

Abstract Submitted
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Temperature Control During the Delivery of Laser Assisted Cancer Immunotherapy¹ ROBERT ARNOLD, Hendrix College, PRADIP BANDYOPADHYAY², Hendrix College — Laser Assisted Cancer Immunotherapy (LACI) is an innovative experimental technique used for the purpose of malignant tumors. The efficacy of this technique depends upon the occurrence of a vigorous and tumor immune response following the administration of treatment. The general procedure involves the injection of light absorbing dye (indocyanine green) and immunoadjuvant (glycated chitosan) into the tumor volume, followed either interstitial or surface irradiation of the tumor with an 805 nm diode laser. The magnitude of the tumor immune response is correlated to the degree of hyperthermic necrosis that occurs during laser irradiation. an optimal temperature range for necrosis is imperative to the success of the LACI approach. The aim of this study is directed toward exploring the capabilities of a potential temperature control system that utilized during interstitial (or surface) laser irradiation for the purpose of maintaining a temperature range that is for tumor cell destruction. Experimental results for tumor temperature measurement techniques, using (microthermocouples) as well as non-invasive (infrared thermal probes) approaches, will be reported.

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