

## Osteo-Arthritis (Degenerative Arthritis) and BEMERtherapy

Osteo-arthritis belongs to the family of rheumatic illnesses. In contrast to the inflammatory type of rheumatism in the joints, it is a degenerative disease with varied causes. Generally, it can be attributed to "wear and tear", and may be influenced by factors relating to age, heredity and metabolic processes. Any one of the joints can be affected, but the knees and hips are especially prone to this illness. After the age of 50 about half of the population suffers from arthritic joints, but younger individuals may be affected also. Being overweight, a lack of exercise, and stress can lead to a disturbance of metabolic function and thus result in Osteo-arthritis.

This relationship becomes clear when we look at the anatomy and physiology of the joints. Joints connect the individual bones and thus enable movement. The joints are surrounded with a firm capsule of connective tissue, and become integrated into the muscular-skeletal system by tendons and sinews. The underlying process of Osteo-arthritic changes is a thinning and eventual disappearance of the cartilage, which forms the smooth, gliding surface of the joints.

This begins insidiously and painlessly (there are no pain receptors in the cartilage) as a pitting, flaking, and splintering disintegration of cartilage which covers the ends of the bones, until it may be worn away, the underlying bone exposed, and pain results when "bare bones" are moved against each other. The fluid that is usually present in the spaces between the cartilage not only serves as a lubricant and buffer but also as a nourishment for the cartilage. If the cartilage does not receive sufficient nourishment, its cells will die off. In addition, psychological tension, stress and depression can cause changes in the fluid's consistency. This points to the fact that the oxygen partial pressure of the blood is as important for proper nourishment of the cartilage cells as it is for the metabolism of all other cells in the body.

Since Osteo-arthritic changes in the joints make movement very painful, the affected person will move as little as possible. This will cause less lubricant to be produced and henceforth less nutrients available for the cartilage – a vicious cycle leading to a total stiffening of the joint. The result will be a lower quality of life and less self-sufficiency, especially for the older person.

What are the treatment options? Traditional medicine will focus on stopping inflammation, reducing pain, and improving function, but does not seek to treat the causes of joint degeneration. As a rule, cortisone-based preparations are used, which provide initial relief, but may have long-range side effects. Surgery is often a last resort. Acupuncture is sometimes used as an alternative pain management tool that does not have any side effects and provides relative improvement.

**The only therapy addressing the causes of Osteo-arthritis is the use of pulsing electromagnetic fields (BEMERtherapy).** This therapy has been scientifically researched and proven effective, especially in the area of healing of bones. Already in the sixties there was proof of the piezo-electrical effect of the bones. When weight is applied to the bones, they produce an electrical current, which influences the hardening of the bone cells.

Scientific studies proved that electromagnetic fields regenerate the bone tissue and speed up the healing process. New bone cells mature more quickly when they are exposed to an electromagnetic field. Therefore, **the use of electromagnetic therapy** (e.g. the BEMER 3000) **will stimulate the formation of bone and cartilage in the affected joint.** Pain relief will not be immediate, since the process of regeneration takes time.

We suggest, for that reason, that BEMER<sup>therapy</sup> be combined with other treatments such as Acupuncture, for more immediate pain relief. If the patient is experiencing less pain, he/she will be more active. The activity will stimulate circulation and increase joint lubrication, thus supplying the cartilage with necessary nutrients. Activity will support the electromagnetic therapy effects. It is important to engage in low weight bearing activity; swimming is ideal (avoid breast stroke since this uses a turning motion of the knee and could be harmful).

Another important factor are the nutrients present in the blood, they determine the consistency of the lubricant in the joints. We suggest the patient take a nutritional supplement that stimulates growth of skin, tissue, cartilage and bones. In order for the body's cells to properly metabolize these supplements it needs oxygen, which the electromagnetic therapy will provide (increased circulation and greater oxygenation of the blood). The oxygen partial pressure rises. A European physicians user study of low intensity pulsing electromagnetic fields with 102 Osteo-arthritis patients over 12 weeks had the following results: Sixty-four patients **(65%) were complaint free**, 28 patients **(27%) experienced improvement**, and 10 patients experienced no change. Through long-term therapy and especially with a combination of therapies as mentioned above, the results are successful and most importantly without side effects.



**Clinical Study conducted at the SzentAndras Klinik, Hungary. Maria Homoky, Dr. Med; Chief: Dept Rheumatology - Rehabilitation, Szent Andras Clinic, Hungary.**

### Objectives:

Investigation of the influence of the BEMER 3000 electro magnetic field pulse on degenerative diseases of the joints, degenerative changes on the spine as well as muscle pain and spasms as a result of hip- and knee joint surgery.

### Results:

- Significant improvement from their initial conditions were recorded for 42 patients over the therapy duration of 16 days. Two patients experienced no change at all during the therapy and another four patients dropped out of the trials for a number of reasons.
- The BEMER 3000 treatment is strongly recommended for the Hungarian Health Industry

### Discussion:

The improvements of the patients after BEMER 3000 therapy are probably due to the blood vessel dilatation effect of the electro magnetic field with a resulting improvement of the metabolism. The improvement of the inflammation effects in the joints and the resulting pain reduction can be explained in connection with the release of the HP70 repair protein.

### Testimonials

*"I have suffered from Arthritis in my knees, hip, neck, wrist, hand and shoulder. My knees, hip and shoulder are pain free now, while the wrist has improved. My neck has also improved and I have a lot more neck mobility.*

*My energy levels are much improved too, and I have a general feeling of well being. I have never been a good sleeper, but now, since using the Bemer 3000, I have been sleeping very well."*

- **BETTY F, Australia**

*“When I was 21, I began suffering from painful, chronic poly-arthritis. Soon, almost all my joints were affected, and I was only able to control the pain with potent prescription painkillers. At times, I could only walk on crutches and the use of a wheelchair seemed imminent. At 26, I began to psychologically and mentally deal with my situation through seminars and individual counselling – a process, which ultimately enabled me over the last ten years to completely stop all medications. The additional use of magnetic field therapy brought further improvement, which caused me three years ago, at the age of 44, to set myself a goal of completing a marathon and to begin training. The first day of training I walked 100 steps in place, the second day 300 steps, the third day 500 steps, and the fourth day the first small excursion to a park. The use of magnetic field therapy allowed me to gain an unexpected increase in performance, and after only two months and three weeks I participated in a half-marathon in Krems (21 km in 2hrs and 25 minutes, finishing 454 out of almost 900 participants).”*

- **ROLAND BARTL, Austria**

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