

# BrachyThermix

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## Technology description

BrachyThermix is a startup oncology device company formed in 2018, based in the Philadelphia area. BrachyThermix is developing a novel technology to significantly enhance the therapeutic benefit of radiation treatment following surgical resection of difficult to treat brain tumors such as glioblastoma. Clinical evidence has shown that sequential application of heat and radiation can double the 2-year survival rate in glioblastoma, while in vivo evidence shows that the synergy between heat and radiation is maximized when the two therapies are applied simultaneously. The company is developing a simple device capable of simultaneously and uniformly providing both therapies post-surgery. The device is a balloon placed by the surgeon in the cavity left after surgical resection of the tumor. The balloon will be filled with magnetic nanoparticles which can be heated by an external magnetic field. Radiation comes from a seed delivered into the center of the balloon by a high-dose-rate (HDR) afterloader, a medical device commonly found in cancer centers. Treatment of tumors with this balloon will be compatible with current surgical methods as well as current and future drug therapies used as adjuvants to surgery. The course of treatment is expected to take only a few days, rather than the six weeks or so for the current standard of care. Following treatment, the balloon will be deflated and withdrawn without the need for further surgery.

## Institution

[Drexel University](#)

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