WHAT IS THE BLOOD CIRCULATORY SYSTEM?

The blood circulatory system is a key physiological transport system to keep organs and tissue well supplied with oxygen and nutrients. It removes metabolic waste products, and ensures the appropriate diffusion of erythrocytes, hormones, and proteins, and is very important for a well-functioning immune system, wound healing and other key physiological processes. It is also well known that the microcirculation, the blood circulation in blood vessels smaller than 0.2mm (200 micron) in diameter, plays a crucial role in the metabolic exchange at cellular level, and has a direct bearing on illness, injuries, wounds, and pain. The extent of microcirculation comprises about 74% of all blood vessels in the human body and is considered the “transport highway” for cellular supply. In a healthy body this “organ” is self-regulated, but its functioning seems to deteriorate with age, increased stress, and poor life-style.

WHERE DOES CELLULAR NUTRITION TAKE PLACE?

The actual exchange of oxygen, nutrients, and waste products with the cells takes place in the capillaries right down to a diameter of about 0.005 mm, or 5 micron! A deficiency of blood circulation at microcirculatory, and particularly at the capillary level, is a root cause of many acute, but also chronic ailments, such as arthritis, rheumatism, diabetes, tinnitus, kidney conditions and others. Oxygen exchange is also crucial for organism regeneration and boosting of the immune system, and the same biological processes that are conducive to healing are also essential for prevention.

WHAT IS THE UNDERSTANDING OF THE MICROCIRCULATION?

Due to a combination of the increased scientific and medical interest in the significance and detail processes pertaining to the micro-circulation, blood diffusion, cellular chemistry, and bio-molecular mechanisms, with the simultaneous availability of appropriate technology, new insights have been gained in these important areas over the
past 15 years, particularly at the Institute for Microcirculation in Berlin, Germany, under the leadership of Dr. of Medicine Rainer Klopp.

With decades of research, Dr. Klopp managed to clarify many important aspects pertaining to the regulation of blood circulation of organs and discovered various rhythmic vascular wall movements for extremely small blood vessels. He developed a complex configuration of very weak magnetic field pulses, which are able to stimulate dysfunctional or constricted microcirculatory regulation processes without negative side effects. This technology is patented and unique.

WHAT IS VASOMOTION?

His research into vascular mechanisms discovered the importance of vasomotion, (the periodic dilation and contraction of the blood vessels) and a method of physically stimulating the proper diffusion of blood throughout the organism. It was further established that different blood vessel diameters exhibit a distinctly different rhythm of vasomotion, and that if they are out of synch or impaired, this can result in chronic conditions, poor healing processes and a weakening of the immune system.

CAN VASOMOTION BE REGULATED BENEFICIALLY?

The local, auto-rhythmic vasomotion of the immediate pre-capillary arterioles and the post-capillary venules (80 to 30 microns) can be influenced together with the centrally regulated (autonomic nervous system) sections of the larger arterioles and venules of about 120 microns. By simultaneously activating the regulating system of both vessel sections, while considering the different oscillation characteristics of their vascular walls, this allows for more effective distribution of the plasma-blood cell mix in the capillary networks. A secondary effect involving the mitochondria shows that ATP production is increased, which has a positive effect on affected cells producing and delivering their specific functional proteins, enzymes and hormones at the required rates.

WHAT ARE THE EFFECTS OF STIMULATING VASOMOTION?
The direct physiological EFFECTS with the use of the therapy is an improvement in the oxygen and nutrient supply, an improved partial oxygen pressure, normalized vasomotion and improved diffusion of blood to all organs and tissue.

The clinical RESULT is to be found in significant pain relief, much faster healing processes especially wounds, fractures, bedsores, edemas, hematomas etc. Successful treatment of chronic conditions such as arthritis, rheumatism, diabetes and lymphatic conditions occur with few side effects.

HOW HAS THIS THERAPY BEEN IMPLEMENTED?

The treatment is already well established in Europe and the US with about a million applications daily. As a modality it has a Class2a Medical Device registration in the EU and in SA. In the USA it is an approved FDA Class 2 Medical device. It is safe and easy to use. A slow beginning has been made withindependent medical practitioners, institutes and universities mainly in Europe working on the investigation of specific pathologies where the treatment shows significant clinical benefits. Studies pertaining to pain management, MS, macula degeneration, wound and fracture healing, dental surgery, stroke victim rehabilitation, infertility treatment, and other conditions that are highly microcirculation sensitive have been concluded with significant results.

First Journal Papers are being prepared as we speak and a number of Medical Conferences, amongst them also one exclusively for Physical Vascular Therapy, have been conducted in Europe, attended by a couple of hundred medical practitioners. Dr. Klopp has been honored with a German Science Award for his work on vasomotion and microcirculation research in general. Over the last 25 years he has authored and co-authored a large number of papers related to angiology and is the author of a seminal textbook on microcirculation.\(^{(1)}\)

WHAT WOULD I EXPECT CLINICALLY?

The BEMER Physical Vascular Regulation Therapy is a relatively new modality but it has been in clinical use in South Africa for 13 years already. It represents a key treatment modality in preventative and complimentary medicine which positively impacts the
essential regulation processes in the organism overall. Quantifiably, repeatedly and consistently the BEMER treatment over a once a day 30-day protocol provides:

- 27% faster Vasomotion
- 29% improvement in blood circulation
- 31% increase in venous return flow
- 29% higher oxygen saturation
- 18% ATP production increase (in vitro)

Due to the fact that the BEMER treatment is process-based and not indication-based it has a broad application. It never treats a specific disease but a physiological condition.

Regardless of whether we are looking at prevention, regeneration, healing and recovery processes, improving the effectiveness of medication, preventing unnatural ageing processes or increasing physical or mental performance - all of these processes are directly related to the effectiveness of microcirculation.

Prof Dr. -Ing. Dr. Dietmar Winzker,
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Official BEMER Country Agency for Southern Africa


For further information on the Science behind the Bemer:

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