

Published on *UCSF Department of Radiation Oncology* (<http://radonc.ucsf.edu>)

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## TrueBeam

The TrueBeam<sup>®</sup> STx with Novalis Radiosurgery is an advanced, top of the line linear accelerator designed to treat well-defined tumors at any site in the body. Its micro-MultiLeaf Collimator (MLC) and the BrainLab ExacTrac system allow for stereotactic treatment of small tumors. We combine the TrueBeam<sup>®</sup> STx with Novalis Radiosurgery to treat malignancies located in the brain, spine, head and neck, lung, liver, and pancreas, both in conventional dose fractionation and radiosurgery.

The TrueBeam<sup>®</sup> STx with Novalis Radiosurgery can deliver 3D IMRT, Rapid Arc, and both micro-MLC and cone based SRS/SBRT treatments.

*At UCSF, we use a team approach to care for our TrueBeam patients. The TrueBeam team includes radiation oncologists, physicists, dosimetrists, and radiation therapists.*

Radiosurgery on the STx machine is a noninvasive system that combines a robotic couch that is capable of 6D motion and several advanced imaging guidance systems, which map the precise location of the patient and the lesion during treatment. This allows for the precise adjustment of patient positions due to patient and organ movements before and during treatment. Therefore, it is capable of maintaining a high degree of precision and is particularly useful for tumors that are close to critical structures, and allows for the treatment of patients who have inoperable tumors or who underwent previous irradiation.



## TrueBeam at UCSF Long Hospital (Parnassus)

On the TrueBeam? STx with Novalis Radiosurgery, the imaging guidance is provided through a combination of 1) 3D kV CBCT at the beginning of the treatment and/or in between arcs; 2) dual x-ray planar imaging that can be done at any instance during treatment, and can monitor movement during treatment by tracking small markers implanted in the tumor or by the skeletal structures of the patients; and 3) continuous patient positioning monitoring through infrared system, tracking the markers placed either on the head frame or body frame.

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