

Electromyostimulation training with the BodyTransformer - an innovative one Method of relieving urinary incontinence.

First scientific study at the Institute for Sports Science at the University of Bayreuth (BOECKH-BEHRENS W.-U./SCHÄFFER, G., 2002)

1 On the problem of urinary incontinence

Incontinence (lat. continere = to hold together), also called "bladder weakness", means involuntary leakage of urine or stool. Urinary incontinence is not uncommon; about 25% of women and 8% of men are affected. The frequency of complaints increases with age. Stress incontinence is the most common form of incontinence. Drugs, surgical interventions and conservative physiotherapeutic treatment methods (including local electrical stimulation) are used as therapeutic measures. Incontinence can for the Affected mean a significant reduction in quality of life.

2 The BodyTransformer

The BodyTransformer is an electromyostimulation device that in an innovative way a time-saving and effective full-body workout.

The BodyTransformer trains almost all of the body's muscles at once, with agonists and antagonists being innervated at the same time. It will be a very effective, time-saving full-body workout, as it only takes 15 minutes Training with the BodyTransformer roughly corresponds to a contraction duration of 15 sets of hypertrophy-oriented strength training. The BodyTransformer training also stimulates deeper stabilization muscles, which improves body stability and successfully alleviates numerous complaints. Depending on your choice The stimulation parameters (pulse duration, pause, frequency, rise time, pulse width) can have physiological effects in terms of body shaping and strength gains, but also psychological effects such as an elevated mood while reducing anger and improving well-being and register the body perception.

The electrodes are attached to dampened clothing (better current flow) attached. This avoids hygiene problems and that Electrode belt system can be used as often as you like. The training takes place in a standing position, where active muscle contraction poses additionally increase the intensity.

Due to the large number of positive effects and the possible goals, this is also Wide range of target groups.

3 Scientific study

to alleviate urinary incontinence through electrical muscle stimulation training the body transformer.

3.1 Objective of the investigation

The aim of the study was to determine the effects of EMS training on urinary incontinence symptoms.

3.2 Methodology

3.2.1 Subjects 49

people, 31 women and 18 men, mean age 47.5 years

3.2.2 Training scope

Training period 6 weeks, a total of 10 training units of 45 minutes each, each with a subsequent EMS relaxation training of 5 minutes duration, training frequency 2x per week

3.2.3 EMS stimulation parameters

Workout Program: •

- Pulse Width: 4 seconds
- Pulse Pause: 2 seconds
- Frequency: 80 Hertz
- Rise Time: 0 seconds
- Pulse Width: 350 microseconds
- Workout Duration: 45 minutes

Relaxation program: • Pulse

- duration: 1 second
- Pulse pause: 1 second
- Frequency: 100 hertz
- Rise time: 0 seconds
- Pulse width: 150 microseconds
- Training duration: 5 minutes

3.2.4 Control Procedures

- Questionnaires to determine the following effects:
 - Change in urinary incontinence symptoms
 - Influence of EMS training on the frequency and amount of urine leakage
 - Change in other psychosocial aspects
 - Influence of weight, age and number of births
 - Determination of changes in body perception, mood and state of mind

3.3 Results

3.3.1 Effects of BodyTransformer training on incontinence problems the

- Of the total of 49 subjects, 35% (=17 people) were affected by urinary incontinence. Women were affected four times as often as men. Symptoms of stress incontinence occur in 71% of the 17 people with urinary incontinence.
- A total of 53% of the 17 subjects became symptom-free or achieved an alleviation of their symptoms. More than half of these people (56%) gave training on the BodyTransformer as the reason for the improvement. • With regard to the frequency and amount of urine loss, no dependency on the change in incontinence symptoms could be determined.

- There was no correlation between training on the BodyTransformer and a possible waiver of social activities.

3.3.2 Other effects of training on the BodyTransformer

- Between the parameters of age and change in symptoms no connection can be determined. This also applies to the parameters Body weight and number of births, which also have no correlation with a change in symptoms could be determined.
- A moderate to strong improvement in the general condition of complaints 61% of the 49 test persons stated that they had incontinence problems and 33% rated the impact of e-training as minor. only 6% of the participants indicated no improvement in their complaints.
- Regarding the health factor "ability to relax", 51% of a total of 49 subjects reported an improvement and 47% achieved no change.
- The training on the BodyTransformer had a very positive influence on the Mood (76% reported an improvement in mood) and also on the vitality of the subjects.
- With regard to muscle strength, 55% of the subjects were able to subjectively determine an improvement.
- When it came to the health factor "mobility", 55% of the test persons subjectively noticed only little or no improvement. Only 39% of the 49 probands gave a subjectively perceived improvement in mobility through training on the BodyTransformer.

3.4 Discussion

The selected training duration of 45 minutes seems too long. For further studies with the EMS trainer, significantly shorter training times of a total of 20-Completed for 25 minutes without noticing any loss of positive effects. It is assumed that a training duration of 15-20 minutes at medium to high training intensity should be sufficient to achieve optimal results.

In addition, a pulse frequency of 80 Hz was used in the present study, while the majority of the studies available in the literature have used a frequency of 50 Hz. The advantages and disadvantages of these different frequencies are not known.

The 17 subjects in this study with incontinence problems were filtered out of a study group of 49 people with back problems. kind and intensity of the incontinence were quite different and there was an overall heterogeneous study group. The lack of a control group reduces the Significance of the results.

3.5 Conclusion

The BodyTransformer is an all-round training device that effectively trains a large part of the muscles. At the same time, therapeutic goals such as the alleviation of incontinence and back problems (cf. study on the reduction of Back pain due to EMS training, BOECKH-BEHRENS, W.-U. / GRÜTZMA HER, N. / SEBELEFSKY, J., 2002) and preventive goals, such as muscle building, body performance, improvement of mood, vitality, body stability and of general performance can be achieved.

In the present study, more than half of the people suffering from incontinence symptoms achieved complete freedom from symptoms or a reduction of the complaint.