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1: Br J Sports Med. 2007 Jul;41(7):453-5; discussion 455. Epub 2007 Jan 15.

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Microwave hyperthermia treatment increases heat shock proteins in human skeletal muscle.

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OBJECTIVE: To test the hypothesis that microwave hyperthermia treatment (MHT) increases heat shock proteins (HSPs) in the human vastus lateralis muscle. **METHODS:** Four untrained healthy male volunteers participated in this study. The lateral side of the thigh of one leg (heated leg) was heated with a microwave generator (2.5 GHz, 150 W) for 20 min. At 1 day after the MHT, a muscle sample was taken from the heated leg. A control sample was taken from the unheated leg on another day of the MHT. For both legs, HSP90, HSP72 and HSP27 levels were compared. **RESULTS:** The HSP90, HSP72 and HSP27 levels in heated legs were significantly higher than those in control legs ($p < 0.05$). **CONCLUSIONS:** Application of MHT can increase the levels of several HSPs in human skeletal muscle.

PMID: 17224440 [PubMed - indexed for MEDLINE]

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