

The Effect of the Myopulse on Improving Local Blood Circulation

(See FDA Marketing Approval, uses cited as #1 and #3)

Technical Explanation of Muscle Stimulation Devices

Ordinary Muscle Stimulators are known to increase local blood circulation. Milli-amperage current of sufficient strength will produce moderately strong muscle contractions. Muscle Spasm and swelling is commonly decreased in physical therapy by muscle stimulators which tetanize the contractile tissue, thus immediately increasing blood flow to the area. This is commonly regarded as a positive effect. This response creates the appearance of (stimulates) relaxation; however, this apparent relaxation results eventually in muscle fiber exhaustion and with prolonged or repeated application will actually become detrimental to the tissue.

Physiology

Blood vessels have smooth muscle fibers in their wall which, when muscle is in spasm, creates constriction of the blood flow by relieving the constriction within the blood vessels.

Myopulse Effect

Simply producing relaxation of the muscle fibers (which is the result of Myopulse treatment) will achieve the effect of improving blood flow by relieving the constriction within the blood vessels.

Monitoring Mechanism

The Myopulse's monitoring mechanism is programmed to detect abnormalities in the electro-magnetic field of muscle tissue. Muscle fiber in spasm will generate an abnormal electrical field which reflects the activity of cells in a sustained over-firing state. Muscle fiber in a state of atrophy will register as under-firing, which is also an abnormal state. As it is treating the tissue, the instrument continuously monitors the electromagnetic field of the contractile tissue; sends in an appropriate corrective signal, then checks to see if the field has become more normal. If it has had a normalizing effect, it will transmit more of the same signal; if not, it will adjust the output until a more normal response is detected. This process by which the instrument operates is called the "law of requisite variety" which means that it will continue trying different approaches until one of them works successfully. This principle has been applied in space vehicle technology for many years.

The significance of the aspect of treatment with the Myopulse is that it leads strictly to normalization of the muscle tissue by inducing a balanced electro-magnetic field. (Tetanic contraction is impossible with the micro-current slope waveform of the Myopulse). In a normal, relaxed state, the blood vessels of muscle fiber are no longer restricted and therefore improved local blood circulation naturally results, without potential detriment to the tissue.

Subjective Response

The effect is quite obvious to both patient and practitioner. Spasms visibly release during treatment; tight muscles become looser and knots smooth out. A warming and a very slight tingling post-treatment is experienced by the patient which indicates improved blood flow through the area. A sense of lightness, looseness, and ease of movement is frequently reported. Resulting increased range of motion when constriction is released is generally quite conspicuous.