

The effect of BEMER 3000 therapy on creatine kinase (CK) elimination under intensive eccentric loading, Villiger B (2003)

Shortening of the regeneration time in peak sports based on the variation of the CK-Elimination curve through use of the BEMER 3000. (Placebo controlled double blind study)

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Background: It has been well established that BEMER 3000 therapy has the following effects:

1. Increased reaction probability for molecular and sub-molecular structures in the organism due to a unique broadband signal form
2. Increased concentration of ATP and other energy-rich phosphate reserves in erythrocytes
3. Protection from damaging toxins (Teratogens) in warm-blooded vertebrates, possibly due to production of repair proteins via the activation of a HSP 70 promoter, or possibly via a direct effect
4. Increased anti-oxidant and anti-free-radical enzyme activity in erythrocytes
5. Delayed onset of muscle soreness and improved range of motion of muscles under anaerobic metabolic conditions
6. Decreased blood pressure and heart rate, possibly as part of a calming effect on the vegetative nervous system
7. Isolation of agglutinated erythrocytes as well as a closely related improvement in flow properties of the blood
8. Improved and accelerated wound healing

Abstract:

Intensive muscle loading leads to damage of the muscle cell when Creatine kinase (CK) and other muscle enzymes such as Troponin, Aldolase, are released causing intracellular destruction or permeability of the cell membrane into the blood supply. The goal of the study was to examine the influence of the BEMER 3000 on the development of the CK value. The effect of the Bemer 3000 signal on the temporal flow of muscle regeneration was examined by means of a placebo controlled double blind study with 17 healthy athletes aged of 17 to 46 years.

The question is whether BEMER 3000 therapy could also reduce damage to muscle cells resulting from peak exertion or accelerate muscle tissue repair.

Methods: A pilot study was carried out in order to find the most suitable test procedure. After an intensive load test on a former ski instructor (Propriodynamics, by George Hagmann), a full body BEMER 3000 mat and pillow applicator was used. Patients were subjected to a defined peak exertion of the muscles of the upper leg (six 2-second squats (knee at 90° angle), 2 sec. rest between each squat, step height (track profile 14), intensity (travel speed 3)). In accordance with the results of the pilot study, the following Blood values were determined: value before test start, value after 6h, 8h, 10h, 12h and 18h. The CK- value was determined from the venal blood result: under the influence of the electro magnetic field (Bemer 3000), it did not climb as high and removed waste products (CK values) earlier. With the Placebo (Bemer 3000, not functioning), the CK- values did not fall until an average of 2h later in comparison to the Control group.

CK values were measured prior to the exertion, as well as 6, 8, 10, 12 and 18 hours after the exertion and immediate application of BEMER 3000 electromagnetic field therapy (8 minutes with coil mat, approx. 10 μ T maximum mean flux density, and 20 minutes of Program 4 (from approx. 60 to approx. 100 μ T maximum mean flux density) with coil cushions on both sides of the thigh).

This points to less muscle damage, and the regeneration was favourably influenced through the BEMER 3000. It is assumed that the Permeability of the cell membrane decreases faster and therefore less CK enters into the blood.

Results: The increase and fall-off in the middle range of the CK elimination curve lies at a significantly lower level.

Conclusion: The author notes that this result should not necessarily be taken as proof of improved repair of muscle cells that may have been damaged.