

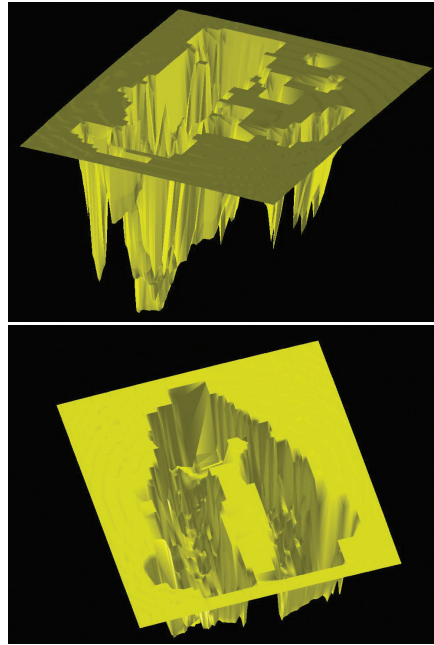
tumor motion envelope.

Given the growing attention to SBRT and the potential role of .decimal solid modulators in this area, we thought it would be useful to seek more insight by profiling one of the leaders in the clinical research of SBRT – Dr. Wolfgang Tomé.

Dr. Tomé has worked the last eight years at the University of Wisconsin (UW) Departments of Human Oncology and Medical Physics. About one-third of the Tomé Lab’s research is dedicated to SBRT and the management of intrafraction target motion. He also conducts research in radiation biology, namely in modeling how to balance normal tissue effect and tumor effect in SBRT. Tomé and other UW clinicians have introduced a clinical protocol to test their model.

The UW has proved to be a good fit for Tomé’s interests and skills, as the equipment profile is rich (Varian 2100iX with OBI, CBCT, and RPM gating, a GE-4D-CT/PET Scanner, TomoTherapy, etc.) and the level of his colleagues richer. Tomé speaks of the UW, stating “There is probably no other place in the world like it.”

A key ingredient to fruitful research in medicine is a direct link to the clinic.



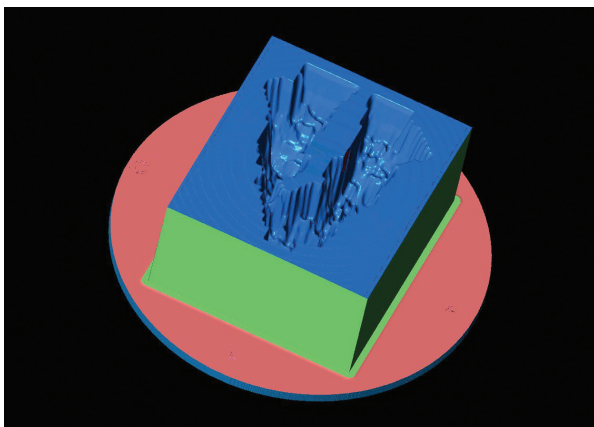
This is not lost at the UW or with Tomé. “I oversee all technical aspects of our SBRT program such as immobilization, 4D-CT acquisition, treatment planning, and treatment delivery,” he says. UW’s SBRT program has been evolving, and the gating technology (RPM) will allow for higher confidence and therefore enabling the treatment of more patients with SBRT. Currently, the UW is treating about two SBRT patients per month, with a total of about 40 SBRT treatments since 2003.

Tomé’s intense interest in SBRT is partially derived from his interest in radiation biology, as he reminds us, “The major advantage of SBRT is that the entire treatment is delivered in a short period of time, in our case in 10 days. Therefore, rapid repopulation of tumors is not an issue.”

Tomé continues, “Since we are delivering a large dose per fraction, overall delivery time becomes an issue. Hence, any technology that helps us to shorten or keep the overall delivery time to a reasonable length, such as solid IMRT will be of a direct benefit to the patient.” In fact, Tomé’s lab has recently presented clinical research analyzing different SBRT delivery methods (Solid IMRT, SMLC, DMLC, gating vs. non-gating, etc.) at the national AAPM meeting on this subject, with another presentation slated for the ESTRO meeting this fall. Publication will follow.

Summary

The clinical potential for SBRT is great and evolving rapidly, thanks to experts such as Wolfgang Tomé on the forefront of strategic clinical research. The practicality of SBRT is improving by leaps and bounds also, especially considering recent commercial options for 4D respiration correlated CCT, IGRT, and treatment gating. The practical (time) and dosimetric advantages of Solid IMRT are obvious in SBRT, and this is likely to be another strong niche for .decimal modulators into the foreseeable future. Most importantly, SBRT offers real promise for vastly improving clinical outcomes. So, let’s all listen, learn, and roll up our sleeves to bring SBRT online with urgency, responsibility, and passion.



The 3D rendering of a Pinnacle³ Stereotactic Body Radiation Therapy compensator. .decimal uses customized software to engineer each individual compensator, and the milling process is verified with a three-dimensional model.