



## The effect of massage on immune function and stress in women with breast cancer - A randomized controlled trial.

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Author:

BillhultA.  
LindholmC.  
GunnarssonRonny  
Stener-VictorinE.

Author Affiliation:

Institute of Neuroscience and Physiology/Physiotherapy, The Sahlgrenska Academy at Göteborg University, Göteborg, Sweden; Research and Development Unit in Primary Health Care, Södra Alvsborg County, Sweden.

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Abstract:

**OBJECTIVES:** To examine the short-term effects of light pressure effleurage on circulating lymphocytes by studying the number and activity of peripheral blood natural killer (NK) cells in patients with breast cancer compared to a control group. Furthermore, the effect of light pressure effleurage on salivary cortisol levels, heart rate and blood pressure was studied. **DESIGN:** Single centre, prospective, randomized and controlled study. **METHODS:** Thirty women, aged 50 to 75 years (mean 61 sd=7.2) with breast cancer undergoing radiation therapy in a hospital in southwestern Sweden were enrolled in the study. They were allocated to either receive massage in the form of a full-body light pressure effleurage treatment, or a control visit where they were given an equal amount of attention. Blood samples, saliva, notation of heart rate and blood pressure were collected before and after massage/control visit. Differences in change over time between groups were analyzed by Student's t-test. **RESULTS:** Light pressure effleurage massage decreased the deterioration of NK cell activity occurring during radiation therapy. Furthermore it lowered heart rate and systolic blood pressure. No effects were demonstrated on cortisol and diastolic pressure. **CONCLUSIONS:** A single full-body light pressure effleurage massage has a short-term effect on NK cell activity, systolic blood pressure and heart rate in patients with breast cancer. However, the long-term clinical importance of these findings needs to be further investigated.

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