



## **Full body Electro Muscle Stimulation (EMS) training against back pain**

(BOECKH-BEHRENS, W.- U. / GRÜTZMACHER, N. / SEBELEFSKY, J., unpublished thesis, University of Bayreuth, 2002).

### **Study objective**

The aim of the study was to find out how EMS training impacts on back pain.

### **Methodology**

49 employees of the University of Bayreuth, who suffered from back pain (31 women and 18 men at the average age of 47) volunteered to participate in the study. Questionnaires were used before and after training to assess frequency and intensity of back pain as well as the participants overall condition, mood, vitality, body stability and change of physique. Participants trained 45 minutes, 2x per week for a total of 10 sessions. They began with a 10 to 15 minute long familiarization phase to adjust for the individual's pulse, followed by a 25 minute long training session, during which different static exercise positions were taken up by the participants. There was a five minute long relaxation period at the end of the training session.

### **Results**

89 % of the participants noticed a reduction in back pain, 39% of those felt a drastic reduction of back pain and 42 % of the participants felt a mild improvement of their condition. In addition, there was a significant decline in frequency and intensity of pain during the exercise period. The EMS-training also produced the following general results: 61% of the participants felt an improvement in their overall condition, 76% said that their mood improved, 69,4% noticed an increase in vitality, 57% of the male participants and 86% of the female participants observed better body stability, 50% of the participants experienced positive physical changes and 76% felt more relaxed after the training.

### **Conclusion**

This study demonstrates that full-body EMS training was effective at relieving back pain symptoms in majority of cases studied. The electrical impulses from the machines work on outer as well as the deeper inner muscles, which are not easily reached through conventional methods of exercise. The specialized full-body EMS training is a time saving and very effective all-round training that has far reaching positive effects on overall health. It can be used therapeutically and as preventive therapy.