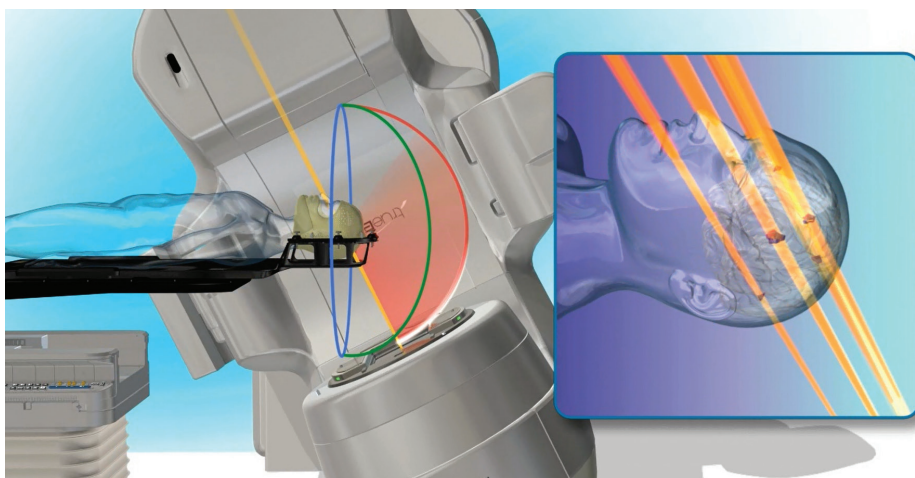


## HYPERARC High-definition radiotherapy



### Highlights

The HyperArc HDRT treatment technique is designed to enable clinics to:

- Offer radiosurgery to more patients
- Improve clinical quality of treatments
- Enhance SRS revenue and improve cost efficiency

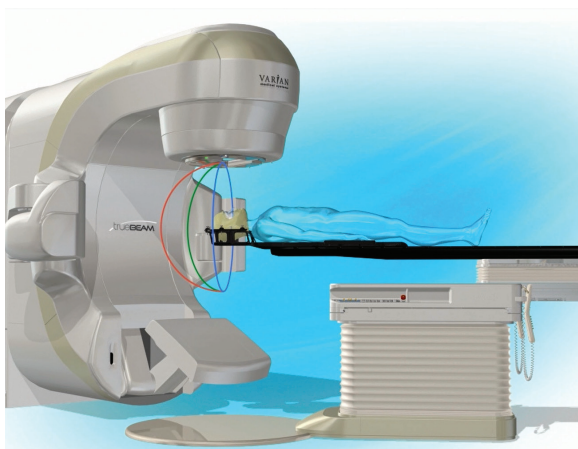
Approximately 20 percent of newly diagnosed cancer patients will develop brain metastases.<sup>1</sup> For many of these patients, stereotactic radiosurgery (SRS) is recommended as a primary treatment option.<sup>2</sup> Concerns about complexity, patient safety, cost, and human resources often make SRS inaccessible for many patients and unviable for many institutions. HyperArc™ high-definition radiotherapy (HDRT) addresses these challenges by introducing key technology and workflow elements that are designed to change the clinical landscape, enabling more clinics to deliver SRS.

A prescriptive workflow is a key element of HyperArc HDRT. This workflow includes specified immobilization for imaging and treatment delivery, patient setup, automated one-click treatment delivery, intra-fraction imaging and a pre-determined delivery sequence. With HyperArc HDRT, SRS may become a standard offering in your clinic.

### Simplified reproducible SRS workflow

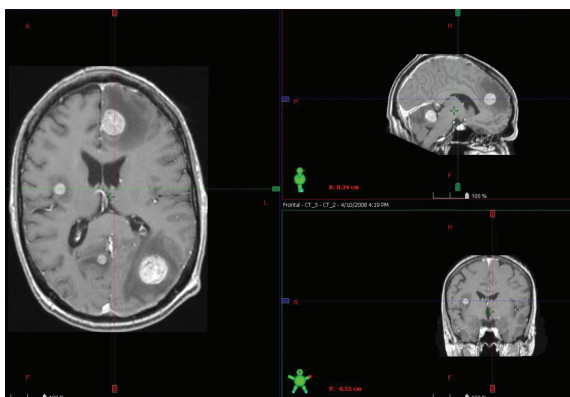
Non-coplanar treatments can be extremely complex. HyperArc HDRT is designed to make non-coplanar SRS delivery easy by automating and simplifying many of the operations.

Varian's goal is to offer treatment reproducibility through a prescribed workflow so that clinicians may focus on the clinical objectives of defining targets and dose prescription, while HyperArc HDRT is designed to optimize the treatment delivery. Our vision is one in which treatment delivery has never been easier, with fully automated robotic motion that allows the radiation therapist to commence and monitor a complete automated treatment without re-entering the room.



*\* 510(k) pending, not available for sale.*

1 DeSantis CE, Cancer treatment and survivorship statistics, 2014 CA.  
2 Nabors LB et al. Central Nervous System Cancers, Version 2.2014.  
J Natl Compr Canc Netw. 2014.



Multi metastatic cases may be treated using HyperArc.

### Retreatment challenge

Due to prolonged survival and higher utilization of radiosurgery without whole brain radiation for patients with brain metastases<sup>3</sup>, an increasing number of patients return for retreatment of their disease. This trend presents new challenges that require clinicians to deliver more compact and conformal radiation doses than before to avoid overlap with previous treatments. Non-coplanar delivery of radiation may provide more compact dose distributions that spare a larger amount of healthy tissue and may increase the clinicians' confidence in retreatments.<sup>4</sup>

### Multiple metastases simultaneous treatment

HyperArc treatment is designed to irradiate multiple lesions at the same time without repositioning the patient. This may provide better management of patient movement while saving time for the patient and the clinical team.

### Time-efficient SRS

Compared to other radiosurgery techniques that treat each target individually or separately, HyperArc SRS can be more time-efficient. With HyperArc HDRT, non-coplanar SRS procedures may be delivered within the time required for a standard intensity-modulated radiation therapy (IMRT) treatment.

### Enhanced revenue and improved cost efficiency

HyperArc HDRT is aimed to capitalize on the diverse capabilities of the TrueBeam® platform. SRS on TrueBeam increases equipment utilization, which could enable centers to bring in new patients without the need to invest in SRS-specific equipment. HyperArc is a potential turnkey SRS delivery solution that is intended to be implemented with an upgrade of current equipment and reduced downtime as compared to new equipment installation.

### Summary

HyperArc HDRT is designed to deliver high quality SRS treatments on the TrueBeam platform safely, efficiently and accurately. Varian's goal is to bring total time for the majority of treatments to less than 20 minutes. HyperArc may vastly simplify delivery of advanced SRS and allow more facilities to offer radiosurgical procedures.

3 Nieder C et al. Presentation, patterns of care, and survival in patients with brain metastases: what has changed in the last 20 years? *Cancer*. 2011.

4 Clark GM et al. Plan quality and treatment planning technique for single isocenter cranial radiosurgery with volumetric modulated arc therapy. *Pract Radiat Oncol*. 2012.

\*510(k) pending, not available for sale.

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Not all features or products are available in all markets and are subject to change.

#### 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.

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