

## HyperArc® High-Definition Radiotherapy Bibliography

Yamada T, Nakano H, Tanabe S, Sakai T, Tanabe S, Oka T, Sakai H, Oshikane T, Nakano T, Ohta A, Kanazawa T, Kaidu M, Ishikawa H. Verification of Qfix Encompass™ couch modeling using the Acuros XB algorithm and HyperArc™ using a high-spatial-resolution two-dimensional diode array. Med Dosim. 2023 Jul 15:S0958-3947(23)00051-1. Osaka International Cancer Institute, Osaka, JP. Online ahead of print.

Covington EL, Stanley DN, Sullivan RJ, Riley KO, Fiveash JB, Popple RA. Commissioning and clinical evaluation of the IDENTIFY™ surface imaging system for frameless stereotactic radiosurgery. J Appl Clin Med Phys. 2023 Jun 8:e14058. The University of Alabama at Birmingham, Birmingham, AL. Online ahead of print.

Paddick I, Mott J, Bedford J, Filatov P, Grishchuk D, Orchin G, Houston P, Eaton D. Benchmarking Tests of Contemporary SRS Platforms: Have Technological Developments Resulted in Improved Treatment Plan Quality? J. Pract Radiat Oncol. 2023 Jun 7:S1879-8500(23)00161-3. Queen Square Radiosurgery Centre, National Hospital for Neurology and Neurosurgery, London, & Beatson West of Scotland Cancer Centre, Department of Radiotherapy Physics, NHS Greater Glasgow & Clyde, Glasgow, UK. Online ahead of print.

Ohira S, Ikawa T, Inui S, Kanayama N, Ueda Y, Miyazaki M, Nishio T, Koizumi M, Konishi K. Improvement of target coverage using automated non-coplanar volumetric modulated arc therapy planning in stereotactic radiotherapy for cervical metastatic spinal tumors. Med Dosim. 2023 May 16:S0958-3947(23)00039-0. Osaka International Cancer Institute, Osaka, JP. Online ahead of print.

Inui S, Takahashi Y, Ueda Y, Ohira S, Washio H, Ono S, Miyazaki M, Nishio T, Koizumi M, Konishi K. Dosimetric Comparison of Helical Tomotherapy and HyperArc Treatment Plans for Angiosarcoma of the Scalp. Anticancer Res. 2023 Jul;43(7):3079-3087. Osaka International Cancer Institute, Osaka, JP.

Yamamoto Y, Ohira S, Kanayama N, Inui S, Ueda Y, Koike Y, Miyazaki M, Nishio T, Koizumi M, Konishi K. Comparison of dosimetric parameters and robustness for rotational errors in fractionated stereotactic irradiation using automated noncoplanar volumetric modulated arc therapy for patients with brain metastases: single- versus multi-isocentric technique. Radiol Phys Technol. 2023 Jun;16(2):310-318. Osaka International Cancer Institute, Osaka, JP.

Guinement L, Salleron J, Buchheit I, Gérard K, Faivre JC, Royer P, Marchesi V. Comparison between the HyperArc™ technique and the CyberKnife technique for stereotactic treatment of brain metastases. Cancer Radiother. 2023 Apr; 27(2):135-144. Institut de cancérologie de Lorraine-centre Alexis-Vautrin, Vandœuvre-lès-Nancy, FR.

Kamst O, Desai P. Evaluation of HyperArc™ using film and portal dosimetry quality assurance. Phys Eng Sci Med. 2023 Mar;46(1):57-66. ICON Cancer Care, Gold Coast University Hospital, Southport, AU.

Ohira S, Ikawa T, Kanayama N, Inui S, Ueda Y, Miyazaki M, Nishio T, Koizumi M, Konishi K. Dose reduction of hippocampus using HyperArc planning in postoperative radiotherapy for primary brain tumors. Med Dosim. 2023 Jan;47(2):67-72. Osaka International Cancer Institute, Osaka, JP.

Sagawa T, Ueda Y, Tsuru H, Kamima T, Ohira S, Tamura M, Miyazaki M, Monzen H, Konishi K. Dosimetric potential of knowledge-based planning model trained with HyperArc plans for brain metastases. J Appl Clin Med Phys. 2023 Feb;24(2):e13836. Osaka International Cancer Institute, Osaka, JP.

Fung NTC, Wong WL, Lee MCH, Cheung ESN, Wu PY. Geometric and dosimetric consequences of intra-fractional movement in single isocenter non-coplanar stereotactic radiosurgery. Radiat Oncol. 2023 Jan 11;18(1):9. ICON Cancer Care, Gold Coast University Hospital, Southport, AU.

Pan M, Xu W, Sun L, Wang C, Dong S, Guan Y, Yang J, Wang E. Dosimetric quality of HyperArc in boost radiotherapy for single glioblastoma: comparison with CyberKnife and manual VMAT. Radiat Oncol. 2023 Jan 10;18(1):8. Fudan University, Shanghai, CH.

Ohira S, Inui S, Kanayama N, Ueda Y, Miyazaki M, Koizumi M, Konishi K. Automated Non-coplanar Volumetric Modulated Arc Therapy Planning for Maxillary Sinus Carcinoma. In Vivo. 2023 Jan-Feb;37(1):417-423. Osaka International Cancer Institute, Osaka, JP.

Pokhrel D, Mallory R, Bush M, St Clair W, Bernard ME. Feasibility Study of Stereotactic Radiosurgery Treatment of Glomus Jugulare Tumors via HyperArc VMAT. Med Dosim. 2022 Winter;7(4):307-311. University of Kentucky, Lexington, KY.

Calvo-Ortega JF, Moragues-Femenia S, Laosa-Bello C, Hermida-López M, Pozo-Massó M, Zamora-Pérez A. Monte Carlo-based independent dose verification of radiosurgery HyperArc plans. *Phys Med.* 2022 Oct;102:19-26. Hospital Quirónsalud, Barcelona, SP.

Palmer JD, Perlow HK, Matsui JK, Ho C, Prasad RN, Liu K, Upadhyay R, Klamer B, Wang J, Damante M, Ghose J, Blakaj DM, Beyer S, Grecula J, Arnett A, Thomas E, Chakravarti A, Lonser R, Hardesty D, Prevedello D, Prabhu R, Elder JB, Raval RR. Fractionated pre-operative stereotactic radiotherapy for patients with brain metastases: a multi-institutional analysis. *J Neurooncol.* 2022 Sep;159(2):389-395. The Ohio State University Comprehensive Cancer Center, Columbus, OH.

Zirone L, Bonanno E, Borzi GR, Cavalli N, D'Anna A, Galvagno R, Girlando A, Gueli AM, Pace M, Stella G, Marino C. HyperArcTM Dosimetric Validation for Multiple Targets Using Ionization Chamber and RT-100 Polymer Gel. Gels. 2022 Jul 31;8(8):481. Humanitas Istituto Clinico Catanese, Catania, IT.

Raza GH, Capone L, Tini P, Giraffa M, Gentile P, Minniti G. Single-isocenter multiple-target stereotactic radiosurgery for multiple brain metastases: dosimetric evaluation of two automated treatment planning systems. *Radiat Oncol.* 2022 Jul 1;17(1):116. UPMC Hillman Cancer Center, San Pietro Hospital, Rome, IT.

Wong FHC, Moleme PA, Ali OA, Mugabe KV. Clinical implementation of HyperArc. *Phys Eng Sci Med.* 2022 Jun;45(2): 577-587. Waikato Regional Cancer Centre, Waikato Hospital, Waikato, NZ.

Pokhrel D, Bernard ME, Johnson J, Fabian D, Kudrimoti M. HyperArc VMAT stereotactic radiotherapy for locally recurrent previously-irradiated head and neck cancers: Plan quality, treatment delivery accuracy, and efficiency. *J Appl Clin Med Phys.* 2022 May;23(5):e13561:e13561. University of Kentucky, Lexington, KY.

Meeks SL, Mercado CE, Popple RA, Agazaryan N, Kaprelian T, Fiveash JB, Tenn S. Practical Considerations for Single Isocenter LINAC Radiosurgery of Multiple Brain Metastases. *Pract Radiat Oncol.* 2022 May-Jun;12(3):195-199. Orlando Health Cancer Institute, Orlando, FL

Ohira S, Komiyama R, Kanayama N, Ueda Y, Inui S, Miyazaki M, Koizumi M, Konishi K. Intra-fractional motion error during HyperArc stereotactic radiosurgery on patients with brain metastases: Comparison of open and full-face clamshell-style immobilization devices. *J Appl Clin Med Phys.* 2022 April;23(4):e13536. Osaka International Cancer Institute, Osaka, JP.

Rusu I, Roeske J, Solanki A, Kang H. Fully automated planning and delivery of hippocampal-sparing whole brain irradiation. *Med Dosim.* 2022 Spring;47(1):8-13. Loyola University Medical Center, Maywood, IL.

Woods KE, Ma TM, Cook KA, Morris ED, Gao Y, Sheng K, Kishan AU, Hegde JV, Felix C, Basehart V, Narahara K, Shen Z, Tenn S, Steinberg ML, Chin RK, Cao M. A Prospective Phase II Study of Automated Non-Coplanar VMAT for Recurrent Head and Neck Cancer: Initial Report of Feasibility, Safety, and Patient-Reported Outcomes. *Cancers (Basel).* 2022 Feb 14;14(4):939. University of California, Los Angeles, Los Angeles, CA.

Popple RA, Sullivan RJ, Yuan Y, Wu X, Covington EL. Evaluation of a two-dimensional diode array for patient-specific quality assurance of HyperArc. *J Appl Clin Med Phys.* 2021 Dec;22(12):203-210. The University of Alabama at Birmingham, Birmingham, AL.

Ho HW, Yang CC, Lin HM, Chen HY, Huang CC, Wang SC, Lin YW. The new SRS/FSRT technique HyperArc for benign brain lesions: a dosimetric analysis. *Sci Rep.* 2021 Oct 26;11(1):21029. Chi Mei Medical Center, Tainan, TW.

Palmiero AN, Fabian D, Randall ME, Clair W St, Pokhrel D. Predicting the effect of indirect cell kill in the treatment of multiple brain metastases via single-isocenter/multitarget volumetric modulated arc therapy stereotactic radiosurgery. *J Appl Clin Med Phys.* 2021 Oct;22(10):94-103. University of Kentucky, Lexington, KY.

Sprowls CJ, Shah AP, Kelly P, Burch DR, Mathews RS, Swanick CW, Meeks SL. Whole brain radiotherapy with hippocampal sparing using Varian HyperArc. *Med Dosim.* 2021 Autumn;46(3):264-268. Orlando Health Cancer Institute, Orlando, FL.

Alongi F, Nicosia L, Figlia V, Giaj-Levra N, Cuccia F, Mazzola R, Ricchetti F, Rigo M, Vitale C, De Simone A, Naccarato S, Sicignano G, Gurrera D, Corradini S, Ruggeri R. Long-term disease outcome and volume-based decision strategy in a large cohort of multiple brain metastases treated with a mono-isocentric linac-based Stereotactic Radiosurgery technique. *Clin Transl Oncol.* 2021 Aug;23(8):1561-1570. IRCCS Sacro Cuore Don Calabria Hospital, Cancer Care Center, Negrar, IT.

Ho HW, Yang CC, Lin HM, Chen HY, Huang CC, Wang SC, Lin YW. The feasibility and efficacy of new SBRT technique HyperArc for recurrent nasopharyngeal carcinoma: noncoplanar cone-based robotic system vs. noncoplanar high-definition MLC based Linac system. *Med Dosim.* 2021 Summer;46(2):164-170. Chi Mei Medical Center, Tainan City, TW.

Pokhrel D, Palmiero AN, Bernard ME, Clair WS. Dynamic conformal arcs-based single-isocenter VMAT planning technique for radiosurgery of multiple brain metastases. *Med Dosim.* 2021 Summer;46(2):195-200. University of Kentucky, Lexington, KY.

Ohira S, Ueda Y, Kanayama N, Isono M, Inui S, Komiyama R, Washio H, Miyazaki M, Koizumi M, Teshima T, Konishi K. Impact of Multileaf Collimator Width on Dose Distribution in HyperArc Fractionated Stereotactic Irradiation for Multiple (-) Brain Metastases. *Anticancer Res.* 2021 Jun;41(6):3153-3159. Osaka International Cancer Institute, Osaka, JP.

- Woods K, Chin RK, Cook KA, Sheng K, Kishan AU, Hegde JV, Tenn S, Steinberg ML, Cao M Automated Non-Coplanar VMAT for Dose Escalation in Recurrent Head and Neck Cancer Patients. *Cancers (Basel)*. 2021 Apr 15;13(8):1910. University of California, Los Angeles, CA.
- Komiyama R, Ohira S, Ueda H, Kanayama N, Masaoka A, Isono M, Ueda Y, Miyazaki M, Teshima T. Intra-fractional patient motion when using the Qfix Encompass immobilization system during HyperArc treatment of patients with brain metastases. *J Appl Clin Med Phys*. 2021 Mar;22(3):254-260. Osaka International Cancer Institute, Osaka, JP.
- Popple RA, Brown MH, Thomas EM, Willey CD, Cardan RA, Covington EL, Riley KO, Markert JM, Bredel M, Fiveash JB. Transition From Manual to Automated Planning and Delivery of Volumetric Modulated Arc Therapy Stereotactic Radiosurgery: Clinical, Dosimetric, and Quality Assurance Results. *Pract Radiat Oncol*. 2021 Mar-Apr;11(2):e163-e171. The University of Alabama at Birmingham, Birmingham, AL.
- Snyder KC, Cunningham J, Huang Y, Zhao B, Dolan J, Wen N, Chetty IJ, Shah MM, Siddiqui SM. Dosimetric Evaluation of Fractionated Stereotactic Radiation Therapy for Skull Base Meningiomas Using HyperArc and Multicriteria Optimization. *Adv Radiat Oncol*. 2021 Feb 6;6(4):100663. Henry Ford Health Systems, Detroit, MI.
- Bossart E, Mellon EA, Monterroso I, Elsayyad N, Diwanji T, Samuels S, Dogan N. Assessment of single isocenter linear accelerator radiosurgery for metastases and base of skull lesions. *Phys Med*. 2021 Jan;81:1-8. Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Miami, FL.
- Liu CW, Ahmed S, Gray T, Ma T, Cho YB, Neyman G, Chao S, Suh J, Xia P. J Is there a volume threshold of brain metastases for Linac-based stereotactic radiotherapy? *Radiosurg SBRT*. 2021;7(4):309-319. Cleveland Clinic, Cleveland, OH.
- Covington EL, Stanley DN, Fiveash JB, Thomas EM, Marcrom SR, Bredel M, Willey CD, Riley KO, Popple RA. Surface guided imaging during stereotactic radiosurgery with automated delivery. *J Appl Clin Med Phys*. 2020 Dec;21(12):90-95. University of Alabama - Birmingham, Birmingham, AL.
- Boczkowski A, Kelly P, Meeks SL, Erhart K, Bova FJ, Willoughby TR. Proton vs Hyperarc radiosurgery: A planning comparison. *J Appl Clin Med Phys*. 2020 Dec;21(12):96-108. University of Florida, Gainesville and Orlando Health UF Health Cancer Center, Orlando, FL.
- Travis RL, Marcrom SR, Brown MH, Patel MP, Markert JM, Riley KO, Conry R, Willey CD, Bredel M, Fiveash JB. Control and Toxicity in Melanoma Versus Other Brain Metastases in Response to Combined Radiosurgery and PD-(L)1 Immune Checkpoint Inhibition. *Adv Radiat Oncol*. 2020 Sep 16;6(1):100561. University of Alabama - Birmingham, Birmingham, AL.
- Shah AP, Meeks DT, Willoughby TR, Ramakrishna N, Warner CJ, Swanick CW, Kelly P, Meeks SL. Intrafraction motion during frameless radiosurgery using Varian HyperArc™ and BrainLab Elements™ immobilization systems. *J Radiosurg SBRT*. Sept 2020;7(2):149-156. Orlando Health UF Health Cancer Center, Orlando, FL.
- Inui S, Ueda Y, Ohira S, Tsuru H, Isono M, Miyazaki M, Koizumi M, Teshima T. Novel strategy with the automatic non-coplanar volumetric-modulated arc therapy for angiosarcoma of the scalp. *Radiat Oncol*. 2020 Jul 17;15(1):175. Osaka International Cancer Institute, Osaka, JP.
- Ho HW, Lee SP, Lin HM, Chen HY, Huang CC, Wang SC, Yang CC, Lin YW. Dosimetric comparison between RapidArc and HyperArc techniques in salvage stereotactic body radiation therapy for recurrent nasopharyngeal carcinoma. *Radiat Oncol*. 2020 Jul 8;15(1):164. Chi Mei Medical Center, Tainan City, TW.
- Sebastian NT, Glenn C, Hughes R, Raval R, Chu J, DiCostanzo D, Bell EH, Grecula J, Arnett A, Gondal H, McGregor J, Elder JB, Lonser R, Chakravarti A, Trifiletti D, Brown PD, Chan M, Palmer JD. Linear accelerator-based radiosurgery is associated with lower incidence of radionecrosis compared with gamma knife for treatment of multiple brain metastases. *Radiother Oncol*. 2020 Jun;147:136-143. The Ohio State University Comprehensive Cancer Center, Columbus, OH.
- Ohira S, Sagawa T, Ueda Y, Inui S, Masaoka A, Akino Y, Mizuno H, Miyazaki M, Koizumi M, Teshima T. Effect of collimator angle on HyperArc stereotactic radiosurgery planning for single and multiple brain metastases. 2020 Spring;45(1):85-91. Osaka International Cancer Institute, Osaka, JP.
- Nicosia L, Figlia V, Mazzola R, Napoli G, Gajj-Levra N, Ricchetti F, Rigo M, Lunardi G, Tomasini D, Bonù ML, Corradini S, Ruggieri R, Alongi F. Repeated stereotactic radiosurgery (SRS) using a non-coplanar mono-isocenter (HyperArc™) technique versus upfront whole-brain radiotherapy (WBRT): a matched-pair analysis. *Clin Exp Metastasis*. 2020 Feb;37(1):77-83. Ospedale "Sacro Cuore", Negrar, IT.
- Kadoya N, Abe Y, Kajikawa T, Ito K, Yamamoto T, Umezawa R, Chiba T, Katsuta Y, Takayama Y, Kato T, Kikuchi Y, Jingu K. Automated noncoplanar treatment planning strategy in stereotactic radiosurgery of multiple cranial metastases: HyperArc and CyberKnife dose distributions. *Med Dosim*. 2019 Winter;44(4):394-400. Tohoku University Graduate School of Medicine, Sendai, JP.
- Sagawa T, Ohira S, Ueda Y, Akino Y, Mizuno H, Matsumoto M, Miyazaki M, Koizumi M, Teshima T. Dosimetric effect of rotational setup errors in stereotactic radiosurgery with HyperArc for single and multiple brain metastases. *J Appl Clin Med Phys*. 2019 Oct;20(10):84-91. Osaka International Cancer Institute, Osaka, JP.

Palmer JD, Sebastian NT, Chu J, DiCostanzo D, Bell EH, Grecula J, Arnett A, Blakaj DM, McGregor J, Elder JB, Lu L, Zoller W, Addington M, Lonser R, Chakravarti A, Brown PD, Raval R. Single-Isocenter Multitarget Stereotactic Radiosurgery Is Safe and Effective in the Treatment of Multiple Brain Metastases. *Adv Radiat Oncol.* 2019 Sep 16;5(1):70-76. *The Ohio State University Comprehensive Cancer Center, Columbus, OH.*

Ueda Y, Ohira S, Yamazaki H, Mabuchi N, Higashinaka N, Miyazaki M, Teshima T. Dosimetric performance of two linear accelerator-based radiosurgery systems to treat single and multiple brain metastases. *Br J Radiol.* 2019 Aug;92(1100):20190004. *Osaka International Cancer Institute, Osaka, JP.*

Hartgerink D, Swinnen A, Roberge D, Nichol A, Zygmanski P, Yin FF, Deblois F, Hurkmans C, Ong CL, Bruynzeel A, Aizer A, Fiveash J, Kirckpatrick J, Guckenberger M, Andratschke N, de Ruysscher D, Popple R, Zindler J. LINAC based stereotactic radiosurgery for multiple brain metastases: guidance for clinical implementation. *Acta Oncol.* 2019 Jul 1:1-8. *Multilnstitution led by Maastro,, Maastricht, NL.*

Vergalasova I, Liu H, Alonso-Basanta M, Dong L, Li J, Nie K, Shi W, Teo BK, Yu Y, Yue NJ, Zou W, Li T. Multi-Institutional Dosimetric Evaluation of Modern Day Stereotactic Radiosurgery (SRS) Treatment Options for Multiple Brain Metastases. *Front Oncol.* 2019 Jun 7;9:483. *Rutgers Cancer Institute of New Jersey, Rutgers University, New Brunswick, NJ.*

Ruggieri R, Naccarato S, Mazzola R, Ricchetti F, Corradini S, Fiorentino A, Alongi F. Linac-based radiosurgery for multiple brain metastases: Comparison between two mono-isocenter techniques with multiple non-coplanar arcs. *Radiother Oncol.* 2019 Mar;132:70-78. *Ospedale "Sacro Cuore", Negrar, IT.*

Alongi F, Fiorentino A, Gregucci F, Corradini S, Giaj-Levra N, Romano L, Rigo M, Ricchetti F, Beltramello A, Lunardi G, Mazzola R, Ruggieri R. First experience and clinical results using a new non-coplanar mono-isocenter technique (HyperArc™) for Linac-based VMAT radiosurgery in brain metastases. *J Cancer Res Clin Oncol.* 2019 Jan;145(1):193-200. *Ospedale "Sacro Cuore", Negrar, IT.*

Alongi F, Fiorentino A, Ruggieri R, Ricchetti F, Kupelian P. Cost-effectiveness of Linac-based single-isocenter non-coplanar technique (HyperArcTM) for brain metastases radiosurgery. *Clin Exp Metastasis.* 2018 Oct;35(7):601-603. *Ospedale "Sacro Cuore", Negrar, IT.*

Slosarek K, Bekman B, Wendykier J, Grzadziel A, Fogliata A, Cozzi L. In silico assessment of the dosimetric quality of a novel, automated radiation treatment planning strategy for linac-based radiosurgery of multiple brain metastases and a comparison with robotic methods. *Radiat Oncol.* 2018 Mar 15;13(1):41. *Maria Skłodowska Curie Memorial Cancer Center and Institute of Oncology, Gliwice, PL.*

Ruggieri R, Naccarato S, Mazzola R, Ricchetti F, Corradini S, Fiorentino A, Alongi F. Linac-based VMAT radiosurgery for multiple brain lesions: comparison between a conventional multi-isocenter approach and a new dedicated mono-isocenter technique. *Radiat Oncol.* 2018 Mar 5;13(1):38. *Ospedale "Sacro Cuore", Negrar, IT.*

Ohira S, Ueda Y, Akino Y, Hashimoto M, Masaoka A, Hirata T, Miyazaki M, Koizumi M, Teshima T. HyperArc VMAT planning for single and multiple brain metastases stereotactic radiosurgery: a new treatment planning approach. *Radiat Oncol.* 2018 Jan 29;13(1):13. *Osaka International Cancer Institute, Osaka, JP.*

#### Medical Advice Disclaimer

Varian as a medical device manufacturer cannot and does not recommend specific treatment or reimbursement approaches. Individual treatment results may vary.

#### Intended Use Summary

Varian Medical Systems' linear accelerators are intended to provide stereotactic radiosurgery and precision radiotherapy for lesions, tumors, and conditions anywhere in the body where radiation treatment is indicated.

#### Safety Statement

Radiation treatments may cause side effects that can vary depending on the part of the body being treated. The most frequent ones are typically temporary and may include, but are not limited to, irritation to the respiratory, digestive, urinary or reproductive systems, fatigue, nausea, skin irritation, and hair loss. In some patients, they can be severe. Treatment sessions may vary in complexity and time. Radiation treatment is not appropriate for all cancers.

Not all products or features are available for sale in all markets.

\* This bibliography is a comprehensive selection of articles but is not necessarily an exhaustive list of literature pertaining to HyperArc® high-definition radiotherapy.



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#### USA, Corporate Headquarters and Manufacturer

Varian Medical Systems, Inc.  
Palo Alto, CA, USA  
Phone +1-650-493 4000  
800 544 4636  
Fax +1-650-493 5637

#### EMEA and CIS Headquarters

Siemens Healthineers  
International AG  
Steinhausen, Switzerland  
Phone +41-41-749 88 44  
Fax +41-41-749 88 99

#### Asia Pacific Headquarters

Varian Medical Systems  
Pacific, Inc.  
Kowloon, Hong Kong,  
SAR China  
Phone +852-2724-2836  
Fax +852-2369-4280

#### Australasian Headquarters

Varian Medical Systems  
Australasia Pty Ltd.  
Sydney, Australia  
Phone +61-2-9485 0100  
Fax +61-2-9485 0119

#### Latin American Headquarters

Varian Medical Systems  
Brasil Ltda.  
São Paulo, Brazil  
Phone +55-11-3457 2655  
Fax +55-11-3286 0034

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