

AccuBoost® Booster Club

Notes from the Editor

This issue of the newsletter highlights the presentation of AccuBoost in various brachytherapy meetings. It reports on the NIH/NCI funding to bolster the design of the AccuBoost procedure and streamline the integration of various components for a “turn-key” operation. The newsletter introduces the new installations and additions to the staff.

The main feature of the March issue is a detailed report on Texas Cancer Clinic's success in offering the procedure to San Antonio residents and the expertise that TCC has gained to target and visualize the dose distribution and tissue coverage with AccuBoost.

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New AccuBoost Installations

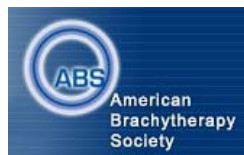
The latest additions to the list of AccuBoost users are Tidwell Cancer Treatment Center in Columbus, GA, and Arizona Oncology Services in Scottsdale, AZ. “We are delighted to welcome these facilities to the

growing list of AccuBoost users” stated Bruce Taylor VP of Marketing and Business Development for AccuBoost. We look forward to work closely with

these new facilities to enable them to offer the AccuBoost procedure to their patients.”



AccuBoost exhibited at ABS School of Breast Brachytherapy



The AccuBoost System was exhibited at the ABS School of Breast Brachytherapy,

February 28-29 in Scottsdale, Arizona. In addition, the AccuBoost procedure was introduced from the podium by Rakesh Patel, MD (University of Wisconsin Medical School) a faculty at the School. Dr Patel

referred to the non-invasive AccuBoost design as “the latest innovations in partial breast irradiation” and gave a detailed account of the procedure and its benefits.

AccuBoost exhibited at ACRO



The AccuBoost System was exhibited at the American College of Radiation Oncology (ACRO) annual meeting February 21 – 22 in Miami. In addition to the exhibit, the AccuBoost procedure was presented at a satellite session by Bruce

Taylor, Vice President of Marketing and Business Development.

with Richard Spector, Director Sales for AccuBoost.

Visitors to the AccuBoost exhibit were invited to participate in an iPod drawing with a preloaded video of AccuBoost presentations by opinion leaders in breast brachytherapy. The lucky winner of the drawing was Shatilata Mishra, Ph.D. The photo shows her



“The AccuBoost system gives us the ability to visualize the tumor bed before each treatment for accurate targeting of the dose.”

- Bradley Prestidge, M.D.

Quotes from Experts: Dr. Bradley Prestidge

Bradley Prestidge, M.D., the Medical Director, President and CEO of Texas Cancer Clinic is a member of AccuBoost Medical Advisory Board. Under Dr. Prestidge's guidance Texas Cancer Clinic (TCC) was the first in the nation to offer the AccuBoost procedure, starting patient treatment in July of 2007. To date, TCC is among the most active sites treating patients with the AccuBoost.

“Targeting the boost dose, by using the conventional external beam design, presents a clinical challenge” states Dr. Prestidge. “The

AccuBoost system gives us the ability to visualize the tumor bed before each treatment for accurate targeting of the dose. The dose sparing design where the dose to healthy tissue is reduced, especially the underlying lung, is an attractive feature of AccuBoost”, adds Dr. Prestidge.

Texas Cancer Clinic is the top candidate for the AccuBoost “center-of-excellence” facility to offer training courses to the prospective users. TCC was ranked as the Number 1 outpatient cancer clinic in the nation by Outpatient



Bradley Prestidge, M.D.

Care Technology in 2007. A panoramic view of the vast and modern TCC facility is shown below.



AccuBoost to exhibit at ABS, GEC-ESTRO 2008 World Congress



AccuBoost will exhibit at the 2008 World Congress of Brachytherapy, May 4-6. Every four years the ABS

and its international counterparts GEC-ESTRO, ALA-TRO, JASTRO and other societies get together for a common meeting. This year's congress is being held in Boston – in AccuBoost's backyard.

There is an invited lecture presentation on AccuBoost by Mark Rivard, Ph.D. in

the Physics Panel Session held between 2:00 -3:00 PM on Sunday May 4. In addition, AccuBoost is hosting a private dinner for its users group, prospective users and Medical Advisors that Sunday at 7 PM at a nearby restaurant.

New Additions to the Team...

Adam Brandow has joined the team as AccuBoost Product Engineer. His primary responsibilities include electronic and software support for the AccuBoost System as well as field installation and training of the therapists.

Adam is a graduate of Northeastern University in electrical and computer engineering. He has several years of industry experience in both software and hardware. Adam states "I enjoy the challenges of traveling to new sites to install and train

new users on the features that the AccuBoost procedure offers. The contribution of AccuBoost to the quality of life and care of patients is particularly satisfying."



"The contribution of AccuBoost to the quality of life and care of patients is particularly satisfying."

- Adam Brandow

AccuBoost Receives NIH /NCI Grant

The National Cancer Institute of the National Institutes of Health has awarded a Small Business Innovation Research (SBIR) grant to the company for further development and integration of the AccuBoost System. SBIR grant applications at NIH are reviewed by a panel of peers from prominent academic centers and are highly competitive. Less than one in ten of

the applications receive a priority score for an award and far less ultimately receive funding.

The peer reviewed critiques for AccuBoost are highly supportive as evidenced by statements such as: "This is an outstanding proposal that outlines an integrated system that includes image-guided localization, [dose] delivery and

dose recording under the same platform. Method of delivering dose to the surgical bed, at depth, without invasive intervention is considered innovative. Use of mammographic x-rays for online image guidance is a novel approach."

The period of performance of the grant is 6 months and it is likely that it will lead into a Phase II follow-

"This is an outstanding proposal that outlines an integrated system that includes image-guided localization, [dose] delivery and dose recording under the same platform."

- NIH Peer Review

Dose Cloud Simulation for AccuBoost

Amir Sadeghi, Ph.D., the Chief of Medical Physics at Texas Cancer Clinic, has devised a creative approach to visualize the dose distribution for AccuBoost. Dr Sadeghi first screens the patient in the AccuBoost System, as if he is going to perform the procedure. He then positions the patient prone on a CT table with the breast hanging through a hole, creates the AccuBoost geometry by immobilizing the breast between a set of parallel plates and dupli-

cates the position of the applicators by using two Styrofoam spacers with HDR catheters attached to the distal rims.

At this point, CT images of the breast are taken designating the tumor bed with respect to the HDR source dwell positions. Dr Sadeghi then imports these images into one of the common treatment planning systems (for example Plato from Nucletron).

The dwell time and dwell pat-

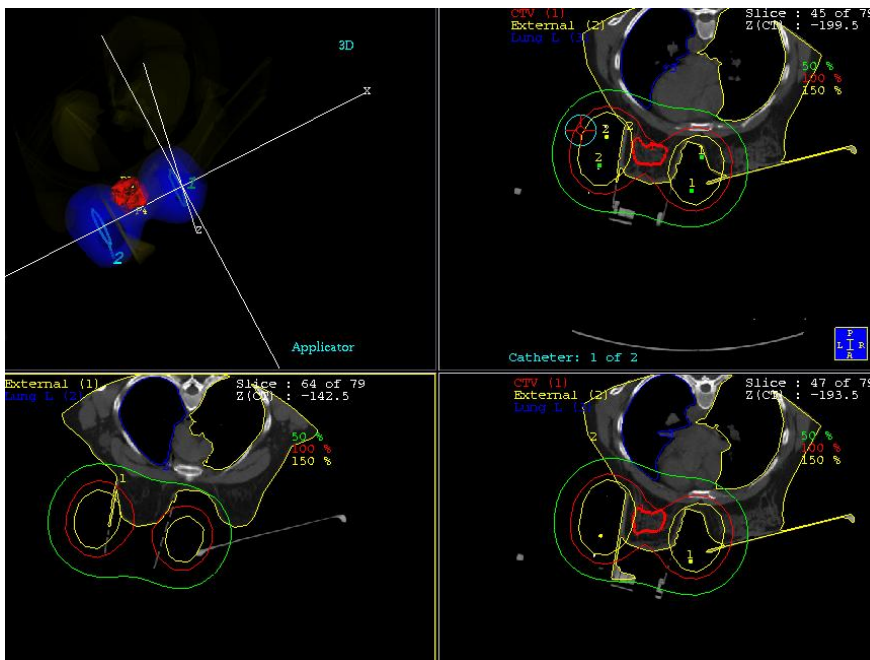
terns provided in the nomograms for AccuBoost are used to generate the dose distribution. The resulting 3-D map allows one to visualize the dose cloud and target coverage shown on next page.

"This 3-D dose simulation is useful to make sure that the target tissue is adequately covered. The dose distribution gives the radiation oncologist the confidence that the prescribed dose is correctly administered when

The dose distribution gives the radiation oncologist the confidence that the prescribed dose is correctly administered when one follows the source dwell time and dwell positions suggested by the AccuBoost nomogram.

- Amir Sadeghi, Ph.D.

Dose Visualization for AccuBoost *(continued from page 3)*



Above: The 3D simulation and dose maps on CT slices for a single axis exposure using the AccuBoost nomogram in a typical patient. The dose behind and beyond the edge of the cylinder defined by the two applicators is to be ignored as the tungsten shell creates a beam of radiation from the HDR source along the axis and significantly attenuates the dose to the tissue on the outside. The AccuBoost dose to the organs within the chest is truly negligible as the beam is directed away from the chest wall” Dr Sadeghi adds.

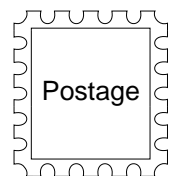
one follows the source dwell time and dwell positions suggested by the AccuBoost nomogram. Even though these steps are not required for every patient, they serve as an independent verification that the nomogram generates the prescribed dose”, points out Dr. Sadeghi. He adds “the existing TPS software programs are not able to account for the dose attenuation provided by the tungsten shell [of the AccuBoost applicators]. The dose cloud beyond the cylindrical applicator is to be ignored as the shell creates a beam of radiation from the HDR source along the axis and significantly attenuates the dose to the tissue on the outside. The AccuBoost dose to the organs within the chest is truly negligible as the beam is directed away from the chest wall” Dr Sadeghi adds.



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