

Radiation Oncology Treatment Options Comparison Table

THE UNIVERSITY OF MARYLAND Marlene and Stewart Greenebaum Cancer Center is a national leader in offering innovative approaches to cancer diagnosis, treatment and research. We were the first cancer center in Maryland to treat patients with Trilogy, a powerful new image-guided radiation therapy system that delivers high-dose radiation to even the smallest tumors. The Trilogy linear accelerator, made by Varian Medical Systems, continues to be the best treatment option.

Unlike other systems, Trilogy can deliver all forms of external-beam radiation therapy - from conventional radiation treatment and intensity modulated radiation therapy (IMRT) to the newest and most advanced techniques, such as image-guided radiotherapy (IGRT) and stereotactic body radiotherapy (SBRT). This easy-to-read chart compares radiation therapy systems, in an effort to help physicians make the best decisions for their patients.

If you have any questions about Trilogy or our radiation oncology program, please contact us at **1-800-373-4111**.

| Radiation Therapy Technology | Treatment Modalities | Fractions - Capability | Beam Collimation | Image Guidance Capability | Gating/Tracking Capability | Non-coplanar Beam Capability | Radiation Beams Available | High Dose Capability (1000 mu/min) |
|------------------------------|------------------------------|------------------------|---------------------|---|----------------------------|------------------------------|--|------------------------------------|
| Trilogy (Varian) | SBRT/SRS, IGRT, IMRT and 3-D | One or multiple | 5mm MLC | KV-CT* KV radiograph KV fluoroscopic MV radiograph | Yes | Yes | Multiple Photon Energies Multiple Electron Energies | Yes Shorter treatment |
| Synergy-S (Elekta) | SBRT/SRS, IGRT, IMRT and 3-D | One or multiple | 4mm MLC | KV-CT* KV radiograph KV motion view MV radiograph | No | Yes | Multiple Photon Energies Multiple Electron Energies | No Longer treatment |
| Novalis (BrainLab) | SBRT/SRS, IGRT, IMRT and 3-D | One or multiple | 3mm MLC | KV radiograph only | Yes | Yes | Single Photon Energy Only | No Longer treatment |
| CyberKnife (Accuray) | SBRT/SRS, IGRT, IMRT only | One or multiple | Conical Collimators | KV radiograph only | Yes | Yes | Single Photon Energy Only | No Longer treatment |
| Tomotherapy | SBRT/SRS, IGRT, IMRT only | One or multiple | 6.25mm binary MLC | MV-CT* only | No | No | Single Photon Energy Only | No Longer treatment |
| Gamma Knife (Elekta) | SRS, Intracranial only | One/limited | Conical Collimators | None | No | Yes | Single Photon Energy Only | No Longer treatment |

*KV-CT offers better image quality than MV-CT.

Key: MLC = Multileaf collimator SRS = Stereotactic Radiosurgery