

Thermotherapy

In 1891, an orthopedic surgeon in New York noted the disappearance of an inoperable sarcoma in a patient after a febrile illness. This observation resulted in experiments assessing the utility of heat therapy or thermotherapy for the treatment of cancer. While it initially fell from favor, thermotherapy has recently made a resurgence, sparking investigations into its anticancer properties.

This therapy is especially attractive for [glioblastoma multiforme](#) (GBM) which is difficult to target due to the [blood brain barrier](#) and recalcitrant to treatment.

Recent developments show that heat is preferentially cytotoxic to tumor cells and induces cellular pathways which result in apoptotic and non-apoptotic death. Techniques to induce hyperthermia include regional hyperthermia by water bath, focused ultrasound, radiofrequency microwaves, laser-induced interstitial thermotherapy, and magnetic energy.

From bacterial toxins to infusion of magnetic nanoparticles, hyperthermia has the potential to be an effective and easy-to-execute adjuvant therapy for GBM. Hyperthermia for GBM is a promising therapy as part of a growing armamentarium for malignant glioma treatment ¹⁾.

see Stereotactic guided [laser interstitial thermotherapy](#).

¹⁾

Lee Titsworth W, Murad GJ, Hoh BL, Rahman M. Fighting fire with fire: the revival of thermotherapy for gliomas. Anticancer Res. 2014 Feb;34(2):565-74. PubMed PMID: 24510985.

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