

## PAIN MANAGEMENT AND THE USE OF BEMER 3000 THERAPY

Pulsed electromagnetic field therapy has been shown to be very effective for pain reduction, and the management of acute and chronic pain. The Euro study conducted by physicians with the BEMER 3000 from May 1999 through February 2000 included 12 patients with varying pain conditions. After an average therapy time of four weeks, 67% of these patients reported complete absence of pain, and 33% experienced significant improvement.

Pain relief is due to action at the cellular level. Pain signals are transmitted along nerve cells to pre-synaptic terminals. At these terminals, channels in the cell alter due to a movement of ions. The membrane potential changes, causing the release of a chemical transmitter from a synaptic vesicle contained within the membrane. The pain signal is chemically transferred across the synaptic gap to chemical receptors on the postsynaptic nerve cell. This all happens in about 1/20000<sup>th</sup> of a second. As the pain signal, in chemical form, approaches the post-synaptic cell, the membrane changes and the signal is transferred. The voltage across the synaptic membrane then, under no pain conditions, is about  $-70$  mV. When the pain signal approaches, the membrane potential increases to approximately  $+30$  mV, allowing a sodium flow. This in turn triggers the synaptic vesicle to release the chemical transmitter, and so to transfer the pain signal across the synaptic gap. After the transmission, the voltage reduces back to its normal level until the next pain signal arrives.

The application of pulsed electromagnetic field, like the BEMER signal, to painful sites causes the membrane potential to be lowered to a level of about  $-90$  mV. When a pain signal is detected, the voltage must now be raised to a relatively higher level in order to transmit the signal. The change required is too great and the trigger voltage needed to release the transmitter is not reached. Hence the pain signal is blocked.

The **BEMER 3000** emits the precise frequency and pulse rate of the electromagnetic signal needed to produce these desired results.

***In addition, other beneficial physiological processes are stimulated,*** like improved circulation, especially microcirculation, increased oxygen partial pressure of the blood and improved viscosity of the blood. This may result in better metabolism and therefore a quicker elimination of toxic substances from the body. Stimulation of the immune system and activation of the body's own healing mechanisms are of additional benefit.

Recommended therapy is the basic program on the mat twice a day (8 min.), and the use of the intensive applicator for localized pain.

## Testimonials

*"I have suffered from **Cerebral Palsy** from birth. The Bemer has helped me in that I don't suffer from indigestion and stomach cramps anymore. Also when I stood for long periods of time, or got up in the morning, I suffered from backache. With the Bemer therapy this does not happen anymore"*

**TONY F, Sydney Australia**

*"For years I have had lower back pain, which caused me great discomfort. Since using the **BEMER** mat and intensive applicator twice a day, my back pain is completely gone. I also use it before bed to help me get a good night's sleep."*

**EDWIN SKOR, Minnesota**

*"Since June 27<sup>th</sup>, 2000, I use the **BEMER** mat daily. I am achieving positive results in the form of small improvements. Specifically my muscles, which atrophied after becoming a paraplegic, are getting stronger. The **BEMER** mat is excellent in supporting the building of muscle.*

*The main reason, however, why the Bemer-mat accompanies me all year round to the wheelchair tennis tournaments, is the fact that I am experiencing much less nerve pain in my legs since I started using the Bemer, and therefore am more able to enjoy life. Less nerve pain for me means also **a good night's sleep.***

*Consequently, I feel much more rested in the morning, and can tackle the day's challenges with vigor."*

**MARTIN LEGNER, Switzerland (Austrian singles and doubles wheelchair men's Tennis champion 2002)**

*"Thank you so much for introducing me to the **BEMER 3000!** For the last 20 years my ankles were always swollen by the end of the day. After only a few weeks on the **BEMER**, I no longer experience this. It's unbelievable to see such a change after all these years. In addition, whenever my husband gets a sore back, he puts the intensive applicator on it, and – bingo – the pain is gone!"*

**MARYALICE LIGHT, Wisconsin**