

TOMOTHERAPY KEY ADVANTAGES

THE NEXT GENERATION RADIATION THERAPY— **NOW**

Platform	<ul style="list-style-type: none">• Ring gantry is the optimum platform for rotational, intensity modulated beam delivery• Ring gantry is the optimum platform for CT-based image-guided patient set-up• CT-style couch allows for continuous patient transport and the largest treatment volume• Binary multileaf collimator is the optimum device to create an intensity-modulated beam for intensity-modulated radiation therapy (IMRT)
Clinical	<ul style="list-style-type: none">• Highly conformal dose distributions, even for complex targets, reduces radiation exposure to normal tissues• 3D image guidance for every patient, every day, can reduce radiation exposure to normal tissues• No field matching is required, even for targets up to 135 centimeters in length for typical patient set-up• Multiple targets can be treated in a single delivery, reducing planning time, treat time and complexity
Operational	<ul style="list-style-type: none">• Small footprint minimizes room size requirements• One low energy minimizes room shielding (wall thickness) requirements• One beam mode (photons only) minimizes commissioning and QA requirements• Factory commissioning minimizes time from delivery to first patient treatment
Safety	<ul style="list-style-type: none">• Central database for all processes eliminates errors associated with data transfer• One simple treatment process reduces the chance of user or system error• One beam mode (photons only) eliminates the chance of accidental switch in beam type• No beam accessories are needed, eliminating the chance of incorrect placement or patient collisions

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	TomoTherapy (Hi-Art [®] /TomoHD [™])	Standard Linac (Conventional C-arm design)
Clinical applications	General radiotherapy (IMRT/3DCRT), stereotactic radiosurgery (SRS), stereotactic body radiotherapy (SBRT)	General radiotherapy (IMRT/3DCRT), stereotactic radiosurgery (SRS), stereotactic body radiotherapy (SBRT)
Gantry style	CT-style (ring) gantry allows continuous beam rotations and fixed beam angles	C-arm gantry allows ≤ 360 degree beam rotations and fixed beam angles
Photon energies	Low energy (high energy not required for rotational delivery)	Low and high energy
Electron energies	N/A	Multiple
Commissioning	In factory	On-site
Room shielding	Approximately 1 meter of concrete all around*	1-2 meters of concrete all around; thicker in beam plane
Imaging (IGRT) modes	3D fan beam CT (as in diagnostic CT scanner)	3D cone beam CT, 2D x-ray, fluoroscopy, infrared
Key operational characteristics	Consistency and ease of use for all case types; easy commissioning and quality assurance processes	Case-specific treatment and imaging procedures; complex commissioning and quality assurance processes
Natural strengths	Treatment of complex, large or multiple targets with a single set-up and without beam junctions	Short treatment times for small/medium targets using VMAT/RapidArc [®] delivery

*see Site Planning Guide for details