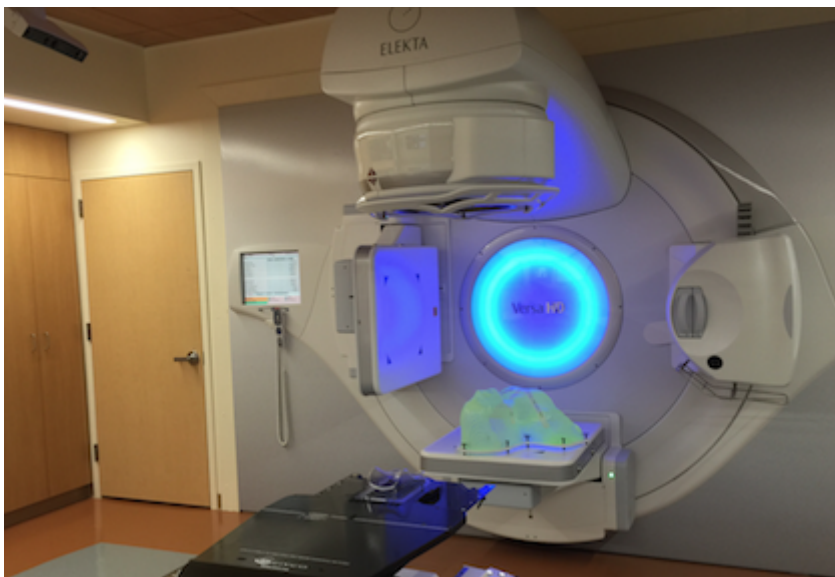


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Versa HD

Technology



Versa HD at Mount Zion ? UCSF

The Elekta Versa HD unit is a recent addition of sophisticated linear accelerator technology at UCSF. The Versa HD utilizes the Agility 160 leaf multi-leaf collimating system, which allows for precision shaping of the beam to the treatment area. The Versa is also capable of delivering Volumetric Modulated Arc Therapy (VMAT), which provides our patients with faster treatment deliveries and improves the overall treatment experience.

Another highlight of the Versa HD is the 6-degree of freedom (6DOF) couch. This couch allows for very accurate setup of the patient on the machine with the ability to make small adjustments to the positions of patients to exactly align them with the radiation beams. For patients with tumors that have appreciable motion excursion, the Versa boasts the only online

4D cone beam system worldwide. This feature allows our clinicians to track these types of tumors that move with the breath cycle so that we can more accurately target and treat them. These features have made it possible to provide a linac-based Stereotactic Body Radiation Therapy (SBRT) option to patients that are good candidates for this type of treatment.

Innovation

SBRT treatments are typically delivered over five days or less. At UCSF, we have a long history of delivering these high dose SRS and SBRT treatments using state of the art technology. Linac-based SBRT on the Elekta Versa HD is our newest delivery method at UCSF that augments our already extensive SBRT capabilities. Our Versa HD SBRT treatment process makes use of all the technology that this machine has to offer. SBRT treatments on the Versa begin with imaging tailored to specifically locate the patient on the treatment machine and assess if tumor motion follows the expected pattern using a combination of kV, MV and 4D cone beam CT. Once the patient has been imaged, we employ our 6DOF couch to accurately move the patient to the sub-millimeter level to align the treatment area precisely with our radiation beam. Finally, we use high dose rate treatment beams along with our high definition MLC system to accurately shape the radiation beam to the target, allowing us to quickly deliver large amounts of radiation to the target, while limiting dose to elsewhere.

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