	
1-8	A16	106.6	54.1	106.0	4 4 4 4 4 4 4 4	1.83	
1-9	A17	108.8	60.4	111.2	8 8 8 8 8 8 8 8	0.73	
1-10	A4	114.2	56.1	111.1	4 16 4 16 4 8 4 4	1.22	
1-11	A14	115.6	56.3	110.1	16 8 16 16 16 16 8 4	4.41	
1-12	A8	115.5	57.0	109.9	16 16 4 4 16 8 16 4	4.71	
1-13	A2	114.1	58.8	106.3	16 8 8 8 4 16 8 8	1.92	
1-14	A6	118.2	54.8	105.3	4 8 8 16 8 4 16 4	0.33	
1-15	A12	118.5	54.7	107.3	8 4 16 16 4 16 8 4	0.39	
1-16	A20	121.6	58.6	106.4	4 4 4 4 4 4 4 4	1.83	
1-17	A9	119.0	57.5	110.4	4 16 16 8 8 8 16 8	0.95	
1-18	A7	118.3	56.0	110.9	4 16 16 8 8 16 8 16	0.71	
1-19	A13	117.8	61.0	113.1	16 4 4 8 16 16 8 4	5.26	
1-20	A19	116.5	58.0	116.5	8 8 8 8 8 8 8 8	2.66	

**Skull Geometry**

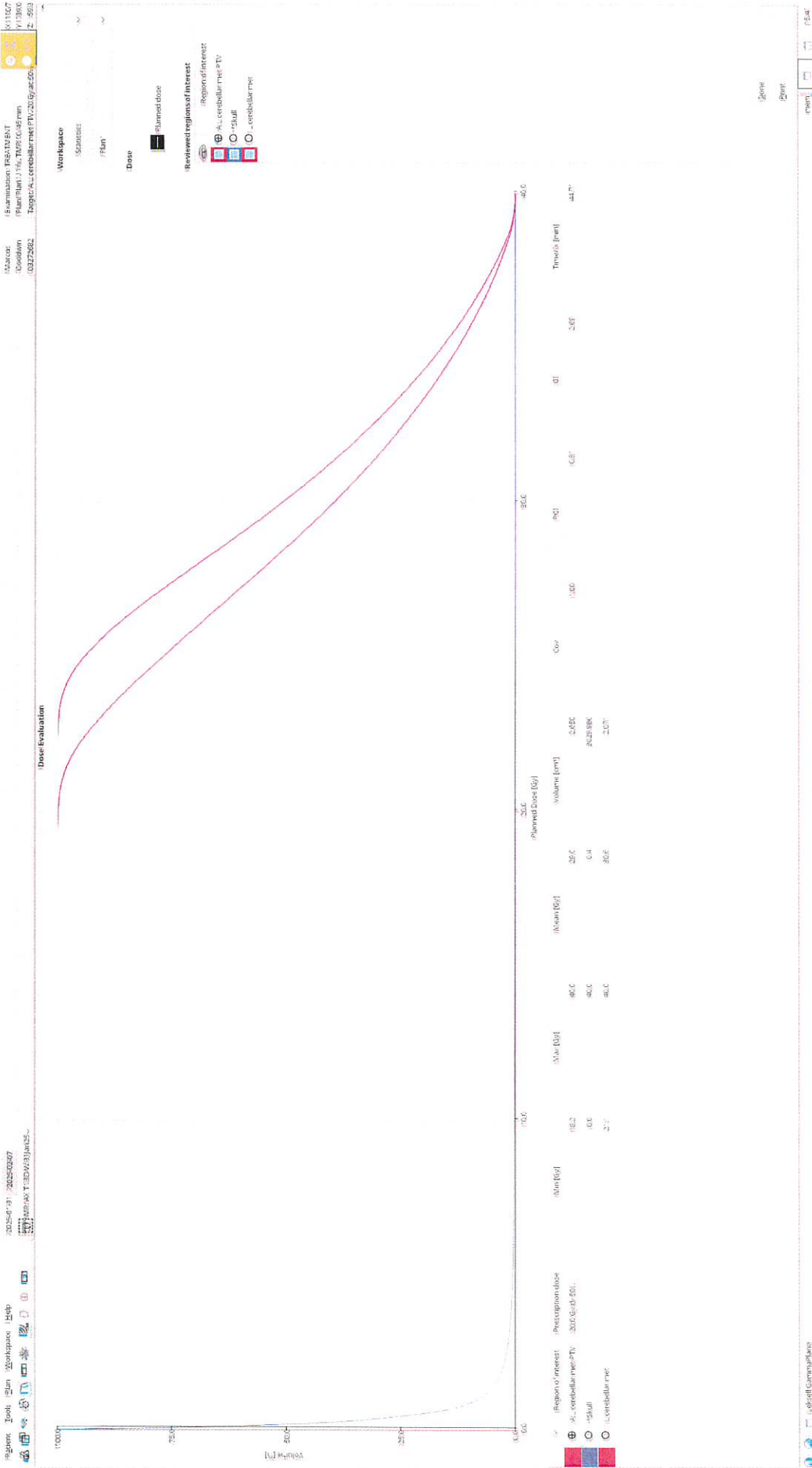
Anterior right view

Posterior left view

**Shot Dose Data**

Shot	Weight	Dose Rate at focus [Gy/min]	Extrapolated Skull Radii
A1	1,83	1,72	0
A2	0,81	1,64	0
A3	1,36	1,59	0
A4	0,50	1,59	0
A5	0,26	1,62	0
A6	0,14	1,65	0
A7	0,31	1,72	0
A8	2,02	1,66	0
A9	0,41	1,69	0
A10	0,73	1,65	0
A11	1,36	1,64	0
A12	0,17	1,68	0
A13	2,21	1,63	0
A14	1,99	1,75	0
A15	0,90	1,65	0
A16	0,70	1,49	0
A17	0,30	1,60	0
A18	1,10	1,67	0
A19	1,10	1,61	0
A20	0,70	1,48	0

Snapshot: 2025-02-11 15:41:54



# Leksell Gamma Knife® Icon™

## Operator's report

### Clinical CBCT request

*Patient name:* Marcus Goodwin  
*Patient ID:* 03272682  
*Diagnosis:* Metastases - multiple, R1802  
*Scan date:* 2025-02-07 [yyyy-mm-dd]  
*Operator:* SJ  
*LGK ID:* 6240

### CBCT scans

Time [hh:mm:ss]	CBCT setting	CTDI [mGy]
15:24:25	CTDI 6.3	6.3

### CBCT settings

CBCT setting	CTDI [mGy]	Voltage [kV]	Current [mA]	Pulse length [ms]	Number of projections
CTDI 6.3	6.3	90	25	40	332

# Leksell Gamma Knife® Icon™

## Operator's report

### Clinical treatment

*Patient name:* Marcus Goodwin  
*Patient ID:* 03272682  
*Diagnosis:* Metastases - multiple, R1802  
*Plan ID:* 20250211-003  
*Treatment date:* 2025-02-11 [yyyy-mm-dd]  
*Plan approval date:* 2025-02-11 [yyyy-mm-dd]  
*Plan operator:* JK  
*Fraction max dose [Gy]:* 40.0  
*Fraction:* 1 (1)  
*LGK ID:* 6240

### Overview

<i>Treatment status:</i>	Completed	<i>Start time:</i>	2025-02-11 15:57:36
<i>Number of runs:</i>	1	<i>End time:</i>	2025-02-11 16:44:23
<i>Number of shots:</i>	20		

*Comment:*

Run index	Fixation	Gamma	Number of shots
1	Mask	90	20

### Treatment results

# Leksell Gamma Knife® Icon™

Run index: 1

Shot	X [mm]	Y [mm]	Z [mm]	Planned [min]	Elapsed [min]	Collimators	Clearance
A18	115.4	49.5	103.0	2.56	2.56	8,8,8,8,8,8,8	-
A11	112.8	48.2	106.4	3.23	3.23	16,8,8,4,16,4,4,4	-
A3	111.9	49.6	109.2	3.33	3.33	16,4,8,4,4,4,8,8	-
A15	112.1	48.6	113.2	2.11	2.11	8,8,8,8,8,8,8	-
A1	114.1	53.7	109.6	4.14	4.14	8,16,8,16,16,4,16,4	-
A10	112.6	53.6	108.0	1.72	1.72	16,16,8,4,4,8,16,8	-
A5	109.2	54.1	108.9	0.63	0.63	8,8,16,8,4,8,8,4	-
A16	106.6	54.1	106.0	1.83	1.83	4,4,4,4,4,4,4,4	-
A17	108.8	60.4	111.2	0.73	0.73	8,8,8,8,8,8,8	-
A4	114.2	56.1	111.2	1.22	1.22	4,16,4,16,4,8,4,4	-
A14	115.6	56.3	110.1	4.41	4.41	16,8,16,16,16,16,8,4	-
A8	115.5	57.0	109.9	4.71	4.71	16,16,4,4,16,8,16,4	-
A2	114.1	58.8	106.3	1.92	1.92	16,8,8,8,4,16,8,8	-
A6	118.2	54.8	105.3	0.33	0.33	4,8,8,16,8,4,16,4	-
A12	118.5	54.7	107.3	0.39	0.39	8,4,16,16,4,16,8,4	-
A20	121.6	58.6	106.4	1.83	1.83	4,4,4,4,4,4,4,4	-
A9	119.0	57.5	110.4	0.95	0.95	4,16,16,8,8,8,16,8	-
A7	118.3	56.0	110.9	0.71	0.71	4,16,16,8,8,16,8,16	-
A13	117.8	61.0	113.1	5.26	5.27	16,4,4,8,16,16,8,4	-
A19	116.5	58.0	116.5	2.66	2.66	8,8,8,8,8,8,8	-

## CBCT scans

Time [hh:mm:ss]	CBCT setting	CTDI [mGy]
15:53:23	CTDI 2.5	2.5

## CBCT settings

CBCT setting	CTDI [mGy]	Voltage [kV]	Current [mA]	Pulse length [ms]	Number of projections
CTDI 2.5	2.5	90	10	40	332

## Patient position

Time [hh:mm:ss]	Correction applied	Completed shots	Rotation [degrees]			Translation [mm]		
			X	Y	Z	X	Y	Z
15:56:08	Yes	A18 A11 A3 A15 A1 A10 A5 A16 A17 A4 A14 A8 A2 A6 A12 A20 A9 A7 A13 A19	-0.42	0.71	1.15	-0.12	0.08	-0.27

## Events

# Leksell Gamma Knife® Icon™

Time [hh:mm:ss]	Type
15:49:43	HDMM system: Active
15:49:43	HDMM alarm level: 1.5
15:56:21	HDMM reference set
15:57:36	Treatment started
16:34:40	Treatment gated, shot: A9 (at 0.70 min)
16:34:45	Treatment resumed
16:34:59	Treatment gated, shot: A9 (at 0.91 min)
16:35:03	Treatment resumed
16:35:38	Treatment gated, shot: A7 (at 0.46 min)
16:35:44	Treatment resumed
16:35:45	Treatment gated, shot: A7 (at 0.46 min)
16:36:02	Treatment resumed
16:44:23	Treatment completed



Snapshot: 2025-02-11 16:56:48

