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Fact sheet
Electrosmog

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BIONIC INSTRUMENTS

FACTS

Electrosmog and its potential health consequences

Electrosmog refers to artificially generated electric, magnetic and electromagnetic fields (EMF) produced by technical devices such as power lines, mobile phones, Wi-Fi routers or household appliances. These fields are part of what is known as non-ionizing radiation—unlike X-rays or gamma rays, their energy is too low to ionize atoms or molecules. Nevertheless, scientific studies indicate that electrosmog can have biological effects on the human body [1].

EMF are divided into two main groups depending on their frequency: low-frequency fields (e.g., 50 Hz from power lines) and high-frequency fields (e.g., 900 MHz from mobile communications). Both can influence the body's own processes through certain resonance effects. Naturally occurring fields—such as the Earth's magnetic field—are part of human biological evolution. However, artificially generated fields may interfere with or disrupt these natural regulatory processes [2][3].

Numerous studies point to possible health consequences of EMF exposure. The link between low-frequency fields and an increased risk of childhood leukemia remains particularly controversial. The European Commission and the Federal Office for Radiation Protection consider it a possible, though not sufficiently proven, association [4][5].

High-frequency fields, such as those emitted by mobile phones or Wi-Fi devices, were classified as possibly carcinogenic by the WHO (IARC) in 2011, primarily because of potential links to brain tumors [6]. Animal studies have provided growing evidence of primary brain tumors and tumors of peripheral nerves following long-term high-frequency exposure [7].

In addition to potential cancer risks, laboratory studies have reported non-thermal effects—i.e., effects not caused by heating. These include oxidative stress, DNA damage, hormonal changes and reproductive impairments. Effects on the central nervous system, such as sleep disturbances, headaches or concentration problems, are also being discussed, especially among individuals who describe themselves as electro-sensitive [8][9].

International bodies such as the European Environment Agency and the WHO emphasize that many findings cannot yet be conclusively evaluated. Even when EMF exposure complies with current limits and no clear danger has been established, many experts recommend a precautionary approach—especially for children, pregnant women and sensitive individuals [4][10].

Conclusion:

memon technology has a measurable balancing effect on magnetic fields and creates a biologically supportive environment in artificially generated electric, magnetic and electromagnetic fields (EMF).

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