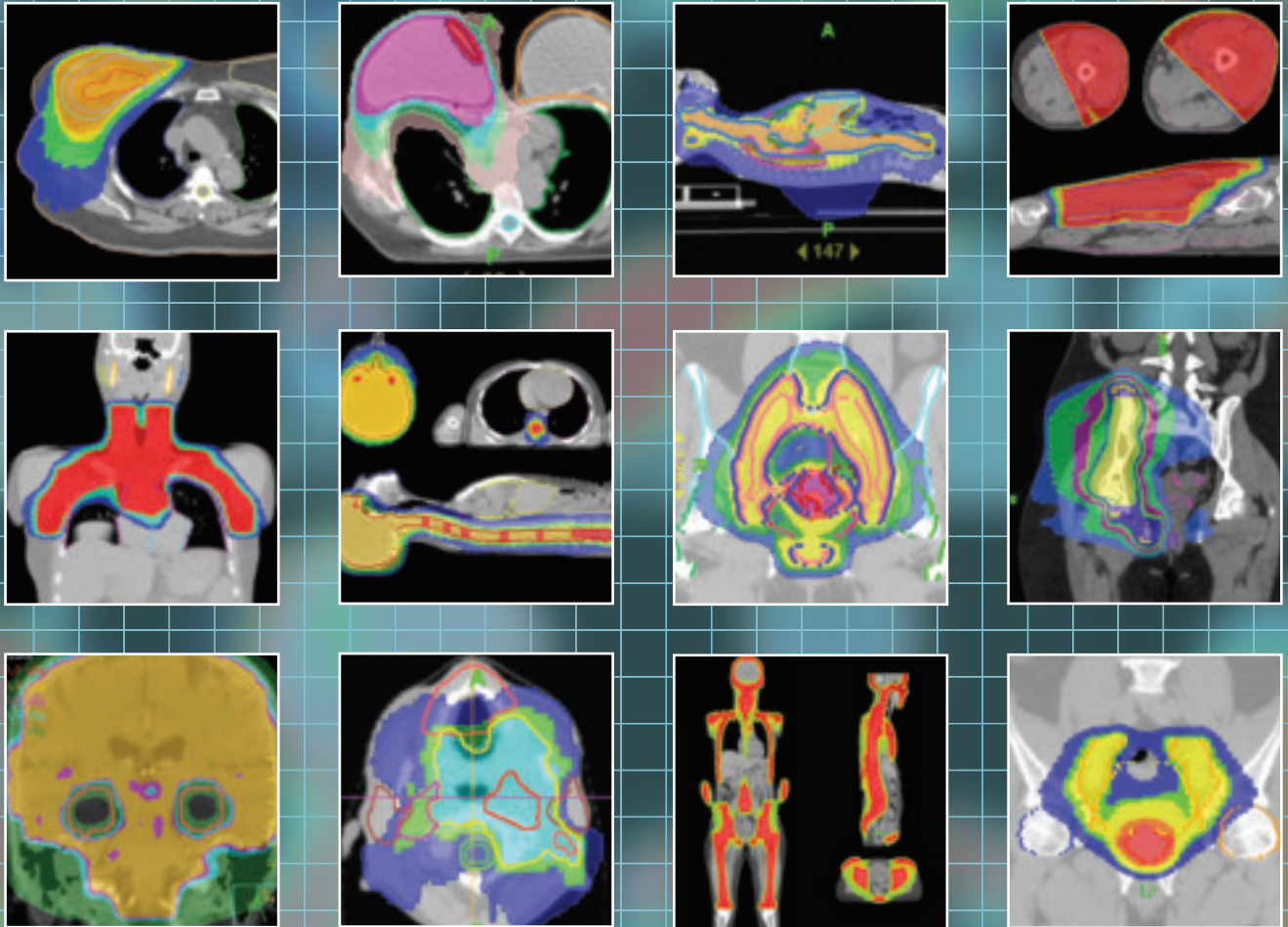


Focus on results



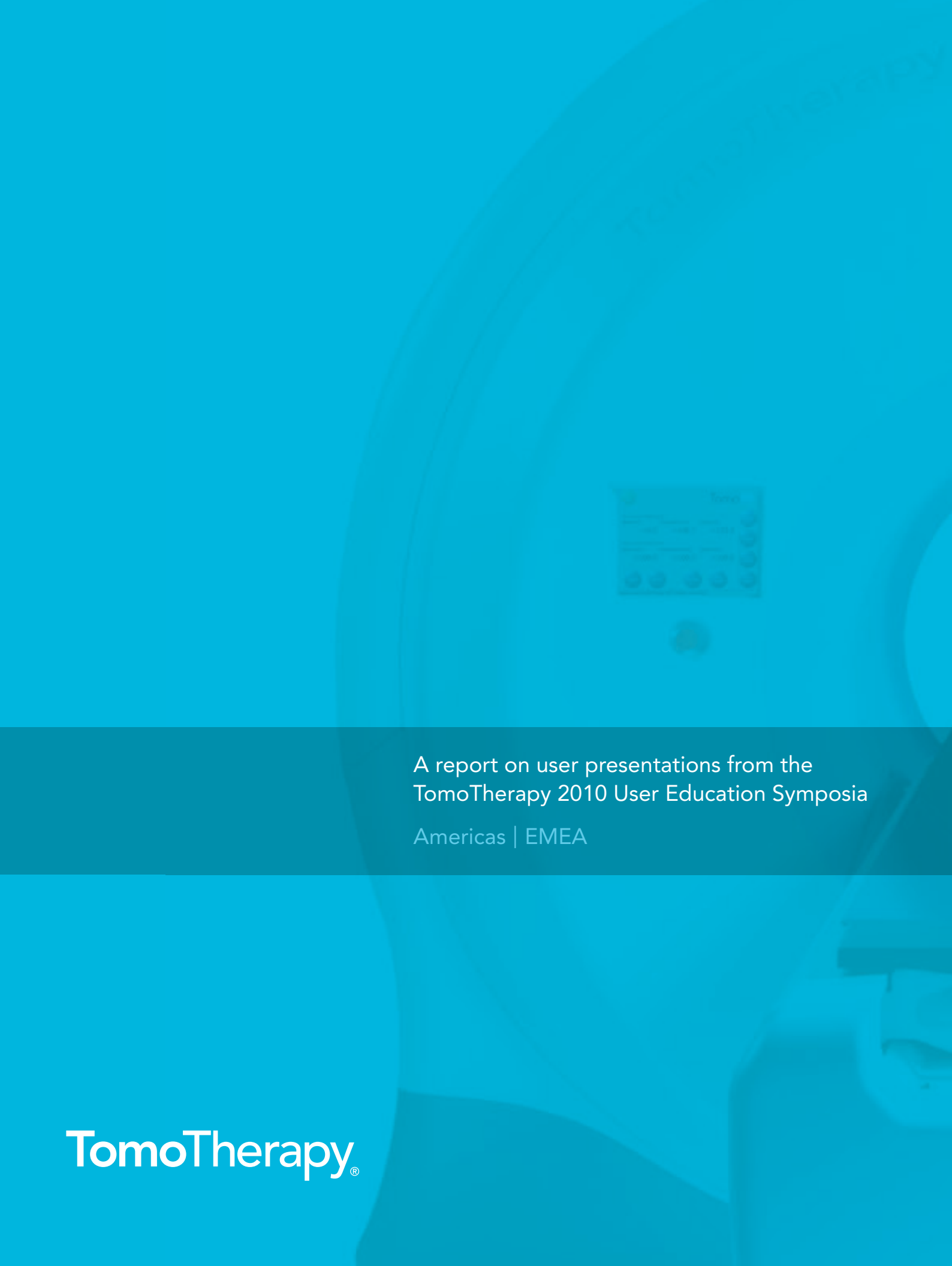
A report on user presentations from the
TomoTherapy 2010 User Education Symposia

Americas | EMEA

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"TomoTherapy did a much better job of protecting the lung and covered our PTV as well or better than any of the other two techniques."

TomoHD™

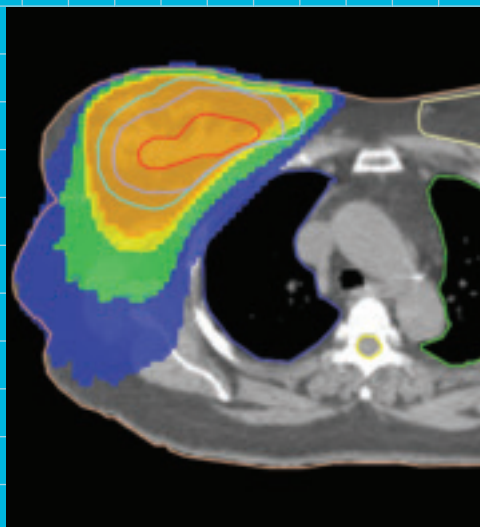


TomoTherapy is what you want it to be. It does what you ask it to do. It helps you achieve desired results with streamlined simplicity and consistently high quality. **Above all else, TomoTherapy is a tool.**



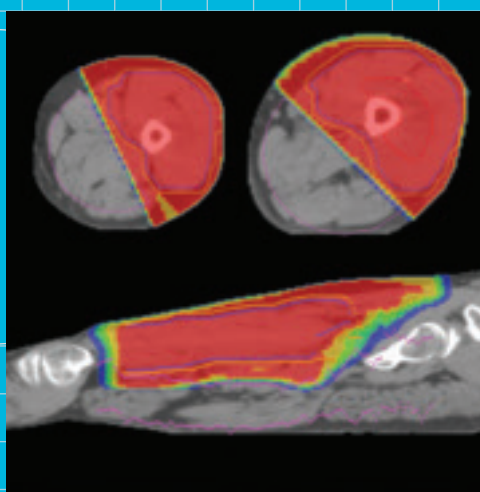
Hodgkin's Lymphoma Treatment with Lung Sparing

Kansas City Cancer Center (KCCC), a U.S. Oncology, Inc. affiliate, chose TomoTherapy for an advanced Hodgkin's Lymphoma case after a planning comparison revealed lung dose to be unacceptable with a conventional AP/PA technique, and sub-optimal with standard 9-field IMRT. "TomoTherapy did a much better job of protecting the lung and covered our PTV as well or better than any of the other two techniques," said KCCC's chief medical physicist, Brian Wichman, DABR. The comparison results were shared with the patient, who agreed TomoTherapySM treatments were worth the 45-minute trip.



Accelerated Partial Breast Irradiation (APBI)

Puerto Rico's Caribbean Radiation Oncology Center has introduced TomoTherapy-based APBI based on the 2009 ASTRO Consensus Statement and constraints outlined in RTOG 04-13. The center has found the technique easy to implement and has experienced satisfactory results with acceptable toxicities. The short fractionation schedule—one week instead of seven—is well appreciated by patients, who typically travel an hour or more for treatment. In addition, the center has seen an increase in its referral base after successfully sharing its TomoTherapy-based APBI plans with breast surgeons on the island.



Thigh Sarcoma with 45 cm Long Target Volume

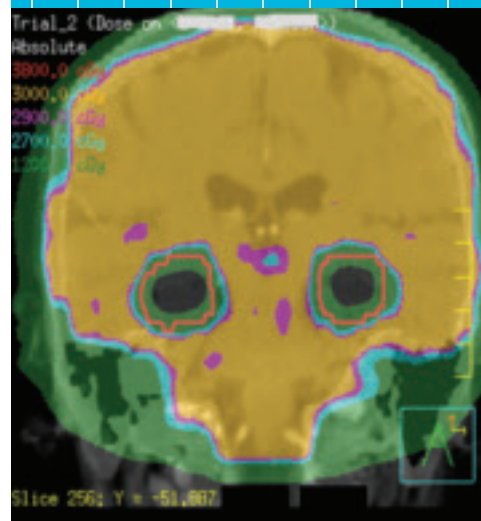
Sparrow Regional Cancer Center of Lansing, Michigan, chose TomoDirect™ technology for a case that would have been difficult to treat in any other way. With TomoDirect delivery, Sparrow applied two pairs of medial-lateral tangents, with both pairs irradiating the upper portion of the target and one pair used for the lower portion. The plan resulted in a highly homogenous dose distribution with superb posterior muscle compartment sparing. The efficient transition between beam angles contributed to a treatment time of less than 10 minutes.

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Radiation oncology teams worldwide apply *TomoTherapy* technology to help their patients and advance their practices. Six examples of use are shared here. **There is more where this comes from.**

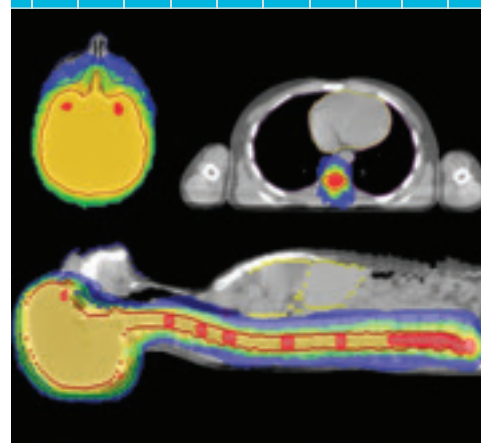
Whole Brain Irradiation with Hippocampal Avoidance

The University of Wisconsin School of Medicine and Public Health is exploring techniques to lessen the neurocognitive impact on patients treated with whole brain radiotherapy (WBRT). Applying *TomoTherapy* technology, researchers have found that they can spare the hippocampus during this treatment. It is hypothesized that hippocampal sparing will lead to reduction in memory decline for patients. A Phase II trial for this technique (RTOG 0933) has been accepted and approved by the National Cancer Institute and is scheduled to open later in 2010.



Craniospinal Irradiation with PTV Margin Reduction

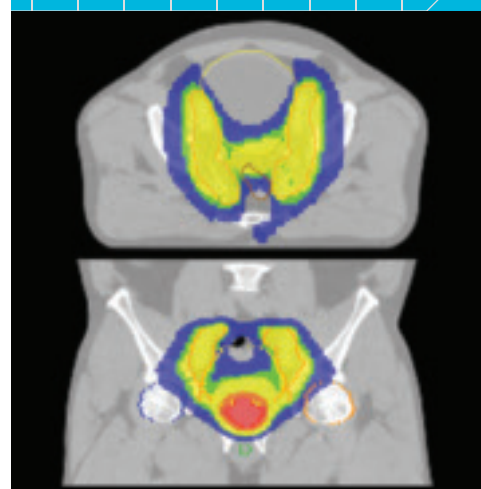
McGill University Health Centre of Montreal shifted its entire craniospinal irradiation (CSI) service to the *TomoTherapy* treatment system in 2007. With its large pediatric practice, McGill saw that the *TomoTherapy* system's daily MVCT imaging could guide highly conformal treatment plans with margins as small as 3 mm, thereby protecting the heart, kidneys and liver of patients. In addition, staff came to understand additional benefits that might contribute to both practical and clinical success. This includes a single point set-up, obviating the need for junctioning—and enabling homogenous dose.



Case required boosting to leptomeningeal metastases. Ability for complex conformal dosimetry enabled sophisticated differential dosing.

Early and Late-Stage Prostate Cancer Care

Scientific Institute San Raffaele of Milan, Italy, has studied the use of *TomoTherapy* technology for many forms of prostate cancer treatment. The center has applied MVCT-guided helical *TomoTherapy* for localized prostate cancer with dose escalation, hypofractionation with integrated boost, salvage therapy and nodal relapse. A large number of patients have been treated and "excellent results," including reduced toxicity, have been reported in a number of studies. *TomoTherapy* imaging was used for daily positioning and found to be adequate in treating patients with dominant intraprostatic lesions.



The Tomo® platform helps you achieve desired results with streamlined simplicity and consistently high quality. Radiation oncology teams worldwide are applying TomoTherapy technology to help their patients and advance their practice.

Delivering Uncompromised Quality for Complex Cases

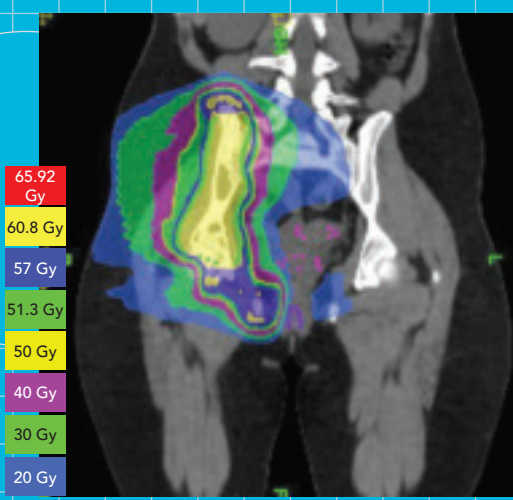
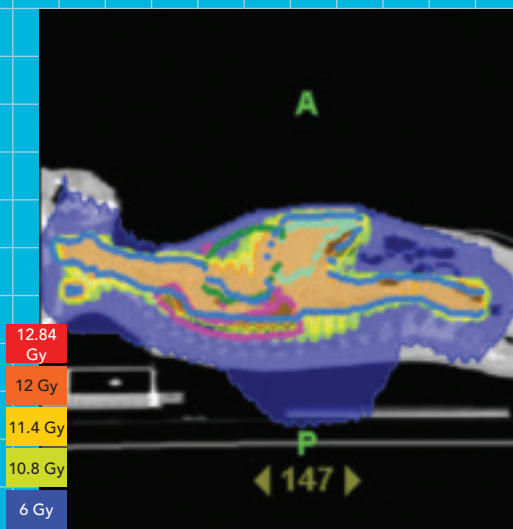
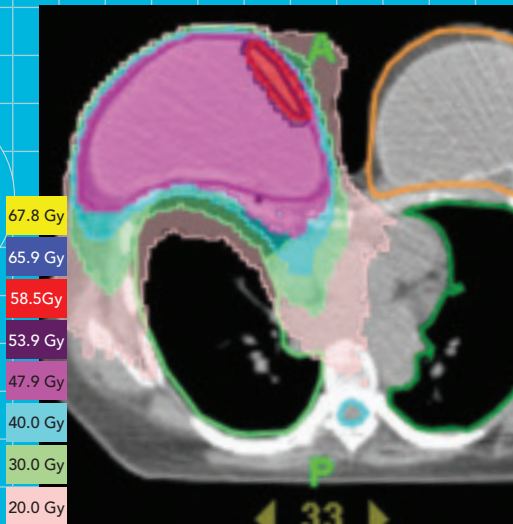
University Hospital of Lausanne (CHUV) (Lausanne, Switzerland) treats a significant number of breast cancer cases and sees many patients with challenging anatomy and difficult-to-manage disease. For some patients, no conventional technique can be used without severe compromise to surrounding structures. The TomoTherapy platform provides a better option. In one such case, helical TomoTherapy technology was used to deliver 50.4 Gy to the whole breast, with a simultaneous boost of 61.6 Gy to the tumour bed, in 28 fractions. Dose to lungs, heart and contralateral breast were limited, and CT image guidance was used to ensure accuracy.

Enabling Homogenous Delivery in Paediatric Cases

Grupo Instituto Madrileño de Oncología (Grupo IMO) (Madrid, Spain) has examined the use of the TomoTherapy system for treating paediatric patients in an effort to preserve healthy organs. Clinicians have found manageable levels of toxicity are achievable. For one 8-year-old patient with stage IV Hodgkin's lymphoma, TomoTherapy technology allowed for continuous and homogeneous irradiation of a large volume – including all the nodes, liver and spleen – with no overlapping areas, and partial preservation of both lungs. The treatment was delivered with concomitant chemotherapy according to the multidisciplinary Spanish Society of Paediatric Oncology (SEOP) Hodgkin's lymphoma protocol.

Retaining Reproductive Function for a 19-Year-Old Patient

Addenbrooke's Hospital (Cambridge, UK) chose TomoTherapy technology for the treatment of a 19-year-old female with Ewing's sarcoma in the right iliac bone. Retention of reproductive and sexual functions was deemed critical. To meet this objective, the patient underwent surgery prior to her TomoTherapy treatment, to move the ovaries outside of the planned treatment volume. A total prescribed dose of 64 Gy was delivered in 30 fractions, with the uterus receiving less than 20 Gy and the vagina less than 30 Gy. The patient tolerated treatment well, with fewer side effects than are observed with conventional treatments.

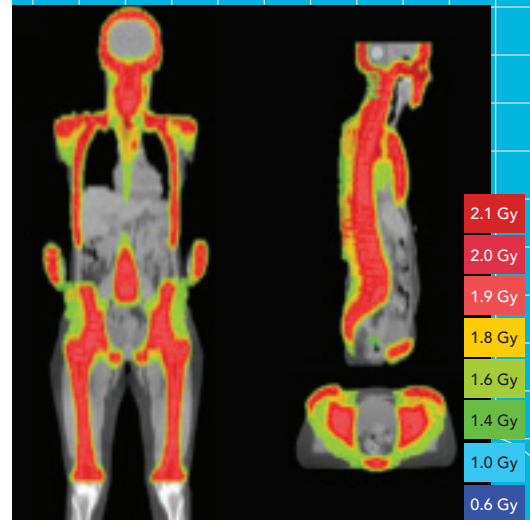


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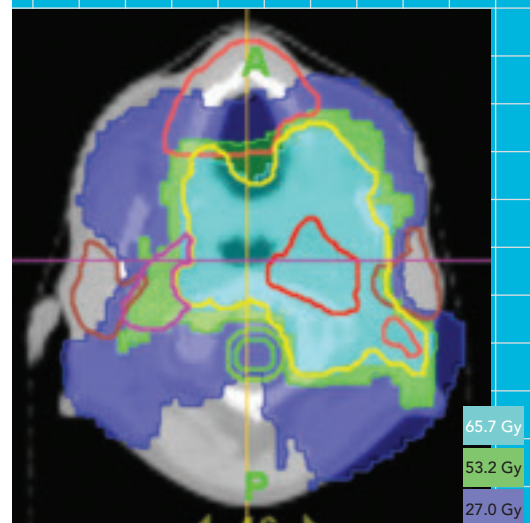
Preparing Patients for a Second Bone Marrow Transplant

National Institute for Cancer Research - IST (Genova, Italy) is applying *TomoTherapy* technology to prepare patients with recurrent blood disease for a second bone marrow transplant. The technique combines a prescribed dose of 12 Gy delivered via total body irradiation (TBI) with a dose escalation to 14 Gy, achieved with total marrow irradiation (TMI). TMI, an option available only by using the *TomoTherapy* platform, targets a uniform, conformal dose to the whole skeleton. Early observations show promising results with low toxicity and good response among this historically challenging group of patients.



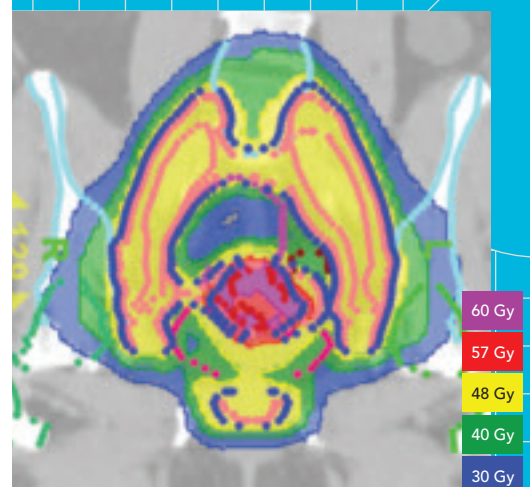
Reducing Margins in Head and Neck Cancer Treatment

University Radiotherapy Antwerp (Antwerp, Belgium) has focused the use of its *TomoTherapy* system on the treatment of head and neck cancer. The shift came after a planning comparison showed that helical *TomoTherapy*-based IMRT could provide more homogeneous dose to a planning target volume (PTV) than static-field IMRT, with equal or better sparing of organs at risk, such as parotid glands. Moreover, because of its daily CT imaging capabilities, the *TomoTherapy* system allows clinicians to reduce PTV margins, which can result in further reduction of side effects and a higher quality of life.

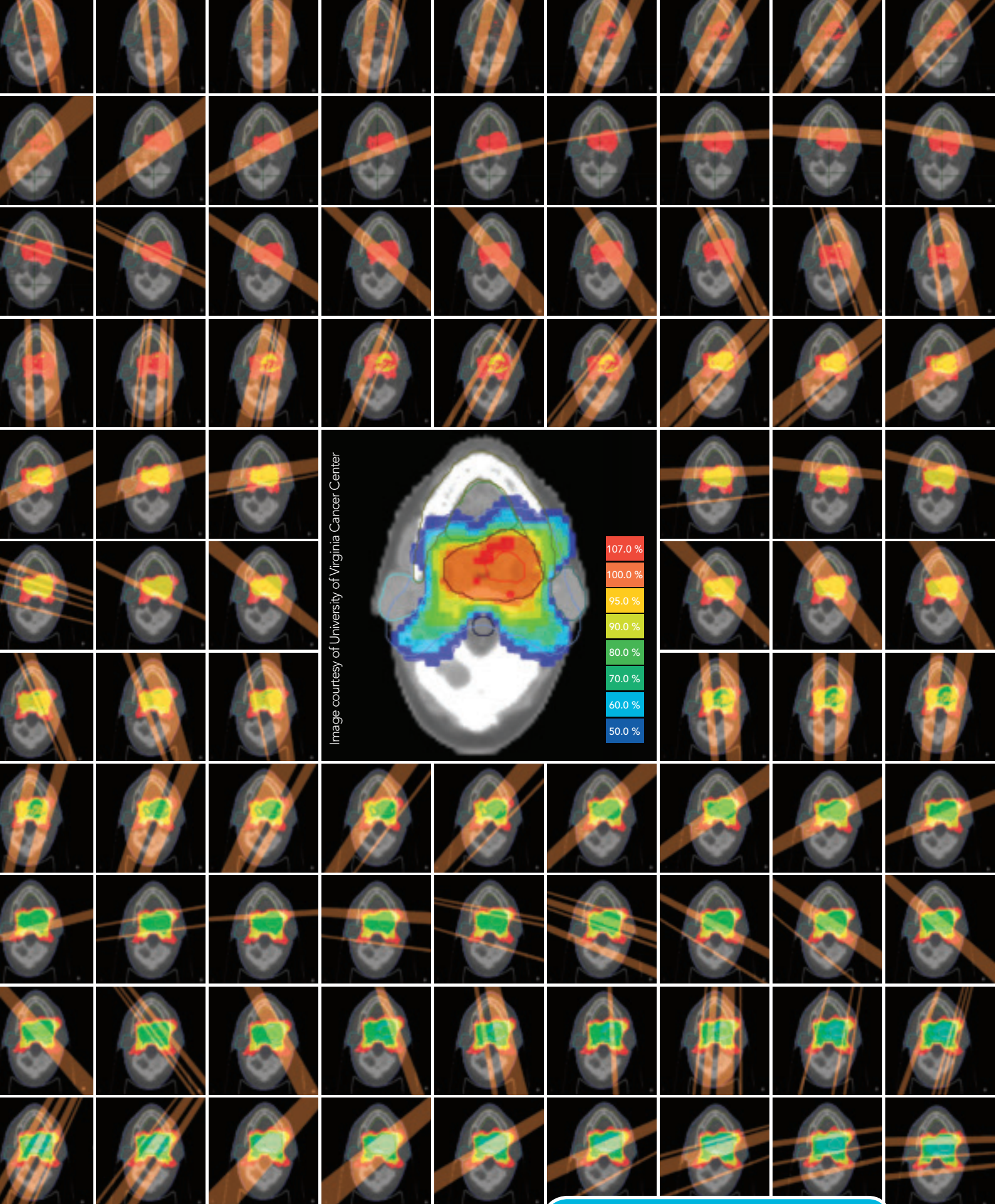


Targeting Dose More Precisely for Gynaecological Cancers

Centre Oscar Lambret (Lille, France) has found *TomoTherapy* technology useful in treating gynaecological cancers that involve the pelvic lymph nodes. In these treatments, there can be a greatly increased volume of irradiated healthy tissue and organs, including the bowel, bladder, rectum and marrow-producing bones. *TomoTherapy* technology helps minimize dose to these regions, facilitates the use of simultaneous boosts, and complements concurrent chemotherapy. For the case shown, 50.4 Gy was delivered in 28 fractions to the pelvis, with a boost to the primary mass and positive lymph node of 60 Gy, at 2.14 Gy per fraction.



All cases originally presented at *TomoTherapy* User Education Symposia, 2010



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