Flash Therapy with Mobetron Electron Beams

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Cancer is a leading cause of death worldwide, and radiation therapy (RT) contributes to cancer cure for more patients than any single treatment modality. Yet, a key barrier undermining the potential for cure is short-term and long-term toxicity to normal tissues. FLASH RT (dose rates > 40 Gy/s) has recently been shown to have increased normal tissue sparing compared to the same dose delivered with conventionally used dose rates (~0.1 Gy/s), without reducing the tumor cure probability. However, the high dose and dose rates that are associated with FLASH RT limits the use of traditional detectors/dosimeters normally used in clinical radiation therapy. In this presentation we will talk about the current status of the field of FLASH RT, limitations in current technology, and what we need to do in order to bring this novel modality towards clinical implementation.