



## Heart Disease

Results of this study found that the addition of magnetotherapy to the treatment of patients suffering from ischemic heart disease and osteochondrosis led to clinical improvements. **(1)**

The authors of this study report on their development of a polymagnetic system called Aurora-MK-01 used to administer impulse magnetic fields to diseases of the leg vessels. Results indicated positive effects on peripheral capillaries in 75-82 percent of patients receiving the treatment at a pre-gangrene stage. Results of this study involving 23 parasystolic children found that low-frequency magnetic field exposure improved humoral and cellular processes involved in the regulation of cardiac rhythm. **(2)**

Results of this study showed exposure to low-frequency alternating magnetic fields had beneficial effects in children with primary arterial hypertension, as seen in the attenuation of sympathetic and vagotonic symptoms. **(3)**

This study demonstrated that traveling pulsed magnetic field and magnetic laser treatment produced beneficial effects in patients suffering from the initial stages of essential hypertension. **(4)**

In this article, the authors propose a new approach to treating atherosclerosis through the alteration of biophysical properties both intracellularly and extracellularly. Citing their own preliminary data, they suggest atherosclerotic lesions might be selectively resolved without harming normal blood vessels allowing the lesions to take up the magnetically excitable submicron particles and then applying an external alternating electromagnetic field. **(5)**

This study examined the effects of constant MKM2-1 magnets on essential hypertension patients. Results indicated the treatment decreased arterial pressure in stage II patients, with magnetotherapy being shown to produce beneficial effects on the central hemodynamics and microcirculation. **(6)**

Results from several recent studies conducted the author are reviewed. Conclusions are that pulsed electromagnetic fields exhibit protective effects against necrosis from acute ischemia in rats, cerebral infarcts in rabbits, and myocardium infarcts in rats. **(7)**

This study examined the effects of extremely high frequency electromagnetic radiation (EHF EMR) in 93 patients suffering ischemic heart disease. EHF treatment consisted of 10 to 15 exposures of the lower end of the sternum from a 'Yav'-1-7,1 device. Treatment was performed five times weekly for a total of 30 minutes per day, with drug therapy being maintained during this period. Positive results tended to occur after 5 to 6 treatment sessions, with a good or satisfactory response being reported in 82 of 93 patients, and lasting as long as 11 months after hospital release. **(8)**

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## Heart Disease (Cont.)

This review article concerning the clinical application of electromagnetic fields notes that microwave therapy has been shown to improve local circulation and vascular tone, increase the volume of functional capillaries, lower hypertension, stimulate protein and carbohydrate metabolism, stimulate the pituitary-adrenal system, produce anti-inflammatory effects, and improve digestive organ function. Studies have shown decimeter wave therapy capable of stimulating the secretory function of the stomach, as well as blood circulation, respiratory function, and the immune system. Side effects have been reported in both human and animal studies. **(9)**

In this study, 30 myocardial infarction patients received millimeter-wave (MW) therapy in the form of 10 exposures of 30 minutes per day, with a 2-day interruption after the fifth exposure. Patients continued conventional drug treatment during the MW therapy period. Better results were seen in those patients exposed to the MW therapy relative to an equal number of patients receiving conventional treatment only. **(10)**

This study examined the effects of millimeter wave therapy in approximately 450 patients suffering from a variety of diseases, including those of the musculoskeletal, digestive, pulmonary, and nervous systems. Treatment consisted of 25-30 minutes per day using the "Porog-1" apparatus and generally lasted for a period of up to 10 days. Results showed positive effects in over 87 percent of the patients. **(11)**

Results of this study found that the use of magnetophore therapy (constant magnets applied to adrenal regions 10 hours per day for 15 days) significantly improved symptoms associated with hypertension in about 35 percent of patients studied, with mild improvement seen in 30 percent, and no improvement in 35 percent. Patients receiving decimeter-band waves (460 MHz, field intensity of 35- 45 W, for 10-15 minutes per day for a total of 15 days) experienced similar results. **(12)**

Results of this placebo-controlled study demonstrated a 76-percent effectiveness rate for running impulse magnetic field therapy in a group of arterial hypertensive patients. Treatment consisted of two 25-minute exposures per day over a period of 10-20 total exposures, at frequencies of 10 or 100 Hz and magnetic field intensity of 3 or 10 mT. **(13)**

This study examined the efficacy of the reinfusion of autologous blood following magnetic field exposure in hypertensive patients. Positive effects were found in 92 percent of patients receiving the treatment. **(14)**

This double-blind, placebo-controlled study examined the effects of magnetotherapy in patients suffering from first-or second-stage hypertension. A magnetic field of 50 Hz, 15-25 mT was applied to acupuncture points He-Gu and Shen'-Men for 15-20 seconds per day for a total of 9-10 days. Results: The treatment improved headaches in 88 percent of patients, dizziness in 89 percent, and irritability in 88 percent. In general, 95 percent of hypertensive patients experienced beneficial effects from the treatment, and the morbidity rate decreased twofold following one course extended over a period of 5-6 months. **(15)**

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## Heart Disease (Cont.)

This placebo-controlled study examined the effects of constant and of running magnetic fields in patients suffering from stage II hypertension. Results found that constant magnetic fields exhibited benefits in 68 percent of patients treated, and running magnetic fields were helpful in 78 percent. Only 30 percent of controls showed improvement. Constant magnetic field treatment consisted of constant magnets applied to the inner side of the wrist on each hand for 35–40 minutes daily over a period of 7–10 days. Running magnetic field treatment involved the use of a “Alimp-1” apparatus for 20 minutes per day for a total of 12–15 days. **(16)**

This double-blind, placebo-controlled study found that magnetotherapy was effective in the treatment of symptoms associated with stage II hypertension, such as headache, dizziness, and cardiodynia. The therapy consisted of permanent circular magnets (16 mT) applied to the inner forearm for 30–45 minutes per day over a period of 10 sessions. **(17)**

This controlled study examined the effects of magnetotherapy in patients suffering from neurocirculatory hypotension (low blood pressure) or hypertension (high blood pressure). Treatment consisted of a running pulsed magnetic field generated an “ALIMP” device (0.5 mT, 300 Hz) administered for 20 minutes per day over a course of 10 days. Patients suffering from hypotension did not benefit significantly from the magnetotherapy. Hypertension patients, however, showed a marked improvement with respect to symptoms including headache, chest pain, extremity numbness, abnormal systolic and diastolic blood pressure, and work capacity. **(18)**

This double-blind, placebo-controlled study found that low-frequency, low-intensity electrostatic fields (40–62 Hz) administered for 12–14 minutes per day helped normalize blood pressure in patients suffering from hypertension. **(19)**

This study examined the effects of low-frequency alternating magnetic fields in patients suffering from arteriosclerosis or osteoarthritis deformans. Treatment involved 10–15 minute daily leg exposures over a total of 15 days. Results showed the treatment to be effective in 80 percent of arteriosclerosis patients and 70 percent of those with osteoarthritis formans. **(20)**

This study examined the effects of low-frequency magnetic fields (25 mT) in patients suffering atherosclerotic encephalopathy. Treatment involved 10–15 minute daily exposures over a total of 10–15 applications. Results showed clinical improvements with respect to chest pain, vertigo, headache, and other symptoms. **(21)**

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