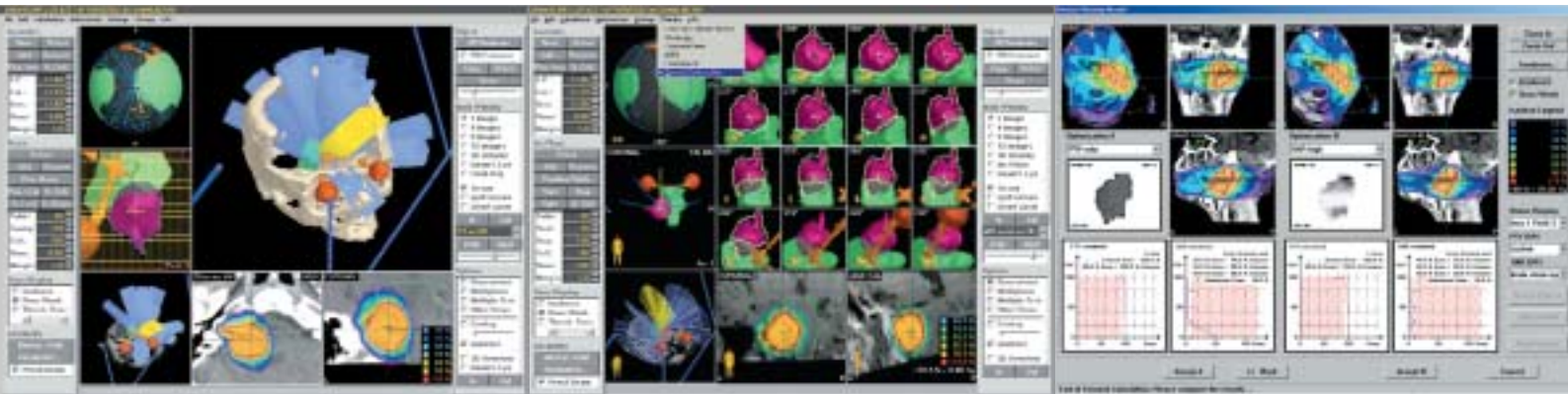




Image Guided Targeting

Image Guided Targeting™



STEREOTACTIC PLANNING

Conformal Beam Radiosurgery from BrainLAB has revolutionized planning and treatment delivery by delivering multiple shaped beams to one single isocenter. Conformal Beam Radiosurgery couples fast treatment planning with rapid patient setup for efficient dose delivery.

Dynamic Conformal Arc treatments offer excellent dose conformation, even for complicated target volumes, and a dramatic reduction of high doses to the surrounding healthy tissue. This is possible by continuously shaping the beam to match the contour of the lesion while the Linac gantry is arcing and radiation is being delivered.

IMRT with BrainSCAN™'s revolutionary Inverse Planning algorithm makes sophisticated IMRT dose painting and delivery fast and easy. Simultaneous calculation of four alternative plans that provide different levels of risk organ protection enables physicians to readily compare the different plans and select the one most suited to each individual case.



HIGH-RESOLUTION BEAM SHAPING & IMMOBILIZATION

The m3[®] high-resolution micro-Multileaf Collimator features three millimeter resolution leaves that have revolutionized radiosurgery by introducing conformal treatments that precisely tailor the dose to the shape of the tumor. Reduced irradiation of normal tissue and the homogeneous dose distribution within the PTV contributes to superior and more efficient patient care. Advanced integration with Linear Accelerator systems enables the safe and accurate delivery of sophisticated treatment techniques, such as Dynamic Conformal Arc and high-resolution IMRT. Rapid attachment and integration to your Linac makes the m3 the most flexible and cost-effective solution available when upgrading your Linac with a high-resolution beam-shaping device. This has been proven at over 170 installations worldwide.



The BrainLAB Stereotactic Headring fulfills the high precision requirement of patient immobilization needed for single fraction radiosurgery treatments.

The non-invasive mask system provides accurate stereotactic repeat fixation for fractionated treatments.



The stereotactic head & neck system allows the extension of the range of stereotactic treatments to head and neck lesions down to T1, thus doubling the potential patient load compared to standard cranial indications yet maintaining precise setup.





AUTOMATED IMAGE-GUIDED RADIATION THERAPY

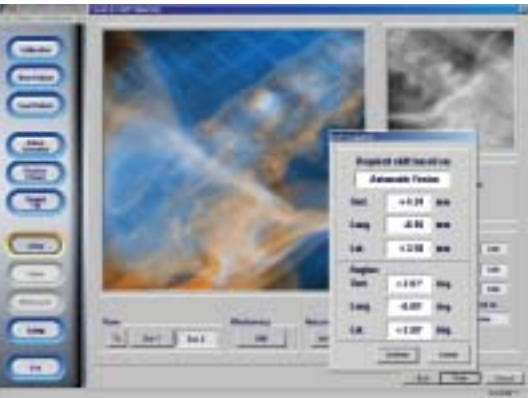
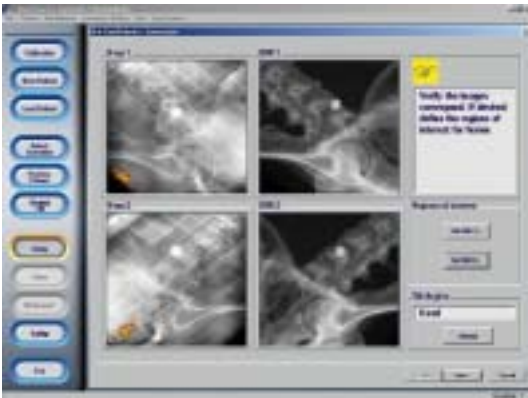
ExacTrac® X-Ray 6D, the clinically proven automated image-guided radiation therapy system, utilizes high-resolution x-rays to pinpoint internal tumor sites seconds before treatment, robotically corrects patient set-up errors and tracks any patient movement throughout the treatment, all within a standard treatment time slot.

ExacTrac allows combinations of virtual simulation, automatic patient positioning, real-time patient tracking and set-up documentation. The high-resolution imaging of internal structures or organs at treatment position has proven set-up accuracy of target volume within 1mm¹. This accuracy reduces the need for excessive margins for daily set-up uncertainties, opening the way for IMRT, dose escalation and hyperfractionation.

The ExacTrac X-Ray 6D's user interface has been optimized for fast positioning processes within 12-15 minute treatment slots. Prior to every fraction, the advanced x-ray imaging and DRR calculations establish the discrepancy between the current and the planned patient set-up positions. This process is automated and therapists may undertake this for all patients with ease. Robotic correction via integrated couch control ensures the correctional shift is undertaken without the therapist leaving the console.

ExacTrac X-Ray 6D: available today as an economical upgrade for all existing Linacs in your department.

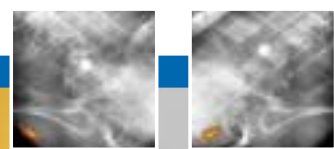
Adaptive Respiratory Gating: ExacTrac X-Ray 6D is the ideal platform for BrainLAB's Adaptive Respiratory Gating* referencing real-time internal imaging to external markers for visualization of breathing patterns. Flexibility and ease of use is guaranteed through intuitive graphical definition of a "Gating Window" and interactive verification of internal to external referencing during treatment.



PUBLICATION

1) Soete G, Verellen D, et al.; Clinical use of stereoscopic x-ray positioning of patients treated with conformal radiotherapy for prostate cancer. Int. J. Radiation Oncology Biol. Phys., Vol. 54, No. 3, pp. 948-952, 2002

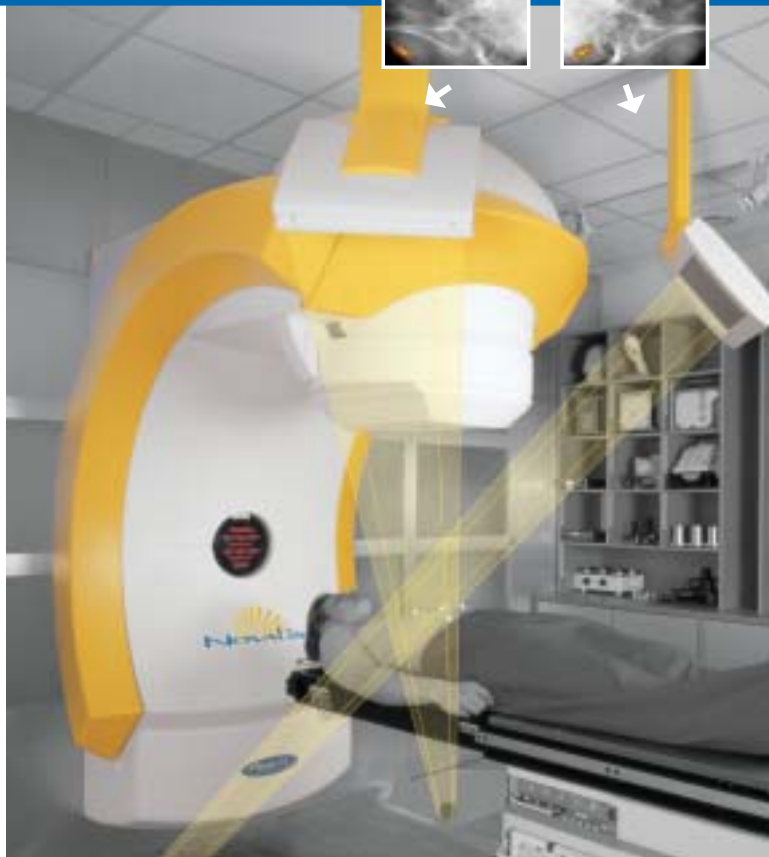
*Commercial market release pending



NOVALIS® SHAPED BEAM SURGERY

Novalis® uniquely integrates BrainLAB's leading technologies into one premium platform, establishing the most versatile dedicated system for stereotactic treatments of cranial and extra-cranial indications. High system efficiency and utilization results in increased patient volume and consistent treatment outcomes.

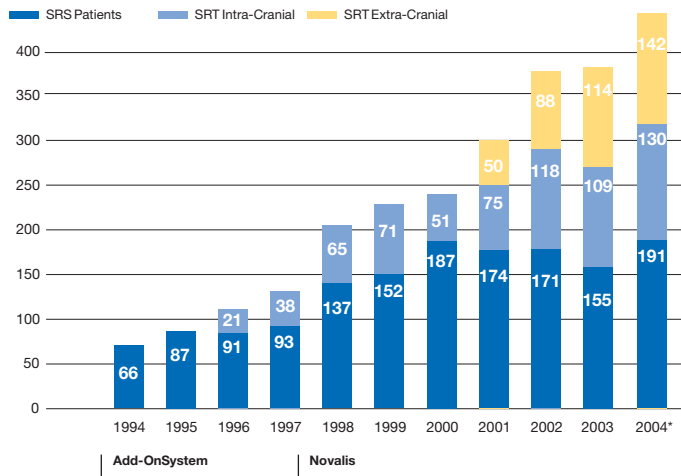
Novalis expands the unique precision and beam shaping capabilities to extracranial indications. Consisting of two kV x-ray sources and two a-Si high resolution flat-panel detectors Novalis is able to position the patient according to the patient's inner anatomy or with respect to implanted markers. This increased setup precision expands the range of Novalis to spine, liver, prostate and lung. It also facilitates advanced delivery techniques such as IMRT. Due to the speed of the system, treatment slots remain identical.



PUBLICATIONS

- 1) Ryu S, et al.; Image-Guided and Intensity-Modulated Radiosurgery for patients with Spinal Metastasis. *CANCER* April 15, 2003 / Volume 97 / Number 8: 2013-2018.
- 2) Verellen D, Soete G, et al.; Quality assurance of a system for improved target localization and patient set-up that combines real-time infrared tracking and stereoscopic X-ray imaging. *Radiotherapy and Oncology* 67 (2003) 129-141.
- 3) Yin F-F, et al.; A Technique for Intensity Modulated Radiosurgery (IMRS) for Spinal Tumors. *Med. Phys.* 29 (12), December 2002: 2815-2822.
- 4) Hui Yan, Fang-Fang Yin, and Jae Ho Kim; A phantom study on the positioning accuracy of the Novalis Body system. *Med. Phys.* Vol. 30, Dec 2003/ 3052-3060.

**Stereotactic Patients treated per Year
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* forecast

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