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By **Michael Smith, Noozhawk Intern** | Published on 09.15.2009

The [Cancer Center of Santa Barbara](#) unveiled on Tuesday its latest technology in cancer treatment — the new [Novalis TX Linear Accelerator](#).

Utilizing technologies from [Varian Medical Systems](#) and [BrainLAB](#), the machine enables doctors to perform noninvasive, image-guided radiosurgery procedures quickly and with the utmost precision for the treatment of cancer and other conditions in the brain, head, neck and other areas of the body.

“(The Novalis TX) is the best piece of equipment that a community could really want,” said Dr. Thomas Weisenburger, medical staff director and medical director of radiation oncology at the Cancer Center. “Not every patient needs this technology, but for those who do, this is very useful.”

The machine uses state-of-the-art imaging technologies to discover the exact location and shape of the tumor before treatment. It also can track the motions of the patient during treatment, such as when the patient shifts or breathes and even as the organs move in relation to one another inside the body, to ensure effective and precise treatment while sparing the healthy tissues around the tumor from being destroyed.

A high-definition multileaf collimator gives the machine the capability to shape the beam of radiation used for treatment to the exact contours of the tumor or lesion. A 6D robotic treatment couch that can move in all three dimensions lets the patient be positioned in the most effective way possible.



Thomas Weisenburger of the Cancer Center of Santa Barbara, discusses the center's newest tool in treatment. (Michael Smith / Noozhawk photo)

The linear accelerator rotates around the patient, allowing beams to be delivered anywhere in the body from virtually any angle. The Novalis TX also can be used for “frameless” radiosurgery treatments, meaning a patient's head wouldn't need to be immobilized with a head ring that attaches to the skull — making it easier on the patient physically and cutting down on the time required for treatment, just minutes vs. an hour or more.

The Cancer Center of Santa Barbara is the fourth hospital in California to acquire a Novalis TX. The other three are at [UCLA Medical Center](#), [UCSD Medical Center](#) and [Stanford University School of Medicine](#).

To further streamline treatment, the Novalis TX compiles patient data into one electronic medical record. Radiosurgery treatment planning software lets doctors and clinicians

collaborate through a Web-based network, so that radiation oncologists can work with other physicians and colleagues in neurosurgery.

Rick Scott, president of the Cancer Center, said the new technology offers “new hope” for patients.

The machine is scheduled to be used on a patient for the first time during the last week of September, and Scott said the quicker treatment times will allow the center to treat 25 to 35 patients per day.

The Novalis TX replaces the center’s previous linear accelerator, which was 14 years old. It cost about \$3 million to purchase the machine and to make necessary renovations to house it. About half of the money was acquired through donations, and the rest came from state bonds.

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