

GammaTile Peer-Reviewed Papers

Quick Reference Guide

GammaTile Clinical Review (Safety and Efficacy Data)

Appears in Chronological Order

STUDY	STUDY DESIGN	PATIENTS (PTS)	TREATED TUMORS	TUMOR TYPE	EFFICACY OUTCOME	SAFETY
Newly Dx & Recurrent Brain Mets						
Nakaji 2020* PMID: 33,224,684	Prospective	11	16	Brain Mets (Newly Dx & Recurrent)	83% LC at 12 mos. Newly Dx (N=4): 100% LC at 12 mos. Recurrent (N=12): 80% LC at 12 mos.	12.5% Radiation Brain Changes Newly Dx (N=4): 0% Recurrent (N=12): 12.5%
Imber 2022 PMID: 35,896,906	Prospective	20	25	Brain Mets (Recurrent)	92% LC at 12 mos.	16% Symptomatic RN
Kutuk 2023 PMID: 37,722,990	Retrospective	10	12	Brain Mets (Recurrent)	100% LC at 6, 12, and 18 mos.	8% Symptomatic RN
Dharnipragada 2023 PMID: 37,324,216	Retrospective	10	10	Rapidly Growing Brain Mets (Newly Dx & Recurrent)	100% LC at median follow up of 6.2 mos.	No RN No Surgical Complications
Zeller 2024 PMID: 39429969	Prospective	28	30	Brain Mets (Newly Dx)	NR (Perioperative safety analysis)	Serious AE: 3.6% Total AE: 21.4% <i>No AE were definitively related to GammaTile</i>
Beckham 2025 PMID: 40,549,120	Retrospective	31	38	Brain Mets (Recurrent)	87% LC at 12 mos. 94% LC at 12 mos. with GTR	8% Symptomatic RN 3.2% Infection (<i>Unrelated to GammaTile</i>) 12.9% LMD
Newly Dx & Recurrent Glioblastoma						
Gessler 2022 PMID: 35,088,050	Prospective	22	22	IDH Wild-type Glioblastoma (Recurrent)	86% LC at 6 mos. 81% LC at 12 mos. Median OS: 24.4 mos. Median PFS: 8.2 mos.	No RN 9% Pts with Surgical Complications
Smith 2022 PMID: 36,322,102	Prospective	28	28	Glioblastoma (Recurrent)	Median time to LF: 12.1 mos. Median OS: 25.0 mos. Median PFS: 11.7 mos.	7% Symptomatic RN
Yekula 2024 PMID: 38281303	Prospective	7	7	Rapidly Growing GBM (Newly Dx & Recurrent)	Median OS: Newly Dx (N=3): 11.5 mos. Recurrent (N=4): 10 mos. Median PFS (All): 10.6 mos.	No RN No Surgical Complications
Recurrent Meningioma						
Brachman 2018* PMID: 30,579,269	Prospective	19	20	Meningioma (Recurrent)	Median OS: 26 mos. 89% PFS at 18 mos.	10% RN 10% Pts with Surgical Complications

GTR = Gross Total Resection, LC = Local Control, LF= Local Failure, LMD = Leptomeningial Disease, PFS=Progression Free Survival, RN = Radiation Necrosis

*Evidence drawn from a prototype device in pre-commercial product evaluation.

NOTE: Please scroll down to access full links to the literature

Brain Metastases

Nakaji P, et al. <i>Cureus</i> . 12(11):e11570 (2020).*	Open Access
Imber BS, et al. <i>J Neurooncol</i> . 159(3):609–618 (2022).	Open Access
Kutuk T, et al. <i>Brachytherapy</i> . 22(6):872–881 (2023).	Not Open Access
Dharnipragada R, et al. <i>Neurooncol Adv</i> . 5(1):vdad062 (2023).	Open Access
Zeller SL, et al. <i>Neurooncol Adv</i> . 6(1):vdae156 (2024).	Open Access
Beckham TH, et al. <i>J Neurooncol</i> . DOI: https://doi.org/10.1007/s11060-025-05113-x (2025).	Not Open Access

Glioblastoma

Gessler DJ, et al. <i>Neurooncol Adv</i> . 4(1):1–11 (2022).	Open Access
Smith K, et al. <i>Neuro Oncol</i> . 24(Suppl 6):S4–S15 (2022).	Open Access
Yekula A, et al. <i>J Neurooncol</i> . 166(3):441–450 (2024).	Not Open Access

Meningioma

Brachman DG, et al. <i>J Neurosurg</i> . 131(6):1819–1828 (2018).	Open Access
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Multiple Tumor Types

Warren KT, et al. <i>Cureus</i> . 13(11):e19777 (2021).*	Open Access
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Reviews Articles

Gessler D, et al. <i>Future Oncol</i> . 16(30):2445–2455 (2020).	Open Access
Choi M, et al. <i>Cureus</i> . 12(8):e9666 (2020).	Open Access
Foo CY, et al. <i>Cancers (Basel)</i> . 14(21):5341 (2022).	Open Access
Ekhtor C, et al. <i>Cureus</i> . 14(10):e29970 (2022).	Open Access
Xiang X, et al. <i>Radiother Oncol</i> . 190:110012 (2024).	Not Open Access
Odia Y, et al. <i>Neuro Oncol</i> . 24(Suppl 6):S16–S24 (2022).	Open Access
Garcia MA, et al. <i>J Neurooncol</i> . 166(2):203–212 (2024).	Open Access
Kotecha R, et al. <i>Neuro Oncol</i> . noae220 (2024).	Open Access

Physics Papers

Kutuk T, et al. <i>Brachytherapy</i> . 23(6):751–760 (2024).	Not Open Access
Easwaran TP, et al. <i>Cureus</i> . 13:e19496 (2021).	Open Access
Peach M, et al. <i>Cureus</i> . 13(11):e19717 (2021).	Open Access
Ferreira C, et al. <i>Brachytherapy</i> . 20(3):673–685 (2021).	Open Access
Pinnaduwage DS, et al. <i>Technol Cancer Res Treat</i> . 21:1–14 (2022).	Open Access
Prasad K, et al. <i>J Appl Clin Med Phys</i> . 23(10):e13776 (2022).	Open Access

Physics Papers

Penoncello GP, et al. <i>Adv Radiat Oncol.</i> 7(4):100910 (2022).	Open Access
Zhang S, et al. <i>J Neurooncol.</i> 169(1):11-23 (2024).	Not Open Access

Case Reports

Budnick HC, et al. <i>Cureus.</i> 13(11):e19390 (2021).	Open Access
McClelland S, et al. <i>Brachytherapy.</i> 20(6):1265-1268 (2021).	Not Open Access
Arsenault T, et al. <i>Cureus.</i> 13(11):e19232 (2021).	Open Access
Mehta S, et al. <i>Cureus.</i> 13(11):e19573 (2021).	Open Access
Pasli M, et al. <i>J Contemp Brachytherapy.</i> 15(5):365-371 (2023).	Open Access
Casper D, et al. <i>Radiol Imaging Cancer.</i> 6(2):e230208 (2024).	Open Access
Katlowitz KA, et al. <i>Adv Radiat Oncol.</i> 9:101349 (2024).	Open Access
Zhang JF, et al. <i>Cureus.</i> 16(12):e75053 (2024).	Open Access
Wagner RT, et al. <i>J Neurol Surg Rep.</i> 86:e92-e97 (2025).	Open Access

Miscellaneous

Weinberg J. <i>Oncology (Williston Park).</i> 35(8):495 (2021).	Open Access
Reddelle AK. <i>Cureus.</i> 13(11):e20037 (2021).	Open Access

Brain Metastases

RESECTION AND SURGICALLY TARGETED RADIATION THERAPY FOR THE TREATMENT OF LARGER RECURRENT OR NEWLY DIAGNOSED BRAIN METASTASIS: RESULTS FROM A PROSPECTIVE TRIAL*

Nakaji P, Smith K, Youssef E, et al. Resection and surgically targeted radiation therapy for the treatment of larger recurrent or newly diagnosed brain metastasis: Results from a prospective trial. *Cureus.* 2020;12(11):e11570.

Authors: Nakaji P, Smith K, Youssef E, Thomas T, Pinnaduqage D, Rogers L, Wallstrom G, Brachman D

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC7678759/>

SALVAGE RESECTION PLUS CESIUM-131 BRACHY THERAPY DURABLY CONTROLS POST-SRS RECURRENT BRAIN METASTASES

Imber BS, Young RJ, Beal K, et al. Salvage resection plus cesium-131 brachytherapy durably controls post-SRS recurrent brain metastases. *J Neurooncol.* 2022;159(3):609-618.

Authors: Imber BS, Young RJ, Beal K, Reiner AS, Giantini-Larsen AM, Krebs S, Yang JT, Aramburu-Nunez D, Cohen GN, Brennan C, Tabar V, Moss NS

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9328626/>

SURGICALLY TARGETED RADIATION THERAPY (START) FOR RECURRENT BRAIN METASTASES: INITIAL CLINICAL EXPERIENCE

Kutuk T, Tolakanahalli R, Chaswal V, et al. Surgically targeted radiation therapy (STaRT) for recurrent brain metastases: Initial clinical experience. *Brachytherapy*. 2023;22(6):872-881.

Authors: Kutuk T, Tolakanahalli R, Chaswal V, Yarlagadda S, Herrera R, Appel H, La Rosa A, Mishra V, Wieczorek DJJ, McDermott MW, Siomin V, Mehta MP, Odia Y, Gutierrez AN, Kotecha R.

Full Text Link: [https://www.brachyjournal.com/article/S1538-4721\(23\)01615-X/abstract](https://www.brachyjournal.com/article/S1538-4721(23)01615-X/abstract)

GAMMATILE® (GT) AS A BRACHYTHERAPY PLATFORM FOR RAPIDLY GROWING BRAIN METASTASIS

Dharnipragada R, Ferreira C, Shah R, et al. GammaTile (GT) as a brachytherapy platform for rapidly growing brain metastasis. *Neurooncol Adv*. 2023;5(1):vdad062.

Authors: Dharnipragada R, Ferreira C, Shah R, Reynolds M, Dusenbery K, Chen CC

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC10263112/>

EARLY EXPERIENCE AND PERIOPERATIVE RISK OF GAMMATILE® FOR UPFRONT BRAIN METASTASES: REPORT FROM A PROSPECTIVE MULTICENTER STUDY

Zeller SL, Soldozy S, Busse S, Chen CC. Early experience and perioperative risk of GammaTile for upfront brain metastases: Report from a prospective multicenter study. *Neurooncol Adv*. 2024;6(1):vdae156.

Authors: Zeller SL, Soldozy S, Busse S, Chen CC, Venteicher A, Ferreira C, Dusenbery K, Lee S, Peach MS, DiNapoli V, Kotecha R, Ahluwalia MS, Bojanowski-Hoang K, Hanft SJ

Full Text Link (Open Access):

https://academic.oup.com/nao/article/6/1/vdae156/7754263#google_vignette

CESIUM-131 COLLAGEN TILE BRACHYTHERAPY FOR SALVAGE OF RECURRENT INTRACRANIAL METASTASES

Beckham TH, Cha EE, Rooney MK, et al. Cesium-131 collagen tile brachytherapy for salvage of recurrent intracranial metastases. *J Neurooncol* (2025). <https://doi.org/10.1007/s11060-025-05113-x>.

Authors: Beckham TH, Cha EE, Rooney MK, Tom MC, Perni S, McAleer MF, Li J, Kudchadker RJ, Prajapati S, Zlateva Y, Kaya D, Ene CI, Ferguson SD, Huse JT, Prabhu SS, Weinberg JS.

Full Text Link (Open Access): <https://link.springer.com/article/10.1007/s11060-025-05113-x>

Glioblastoma

GAMMATILE® BRACHYTHERAPY IN THE TREATMENT OF RECURRENT GLIOBLASTOMAS

Gessler DJ, Neil EC, Shah R, et al. GammaTile(R) brachytherapy in the treatment of recurrent glioblastomas. *Neurooncol Adv*. 2022;4(1):1-11.

Authors: Gessler D, Neil E, Shah R, Levine J, Shanks J, Wilke C, Reynolds M, Zhang S, Özütemiz C, Gencturk M, Folkertsma M, Bell W, Chen L, Ferreira C, Dusenbery K, Chen C

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8788013/>

SAFETY AND PATTERNS OF SURVIVORSHIP IN RECURRENT GBM FOLLOWING RESECTION AND SURGICALLY TARGETED RADIATION THERAPY: RESULTS FROM A PROSPECTIVE TRIAL

Smith N, Nakaji P, Thomas T, et al. Safety and patterns of survivorship in recurrent GBM following resection and surgically targeted radiation therapy: Results from a prospective trial. *Neuro Oncol.* 2022;24(S6):S4-S15.

Authors: Smith K, Nakaji P, Thomas T, Pinnaduwaage D, Wallstrom G, Choi M, Zabramski J, Chen C, Brachman D

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9629483/>

GAMMATILE® (GT) AS A BRACHYTHERAPY PLATFORM FOR RAPIDLY PROLIFERATING GLIOBLASTOMAS: FROM CASE SERIES TO CLINICAL TRIALS

Yekula A, Gessler DJ, Ferreira C, et al. GammaTile (GT) as a brachytherapy platform for rapidly proliferating glioblastomas: From case series to clinical trials. *J Neurooncol.* 2024;166(3):441-450.

Authors: Yekula A, Gessler DJ, Ferreira C, Shah R, Reynolds M, Dusenbery K, Chen CC

Full Text Link: <https://link.springer.com/article/10.1007/s11060-023-04545-7>

Meningioma

RESECTION AND PERMANENT INTRACRANIAL BRACHYTHERAPY USING MODULAR, BIOCOMPATIBLE CESIUM-131 IMPLANTS: RESULTS IN 20 RECURRENT, PREVIOUSLY IRRADIATED MENINGIOMAS*

Brachman DG, Youssef E, Dardis CJ, et al. Resection and permanent intracranial brachytherapy using modular, biocompatible cesium-131 implants: Results in 20 recurrent, previously irradiated meningiomas. *J Neurosurg.* 2018;131(6):1819-1828.

Authors: Brachman DG, Youssef E, Dardis CJ, Sanai N, Zabramski JM, Smith KA, Little AS, Shetter AG, Thomas T, McBride HL, Sorensen S, Spetzler RF, Nakaji P

Full Text Link (Open Access): <https://thejns.org/view/journals/j-neurosurg/131/6/article-p1819.xml>

Multiple Tumor Types

SURGICAL OUTCOMES OF NOVEL COLLAGEN TILE CESIUM BRACHYTHERAPY FOR RECURRENT INTRACRANIAL TUMORS AT A TERTIARY REFERRAL CENTER

Warren KT, Boucher A, Bray DP, Dresser S, et al. Surgical outcomes of novel collagen tile cesium brachytherapy for recurrent intracranial tumors at a tertiary referral center. *Cureus.* 2021;13(11):e19777.

Authors: Warren KT, Boucher A, Bray DP, Dresser S, Zhong J, Shu HK, Olson J, Hoang K

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8687694/>

Reviews Articles

GAMMATILE®: SURGICALLY TARGETED RADIATION THERAPY FOR GLIOBLASTOMAS

Gessler DJ, Ferreira C, Dusenbery K, Chen CC. GammaTile®: Surgically targeted radiation therapy for glioblastomas. *Future Oncol.* 2020;16(30):2445-2455.

Authors: Gessler D, Ferreira C, Dusenbery K, Chen C

Full Text Link (Open Access): <https://www.tandfonline.com/doi/full/10.2217/fon-2020-0558>

RE-IRRADIATION USING BRACHYTHERAPY FOR RECURRENT INTRACRANIAL TUMORS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF THE LITERATURE

Choi M, Zabramski JM. Re-Irradiation Using Brachytherapy for Recurrent Intracranial Tumors: A Systematic Review and Meta-Analysis of the Literature. *Cureus*. 2020;12(8):e9666.

Authors: Choi M, Zabramski JM

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC7485916/>

MEDICAL DEVICE ADVANCES IN THE TREATMENT OF GLIOBLASTOMA

Foo CY, Munir N, Kumaria A, et al. Medical device advances in the treatment of glioblastoma. *Cancers (Basel)*. 2022; 4(21):5341.

Authors: Foo CY, Munir N, Kumaria A, Akhtar Q, Bullock CJ, Narayanan A, Fu R

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9656148/>

GAMMATILE: COMPREHENSIVE REVIEW OF A NOVEL RADIOACTIVE INTRAOPERATIVE SEED-LOADING DEVICE FOR THE TREATMENT OF BRAIN TUMORS

Ekhtor C, Nwankwo I, Rak E, Homayoonfar A, et al. GammaTile: Comprehensive review of novel radioactive intraoperative seed-loading device for the treatment of brain tumors. *Cureus*. 2022;14(10):e29970.

Authors: Ekhtor C, Nwankwo I, Rak E, Homayoonfar A, Fonkem E, Rak R

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9541893/>

BRACHYTHERAPY IS AN EFFECTIVE AND SAFE SALVAGE OPTION FOR RE-IRRADIATION IN RECURRENT GLIOBLASTOMA (rGBM): A SYSTEMATIC REVIEW

Xiang X, Ji Z, Jin J. Brachytherapy is an effective and safe salvage option for re-irradiation in recurrent glioblastoma (rGBM): A systematic review. *Radiother Oncol*. 2024;190:110012.

Authors: Xiang X, Ji Z, Jin J

Full Text Link: [https://www.thegreenjournal.com/article/S0167-8140\(23\)09319-2/abstract](https://www.thegreenjournal.com/article/S0167-8140(23)09319-2/abstract)

SURGICALLY TARGETED RADIATION THERAPY (START) TRIALS FOR BRAIN NEOPLASMS: A COMPREHENSIVE REVIEW

Odia Y, Gutierrez AN, Kotecha R. Surgically targeted radiation therapy (STaRT) trials for brain neoplasms: A comprehensive review. *Neuro Oncol*. 2022;24(Suppl 6):S16-S24.

Authors: Odia Y, Gutierrez AN, Kotecha R

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9629486/>

THE ROLE OF GAMMATILE IN THE TREATMENT OF BRAIN TUMORS: A TECHNICAL AND CLINICAL OVERVIEW

Garcia MA, Turner A, Brachman DG. The role of GammaTile in the treatment of brain tumors: a technical and clinical overview. *J Neurooncol*. 2024;166:203-212.

Authors: Garcia MA, Turner A, Brachman DG

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC10834587/>

MULTIDISCIPLINARY MANAGEMENT STRATEGIES FOR RECURRENT BRAIN METASTASIS AFTER PRIOR RADIOTHERAPY: AN OVERVIEW

Kotecha R, La Rosa A, Brown PD, et al. Multidisciplinary management strategies for recurrent brain metastasis after prior radiotherapy: An overview. *Neuro Oncol.* 2024; noae220:1-19.

Authors: Kotecha R, La Rosa A, Brown PD, Vogelbaum MA, Navarria P, Bodensohn R, Niyazi M, Karschnia P, Minniti G

Full Text Link (Open Access): <https://academic.oup.com/neuro-oncology/advance-article/doi/10.1093/neuonc/noae220/7874929?login=false>

Physics Papers

SURGICALLY TARGETED RADIATION THERAPY VERSUS STEREOTACTIC RADIATION THERAPY: A DOSIMETRIC COMPARISON FOR BRAIN METASTASIS RESECTION CAVITIES

Kutuk T, Kotecha R, Herrera R, et al. Surgically targeted radiation therapy versus stereotactic radiation therapy: A dosimetric comparison for brain metastasis resection cavities. *Brachytherapy.* 2024;23(6):751-760.

Authors: Kutuk T, Kotecha R, Herrera R, Wieczorek DJJ, Fellows ZW, Chaswal V, La Rosa A, Mishra V, McDermott MW, Siomin V, Mehta MP, Gutierrez AN, Tolakanahalli R

Full Text Link: [Click for GT Medical Sponsored Download](#)

RAPID INTERVAL RECURRENCE OF GLIOBLASTOMA FOLLOWING GROSS TOTAL RESECTION: A POSSIBLE INDICATION FOR GAMMATILE® BRACHYTHERAPY

Easwaran TP, Sterling D, Ferreira C, et al. Rapid interval recurrence of glioblastoma following gross total resection: A possible indication for GammaTike® brachytherapy. *Cureus.* 2021;13:e19496.

Authors: Easwaran TP, Sterling D, Ferreira C, Sloan L, Wilke C, Neil E, Shah R, Chen CC, Dusenbery KE

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8666087/>

GAMMATILE BRACHYTHERAPY COMBINED WITH EXTERNAL BEAM RADIATION THERAPY FOR THE TREATMENT OF A PARTIALLY RESECTED SECONDARY GLIOBLASTOMA (WHO GRADE 4 IDH-MUTANT ASTROCYTOMA): MATCHING EXTERNAL BEAM DOSE GRADIENT TO BRACHYTHERAPY DOSE FALL-OFF

Peach MS, Burke AM, Jo J, Ju AW. GammaTile brachytherapy combined with external beam radiation therapy for treatment of a partially resected secondary glioblastoma (WHO grade 4 IDH-mutant astrocytoma): Matching external beam dose gradient to brachytherapy dose fall-off. *Cureus.* 2021;13(11):e19717.

Authors: Peach M, Burke A, Jo J, Ju A, Yang K

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8684360/>

FIRST CLINICAL IMPLEMENTATION OF GAMMATILE PERMANENT BRAIN IMPLANTS AFTER FDA CLEARANCE

Ferreira C, Sterling D, Reynolds M, et al. First clinical implementation of GammaTile permanent brain implants after FDA clearance. *Brachytherapy.* 2021;20(3):673-685.

Authors: Ferreira C, Sterling D, Reynolds M, Dusenbery K, Chen C, Alaei P

Full Text Link (Open Access): [https://www.brachyjournal.com/article/S1538-4721\(20\)30295-6/fulltext](https://www.brachyjournal.com/article/S1538-4721(20)30295-6/fulltext)

DOSIMETRIC IMPACTS OF SOURCE MIGRATION, RADIOISOTOPE TYPE, AND DECAY WITH PERMANENT IMPLANTABLE COLLAGEN TILE BRACHYTHERAPY FOR BRAIN TUMORS

Pinnaduwaage DS, Srivastava SP, Yan X, Jani S, et al. Dosimetric impacts of source migration, radioisotope type, and decay with permanent implantable collagen tile brachytherapy for brain tumors. *Technol Cancer Res Treat*. 2022;21:1-14.

Authors: Pinnaduwaage DS, Srivastava SP, Yan X, Jani S, Brachman DG, Sorensen SP

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9210077/>

PATIENT-SPECIFIC RADIOLOGICAL PROTECTION PRECAUTIONS FOLLOWING CS COLLAGEN EMBEDDED CS-131 IMPLANTATION IN THE BRAIN

Prasad K, Dauer LT, Chi BP, et al. Patient-specific radiological protection precautions following Cs collagen embedded Cs-131 implantation in the brain. *J Applied Clin Med Phys*. 2022;23(10):e13776.

Authors: Prasad K, Dauer LT, Chu BP, Aramburu-Nunez D, Cohen G, Beal K, Imber BS, Moss NS

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC9588267/>

COMPREHENSIVE COMMISSIONING AND CLINICAL IMPLEMENTATION OF GAMMATILES START FOR INTRACRANIAL BRAIN CANCER

Penoncello GP, Gagneur JD, Vora SA, et al. Comprehensive commissioning and clinical implementation of GammaTiles STaRT for intracranial brain cancer. *Adv Rad Oncol*. 2022;7:100910.

Authors: Penoncello GP, Gagneur JD, Vora SA, Yu NY, Fatyga M, Mrugala MM, Bendok BR, Rong Y

Full Text Link (Open Access): [https://www.advancesradonc.org/article/S2452-1094\(22\)00017-3/fulltext](https://www.advancesradonc.org/article/S2452-1094(22)00017-3/fulltext)

DOSIMETRIC EVALUATION AND TREATMENT PLANNING CONSIDERATIONS FOR GAMMATILE PERMANENT BRAIN IMPLANTS – A PILOT, INSTITUTIONAL EXPERIENCE

Zhang S, Patel K, Dusenbery K, et al. Dosimetric evaluation and treatment planning considerations for GammaTile permanent brain implants – a pilot, institutional experience. *J Neurooncol*. 2024;169(1):11-23.

Authors: Zhang S, Patel K, Dusenbery K, Alshreef A, Sterling D, Sloan L, Reynolds M, Chen CC, Ferreira C

Full Text Link: <https://pubmed.ncbi.nlm.nih.gov/38902561/>

Case Reports

GAMMATILE FOR GLIOMAS: A SINGLE-CENTER CASE SERIES

Budnick HC, Richardson AM, Shiue K, Watson G, et al. GammaTile for gliomas: A single-center case series. *Cureus*. 2021;13(11):e19390.

Authors: Budnick H, Richardson A, Shiue K, Watson G, Ng S, Le Y, Shah M

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8654117/>

SAFETY AND EFFICACY OF GAMMATILE INTRACRANIAL BRACHYTHERAPY IMPLANTED DURING AWAKE CRANIOTOMY

McClelland S, Gardner UG, Le Y, Ng SK. Safety and efficacy of GammaTile intracranial brachytherapy implanted during awake craniotomy. *Brachytherapy*. 2021;20(6):1265-1268.

Authors: McClelland S, Gardner U, Le Y, Ng S, Shah M, Watson G

Full Text Link: [https://www.brachyjournal.com/article/S1538-4721\(21\)00478-5/abstract](https://www.brachyjournal.com/article/S1538-4721(21)00478-5/abstract)

TREATING RECURRENT BRAIN METASTASES USING GAMMATILE BRACHYTHERAPY: A CASE REPORT AND DOSIMETRIC MODELING METHOD

Arsenault T, Labak CM, Chaung K, Muzic RF. Treating recurrent brain metastases using GammaTile brachytherapy: A case report and dosimetric modeling method. *Cureus*. 2021;13(11):e19232.

Authors: Arsenault T, Labak C, Chaung K, Muzic R Jr, Kardan A, Sloan A, Choi S, Podder T, Ouyang Z

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8642144/>

SURVIVING OVER A DECADE WITH GLIOBLASTOMA: A CLINICAL COURSE CHARACTERIZED BY MULTIPLE RECURRENCES, NUMEROUS SALVAGE TREATMENTS, AND NOVEL USE OF CESIUM-131 TILES

Mehta S, Vasantachart A, Fossum CC, et al. Surviving over a decade with glioblastoma: A clinical course characterized by multiple recurrences, numerous salvage treatments, and novel use of Cesium-131 tiles. *Cureus*. 2021;13(11):e19573.

Authors: Mehta S, Vasantachart AK, Fossum CC, Yang W, Shen ZL, Chang KE, Ye JC, Chen TC, Chang EL

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8671070/>

FIRST APPLICATION OF GAMMATILE CESIUM-131 BRACHYTHERAPY WITH MAXIMAL SAFE RESECTION OF A GLIOMA IN A PATIENT WITH LIMITED SCLERODERMA

Pasli M, Cowles S, Jo J, et al. First Application of GammaTile Cesium-131 brachytherapy with maximal safe resection of a glioma in a patient with limited scleroderma. *J Contemp Brachytherapy*. 2023; 15(5):365–371.

Authors: Pasli M, Cowles S, Jo J, Yaqoub M, Kanaan HA, Ju AW, Peach MS

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC10669919/>

GAMMATILE: RESHAPING BRACHYTHERAPY

Casper D, Hayden J, Anthony M, et al. GammaTile: Reshaping brachytherapy. *Cancer*. 2024;6(2):e230208.

Authors: Casper D, Hayden J, Anthony M, Matthees N, Mushtaq R

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC10988341/>

A NOVEL MULTIMODAL APPROACH TO REFRACTORY BRAIN METASTASES: A CASE REPORT

Katlowitz KA, Beckham TH, Kudchadker RJ, et al. A novel multimodal approach to refractory brain metastases: A case report. *Adv Radiat Oncol*. 2024;9:101349.

Authors: Katlowitz KA, Beckham TH, Kudchadker RJ, Wefel J, Elamin YY, Weinberg JS

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC10885573/>

REPEAT GAMMATILE BRACHYTHERAPY IN THE LONG-TERM MANAGEMENT OF RECURRENT HIGH-GRADE GLIOMA: A CASE REPORT

Zhang JF, Mix MD, Shapiro, Babu H. Repeat GammaTile brachytherapy in the long-term management of recurrent high-grade glioma: A case report. *Cureus*. 2024;16(12):e75053.

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RECURRENT GLIOBLASTOMA RESECTION WITH MICROVASCULAR FREE FLAP RECONSTRUCTION AND ASSOCIATED GAMMATILE IMPLANTATION: A PERSONALIZED APPROACH WITH ONCOLOGIC AND RECONSTRUCTIVE INTEGRATION.

Wagner RT, Berardinelli J, Kassam AB, et al. Recurrent glioblastoma resection with microvascular free flap reconstruction and associated GammaTile implantation: A personalized approach with oncologic and reconstructive integration. *J Neurol Surg Rep.* 2025;86:e92-e97.

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Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC12031433/>

Miscellaneous

CLINICAL TRIALS IN PROGRESS: ROADS TRIAL

Weinberg J. Phase 3 randomized controlled trial of a post-surgical SRT versus (STaRT) with GammaTile for treatment of newly diagnosed metastatic brain tumors (ROADS; NCT04365374). *Oncology.* 2021;35(8):495.

Authors: Weinberg J

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INNOVATION IN BRAIN TUMOR TREATMENT: A NURSE PERSPECTIVE

Redelle AK. Innovation in brain tumor treatment: A nurse perspective. *Cureus.* 2021;13(11):e20037.

Authors: Reddelle AK

Full Text Link (Open Access): <https://pmc.ncbi.nlm.nih.gov/articles/PMC8716158/>

*Evidence drawn from a prototype device in pre-commercial product evaluation.



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(833) 662-0044 | feedback@gtmedtech.com

GammaTile® is indicated as a treatment for patients with newly diagnosed malignant intracranial neoplasms and patients with recurrent intracranial neoplasms. The potential for, and symptoms of, adverse events related to radiation exposure vary depending on the radiosensitivity of the exposed tissue, the amount of radiation delivered, and the placement of GammaTile(s). GammaTile should not be used for patients with a known history of hypersensitivity to bovine-derived materials. More information on indications, contraindications, warnings, and instructions for use can be found in the GammaTile Instructions for Use.

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