

CARDIOVASCULAR EFFECTS OF EMR

By

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Cardiovascular (Heart) disease, currently the leading cause of death in the western world with over seven hundred thousand deaths in the U.S. alone annually, has an associated risk due to EMFs.¹ In 1990, there were two million three hundred thousand (2.3 million) deaths due to cardiovascular diseases in India.² Hypertension, commonly known as high blood pressure, affects a broad segment of the population, more than forty-three million people in the United States in a 1991 survey³ and far more than that in India. This condition where the blood pressure is chronically raised, elevates the risk of heart attack or stroke more than any other disease. Hypertension can lead to heart failure, aneurysm or renal failure. Approximately eighty-one percent (81%) of the cardiovascular deaths in India (both stroke 57% and heart disease) are due to hypertension.⁴ The effects of EMFs on raising blood pressure, pulse rate and affecting other dynamics of cardiovascular function have been well documented but are very rarely considered to be a factor.^{5 6 7 8 9}

One of the first published papers detailing the relationship of electromagnetic radiation to health effects documents adverse blood pressure changes dates back to 1966., where the Russian researcher Asanova noticed¹⁰ Dr. Antonio Sastre of the Midwest Research Institute observed that EMFs caused changes in heart rhythms (endogenous electrical impulses) that have been linked to increased risks of heart disease.¹¹ His conclusions led him to forecast that utility workers who naturally face higher EMF

¹ Tikhanova G I. Heart disease of the personnel of the civil aircraft radio-tracking system in Russia. Radiatsionnaia biologiiia, radiocologiii/Rossiiskaia academia nauk. Research Institute of Occupational Health. Moscow. 2003; Sept-Oct. 433(5):p559-564.

² Gupta R. Trends in hypertension epidemiology in India. *J Human Hypertension.* 2004; 18:p.73-78.

³ Burt VL, Whelton P, Roccella EJ, Brown C, Cutler JA, Higgins M, Horan MJ, Labarthe D. Prevalence of hypertension in the US adult population. Results from the Third National Health and Nutrition Examination Survey, 1988-1991. *Hypertension.* 1995;25(3):p305-313.

⁴ Gupta R. Trends in hypertension epidemiology in India. *J Human Hypertension.* 2004; 18:p.73-78.

⁵ Braune S, Wrocklage C, Raczek J, Gailus T, Lucking C H. Resting blood pressure increased during exposure to a radio-frequency electromagnetic field. *Lancet.* 1998; 351:p1857-1858.

⁶ Braune S, Reidel A, Schulte-Monting J, Raczek, J. Influence of a radio-frequency magnetic field on cardiovascular and hormonal parameters of the autonomic nervous system in healthy individuals. *Radiat Res.* 2002; 158:p352-356.

⁷ Sait M L, Wood A W, Sadafi H A. A study of heart rate and heart rate variability in human subjects exposed to occupational levels of 50 Hz circular polarized magnetic fields. *Med Eng Phys.* 1999; 21(5):p361-369.

⁸ Huber R, Schuderer J, Grat T, Jutz K, Borbely A A, Kuster N, Achermann P. Radio frequency electromagnetic field in humans: Estimation of SAR distribution in the brain, effects on sleep and heart rate. *Bioelectromagnetics.* 2003; 24:p262-276.

⁹ Sastre A M, Cook R, Graham C. Nocturnal exposure to intermittent 60 Hz magnetic fields alters human cardiac rhythm. *Bioelectromagnetics.* 1998; 19:p98-106.

¹⁰ Asanova T P, Rakov A N. Health conditions of workers exposed to electric fields of open switchboard installations of 400-500 kv. *Gig Tr Prof Zabol.* 1966; 10(5):p50-52.

¹¹ Sastre A, Cook M R, Graham C. Nocturnal exposure to intermittent 60 Hz magnetic fields alter human cardiac rhythm. *Bioelectromagnetics.* 1998; 19:p.98-106.

exposure occupationally, would have a higher rate of two types of cardiovascular disease. To proceed to the next step in the logical progression of his conclusion about heart disease, Sastre teamed up with one of the leading electromagnetic radiation researchers, Dr. David Savitz. Their epidemiological study corroborated Dr. Sastre's prediction that workers with high EMF exposure could show increased cardiovascular risk from arrhythmia and myocardial infarctions (heart attacks).¹²

The effects of EMFs on raising blood pressure, pulse rate and affecting other dynamics of cardiovascular function have been well documented by many investigators.^{13 14 15 16 17} When considering the overall potential effects of EMR put forth by Environmental Studies Professor Dr. Neil Cherry, "Electromagnetic fields and radiation, damage DNA and enhance cell death rates and therefore they are a Ubiquitous Universal Genotoxic Carcinogen that enhances the rates of Cancer, Cardiac, Reproductive and Neurological disease and mortality in human populations. Therefore there is no safe threshold level. The only safe exposure level is zero, a position confirmed by dose-response trends in epidemiological studies,"¹⁸ one must consider the potential correlation to hypertension as well.

American engineer Dr. Karl Maret commented, "There appears to be some confirmation that EMFs can have a significant impact on metabolic systems including elevated blood glucose levels, elevations in lipid levels, increased neuro-regulatory disturbances, decreased testosterone levels in males and impacts on the CNS, cardiovascular, and immune systems."¹⁹ A prominent Russian researcher, Professor Valentina Nikitina, author of, "Occupational and Population Health Risks of Radio Frequency Electromagnetic Fields," states that EMFs can cause central nervous system, blood chemistry and cardiovascular system damage, with symptoms including angina, atherosclerosis, chest pain, digestive disorders, fatigue, headache, hypertension, insomnia, irritability, low blood pressure, sleep disturbances and many other cardiac and neurological pathologies.²⁰

¹² Savitz D A, Liao D, Sastre A, Kleckner R C. Magnetic field exposure and cardiovascular disease mortality among electric utility workers. *Am J Epidemiol.* 1999; 149:p135-142.

¹³ Braune S, Wrocklage C, Raczek J, Gailus T, Lucking C H. Resting blood pressure increased during exposure to a radio-frequency electromagnetic field. *Lancet.* 1998; 351:p1857-1858.

¹⁴ Braune S, Reidel A, Schulte-Monting J, Raczek, J. Influence of a radio-frequency magnetic field on cardiovascular and hormonal parameters of the autonomic nervous system in healthy individuals. *Radiat Res.* 2002; 158:p352-356.

¹⁵ Sait M L, Wood A W, Sadafi H A. A study of heart rate and heart rate variability in human subjects exposed to occupational levels of 50 Hz circular polarized magnetic fields. *Med Eng Phys.* 1999; 21(5):p361-369.

¹⁶ Huber R, Schuderer J, Grat T, Jutz K, Borbely A A, Kuster N, Achermann P. Radio frequency electromagnetic field in humans: Estimation of SAR distribution in the brain, effects on sleep and heart rate. *Bioelectromagnetics.* 2003; 24:p262-276.

¹⁷ Sastre A M, Cook R, Graham C. Nocturnal exposure to intermittent 60 Hz magnetic fields alters human cardiac rhythm. *Bioelectromagnetics.* 1998; 19:p98-106.

¹⁸ *ibid*

¹⁹ Maret K. Electromagnetic Fields and Human Health. National Foundation For Alternative Medicine. Washington, D.C. 2003; p17.

²⁰ Maret K. Electromagnetic Fields and Human Health. National Foundation For Alternative Medicine. Washington, D.C. 2003; p13.

In light of the potential relationship between cardiovascular disturbances, especially hypertension, and electromagnetic radiation, one must consider the possibility that if there was a therapeutic mechanism available to reduce the EMR effects on patients that there could may be a reduction in the pathological outcomes of heart disease and hypertension. Magnetic noise field technology has demonstrated the ability to interfere with the reception of damaging electromagnetic radiation at the cellular level offering a form of shielding and therefore no damage can ensue.^{21 22 23 24 25} This has been proven through controlled experiments where the biological effects of damaging electromagnetic radiation was nullified by the superimposition of magnetic noise fields onto the radiation wave.²⁶

Molecular resonance effect technology (MRET) in the form of a piezoelectric liquid crystal is currently the most applicable form of noise field technology.²⁷ External electromagnetic fields (EMRs) generate an excitatory response in the crystalline piezoelectric structures of the MRET polymer compound, and the MRET polymer generates biologically active subtle electromagnetic waves which are superimposed onto the initial electromagnetic radiation. This interacts with biological systems, shielding the receptors from detection and transmitting the information that supports and improves cellular functions in the body.²⁸ In other words the potentially damaging radiation becomes just another vibration that is meaningless and unable to harm the body.

Preliminary investigation into more than fifty hypertensive patients has revealed the ability of the MRET polymer to cause a reduction of 12.5 mm of Hg to both Systolic and Diastolic blood pressure readings. More investigative work is necessary. The following formal investigations will be carried out to corroborate these preliminary findings of the relationship of the MRET polymer and hypertension.

²¹ Li C, Jiang H, Fu Y. A study on dose-effect of suppression to gap junctional intercellular communication function by 50-Hz magnetic fields] *Zhonghua Yu Fang Yi Xue Za Zhi*. 1998;32(3): p.142-4. Chinese.

²² Zeng Q, Chiang H, Fu Y, Lu D, Xu Z. Electromagnetic noise blocks the gap-junctional intercellular communication suppression induced by 50 Hz magnetic field] *Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi*. 2002;20(4):p.243-5. Chinese

²³ Litovitz T A, Montrose C J, Doinov P, Brown K M, Barber M. Superimposing spatially coherent electromagnetic noise inhibits field-induced abnormalities in developing chick embryos. *Bioelectromagnetics*. 1994;15(2):p.105-13.

²⁴ Litovitz T A, Penafiel L M, Farrel J M, Krause D, Meister R, Mullins J M. Bioeffects induced by exposure to microwaves are mitigated by superposition of ELF noise. *Bioelectromagnetics*. 1997; 18(6):p.422-30.

²⁵ Litovitz T A, Krause D, Montrose C J, Mullins J M. Temporally incoherent magnetic fields mitigate the response of biological systems to temporally coherent magnetic fields. *Bioelectromagnetics*. 1994; 15(5):p.399-409.

²⁶ Zeng Q, Ke Z, Gao X, Fu, Y, Lu D, Chiang H, Xu, Z. Noise Magnetic Fields Abolish the Gap Junction Intercellular Suppression Induced by 50 Hz Magnetic Fields. *Bioelectromagnetics*. 2006;27(4):p.274-9.

²⁷ Smirnov I V. (2005) Comparative Study of the Effect of Microwave Radiation Neutralizers on Physiological State of Human Subjects. *Explore Magazine*. 2005;(14)5: p.29-44.

²⁸ Smirnov I V. Polymer Material Providing Compatibility between Technologically Originated EMR and Biological Systems. *Explore Magazine*. 2006;15(4):p.26-32.

EACH INVESTIGATION MUST INVOLVE A MINIMUM OF 20 SUBJECTS

INVESTIGATION I

- 1) BLOOD PRESSURE TAKEN.
- 2) SUBJECT IS ASKED TO WEAR A MRET AMULET AROUND NECK FOR 15 MINUTES.
- 3) BLOOD PRESSURE IS TAKEN

INVESTIGATION II

- 1) BLOOD PRESSURE TAKEN.
- 2) SUBJECT IS ASKED TO HOLD A CELL PHONE WITH A MRET CHIP FOR 15 MINUTES.
- 3) BLOOD PRESSURE IS TAKEN
- 4) OBSERVATIONS ARE RECORDED

INVESTIGATION III

THE EFFECT OF CELL PHONES AND THE MRET POLYMER ON BLOOD PRESSURE

- 1) SUBJECT'S CONTROL BLOOD PRESSURE TAKEN.
- 2) SUBJECT RECEIVES EITHER MUSIC OR VOICE FROM A CELL PHONE IN STANDARD OPERATING POSITION FOR 15 MINUTES.
- 3) BLOOD PRESSURE IS TAKEN
- 4) SUBJECT WAITS FOR 30 MINUTES.
- 5) BLOOD PRESSURE IS TAKEN TO DEMONSTRATE A RETURN TO INITIAL CONTROL VALUES
- 6) SUBJECT RECEIVES EITHER MUSIC OR VOICE FROM A PROTECTED CELL PHONE (MRET CHIP) IN STANDARD OPERATING POSITION FOR 15 MINUTES.
- 7) BLOOD PRESSURE IS TAKEN

8) ALL OBSERVATIONS ARE RECORDED

INVESTIGATION IV
THE EFFECT OF CELL PHONES AND THE MRET POLYMER ON BLOOD
PRESSURE: DOUBLE BLIND STUDY

- 1) SUBJECT'S CONTROL BLOOD PRESSURE TAKEN.
- 2) SUBJECT RECEIVES EITHER MUSIC OR VOICE FROM A CELL PHONE IN STANDARD OPERATING POSITION FOR 15 MINUTES. THERE IS A NUMBERED PACKET APPLIED TO THE CELL PHONE. THE CONTENTS OF THE PACKET ARE ONLY KNOWN TO THE EXPERIMENTAL SUPERVISOR. THE SUBJECT AND EXAMINER ARE UNAWARE OF THE PACKET'S CONTENTS.
- 3) BLOOD PRESSURE IS TAKEN
- 4) OBSERVATIONS ARE RECORDED