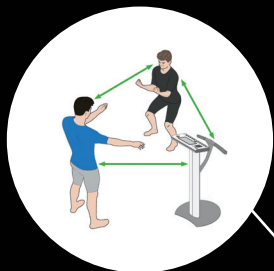


Meanwhile the guidelines of science are a standard for EMS training as well as an important criterion for the TÜV certification for EMS suppliers. The essential requirements are the following:



The training must always be accompanied by an educated EMS trainer.



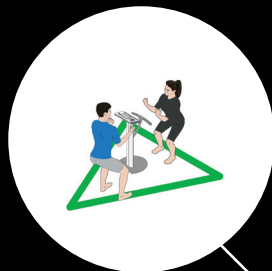
The trainer checks the state of the trainee verbally and by eye before, during, and after the training. The control elements are directly accessible for both the trainer and the trainee at any time.

1. Maximum of 2 arm lengths distance Trainer – Client
2. Maximum of 2 arm lengths distance Trainer – Device
3. Maximum of 2 arm lengths distance Client – Device



A trainer can train a maximum of 2 people at the same time with EMS.

Possible training sessions that meet the guidelines:



Training session **A**



Training session **B**



Training session **C**

SAFETY FIRST



mihabodytec

With kind recommendation: miha bodytec
www.miha-bodytec.com

In the application of EMS training, safety plays an important role. The current scientific results clearly show what is necessary for the safe use of the technology. For this reason, guidelines have been developed based on the recommendations of the respective sports scientists of the German Universities of Cologne, Kaiserslautern and Erlangen, who are researching in the field of EMS. The guidelines are the result of a consensus event with representatives of science, training and equipment manufacturers and should always be taken into account when using EMS. They cover both trainer and user.

GUIDELINE

02

Whole-Body Electromyostimulation – The Need for Common Sense! Rationale and Guideline for a Safe and Effective Training. Kemmler W, Froehlich M, von Stengel S, Kleinöder H.; Deutsche Zeitschrift für Sportmedizin. 2016; 67: 218-221

General rules

- 1 A safe and effective whole-body EMS training is always carried out with the company of a trained and licensed EMS trainer.
- 2 For each new entrant, a history of the contraindications must be given before the first training. This is documented in writing and confirmed by both signatures of the trainer and the customer which also have to be archived. In the case of relevant abnormalities, the training may only be carried out after medical approval.

Preparation of the Training

- 1 As with any intensive body training, care must be taken to carry out the EMS training only in good physical condition. This includes a renunciation of alcohol, drugs or exhaustive preload in advance. No training should be carried out under the effect of febrile diseases.
- 2 Full body EMS training involves a very high amount of muscle mass and thus generates a very high metabolic load on the organism. As far as possible this is to be compensated by a sufficient food intake in advance. In particular, a carbohydrates-rich intake is recommended. If this could not be achieved, a carbohydrate-rich but non-polluting snack (≈250 kcal) should ideally be taken approximately 2 hours before the workout.
- 3 In order to counter potential renal stress (especially with unknown damage) by intensive whole-body EMS application, an increased supply of fluid (500 ml each) must be taken before, during and after training.

Application of the training

- 1 Regardless of the physical status, the users past experience or his corresponding wish, EMS training cannot be carried out at full-strength during the first training session or during a trial session. Especially this approach has led to undesirable side effects and negative health consequences in the past and must be avoided.
- 2 After a moderate initial EMS application, the stimulus level or current intensity can only be increased successively. At the earliest after 8-10 weeks the highest value can be adjusted (subjective load of the user: difficult-difficult+). A training at full load, especially in the sense of a painful, steady tetanus during the current phase, must generally be avoided.
- 3 In addition, initial training should take place with reduced effective training time. It is recommended to use a phase over 5 min for impulse acclimatization as well as a shortened workout with moderate reactivity (subjective load of the user: somewhat difficult) and intermittent load with short impulse phase (≈) over 12 min. The training period should then be carefully increased and finally arrive at a maximum of 20 minutes.
- 4 In order to ensure adequate conditioning, the training frequency may not exceed one training unit per week during the first 8-10 weeks.
- 5 Even after this conditioning phase, a period of ≥ 4 days must be maintained between the training units in order to prevent accumulation of muscle decay products, to ensure regeneration and adaptation and thus to ensure the success of the training.

Safety aspects during and after training

- 1 During the training session, the trainer has to deal exclusively with the user's interests. Before, during and after the training, the trainer verbally and visually checks the state of the trainee to rule out health risks and ensure effective training.
- 2 During the training, the operating elements of the device are directly accessible for both the trainer and also for the trainee at any time. The possibility for operation / regulation of the device must always be given and must be simple, fast and precise.

SAFETY

FIRST



Prof. Dr. Wolfgang Kemmler

Prof. Dr. Wolfgang Kemmler (24.01.64 in Tübingen) is research director at the Institute of Medical Physics Erlangen. The training and sports scientist is regarded as an expert in the field of training-oriented intervention research as well as in the field of alternative training technologies focusing on whole body electromyostimulation.



Dr. Heinz Kleinöder

Dr. Heinz Kleinöder has been a lecturer at the German Sporthochschule in Cologne since 1990 at the Institute for Training Science and Sports Informatics. Since 2003 he has been head of the Department of Force Diagnostics and Movement Research. His main areas of work include the diagnostics of conditional abilities in various competitive sports, the training of strength and techniques with classical and innovative training methods. His long-term training activity in high-performance sports (tennis) is closely linked to his research, which focuses on the effects of a variety of strength training methods and training tools (including EMS and vibration) regarding health and performance. The latter has resulted in many publications. His transfers of the scientific results into practice took place in many sports and was passed on in numerous lectures at the Trainerakademie of the DOSB in Cologne.



Univ.-Prof. Dr. phil. habil. Michael Fröhlich

Prof. Dr. Michael Fröhlich is a professor of sports science at the TU Kaiserslautern. His main research areas are movement and training science, health and intervention research. He is a member of several scientific associations and carries out expert reports for numerous national and international journals. Currently there are about 220 publications in the mentioned and adjacent areas.



Jens Vatter

Jens Vatter is a certified sports economist and holds a European master of Science in Health and Fitness (Bayreuth University). He is the owner of the PT Lounge Cologne and also functions as a scientific consultant and book author in the field of EMS training. He works as instructor for EMS Training – for instance at Gluckerkolleg, where he offers functional training and coaching as well as athletics training with a focus on sprint and jump. He is also a TÜV certified Personal Fitness Trainer.



Stephan Müller

Stephan Müller is a nutritionist, sports instructor and sports physiotherapist. In addition, as a personal fitness trainer, instructor and nutrition expert, he is responsible for many world champions, olympic athletes and top athletes, as well as Bundesliga clubs in the fields of soccer, handball and volleyball. He is a member of the executive committee of the Federal Association PT e.V. and the EMS training committee of the DSSV as well as owner of the GluckerKolleg (www.gluckerkolleg.de) and PT Lounge GmbH.