

Therapeutic massage of the neck and shoulders produces changes in peripheral...

Posted At : September 16, 2010 9:56 AM | Posted By : [Tim Brunson, PhD](#)

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Full Title Therapeutic massage of the neck and shoulders produces changes in peripheral blood flow when assessed with dynamic infrared thermography.

OBJECTIVE: This study's objective was to determine the effect of therapeutic massage on peripheral blood flow utilizing dynamic infrared thermography in a constant temperature/humidity thermal chamber to assess noncontact skin temperature.

DESIGN: The design was a repeated-measures crossover experimental design; the independent variable was treatment condition (massage, light touch, control).

SETTING: The study setting was a university research laboratory.

SUBJECTS: Seventeen (17) healthy volunteers (8 males/9 females; age = 23.29 +/- 3.06) took part in the study.

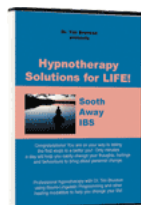
INTERVENTIONS: One (1) 20-minute neck and shoulder therapeutic massage treatment was performed for each of the three treatment conditions.

OUTCOME MEASURES: The dependent variable was noncontact, mean skin temperature in 15 regions measured at 6 time points (pretest and 15, 25, 35, 45, and 60 minutes post-test) for each treatment condition.

RESULTS: The massage treatment produced significant elevations in temperature in five regions: anterior upper chest ($p = 0.04$), posterior neck ($p = 0.0006$), upper back ($p = 0.0005$), posterior right arm ($p = 0.03$), and middle back ($p = 0.02$). Massage therapy produced significant increases in temperature over time, compared to the other conditions, in the anterior upper chest, and posterior neck, upper back, right arm, and the middle back. Additionally, the temperatures remained above baseline levels after 60 minutes. Interestingly, the massage treatment produced significant temperature elevations in two nonmassaged areas posterior right arm and middle back.

CONCLUSIONS: These changes in temperature suggest corresponding changes in peripheral blood flow in the treated areas as well as in adjacent not-massaged areas. Moreover, the results suggest dynamic infrared thermography as a useful tool to measure noninvasive, noncontact changes in peripheral blood flow for massage therapy research.

Sefton JM, Yaras C, Berry JW, Pascoe DD. J Altern Complement Med. 2010 Jul;16(7):723-32. Neuromechanics Research Laboratory, Department of Kinesiology, Auburn University, Auburn, AL 36849, USA. jmsefton@auburn.edu



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