

Electromagnetic hypersensitivity

*What are the complaints? * Research * Offer help*

Introduction

Some people experience health problems when using mobile phones or near high-voltage lines and electrical devices at field values that do not cause any hindrance for most people. This relates in this case in “**electrical or electromagnetic hypersensitivity**” (EHS).

Although the name suggests a connection between the complaints and the exposure to electromagnetic fields, this connection is not confirmed by scientific research. That is why electromagnetic hypersensitivity is considered as a case of "idiopathic environmental intolerance". "Idiopathic" refers to symptoms that remain unexplained, the cause of which is unknown. There is a hypothesis that the cause of electromagnetic hypersensitivity (at least partially) can be found in a strong negative affectation (strong influenceability due to a negative expectation). Yet, additional research is necessary before further conclusions can be drawn.

This section contains more information about complaints, the state of affairs of the scientific research and advice about what can be done in this situation.

What are the complaints?

Electromagnetic hypersensitivity, EHS (sometimes called electrical hypersensitivity) is a complex phenomenon, which raises questions in doctors and scientists alike. Synonyms are electrohypersensitivity or electromagnetic hypersensitivity.

It is a set of symptoms that people spontaneously attribute to exposure to electromagnetic fields:

- Skin problems: redness in the face during work in front of a monitor, tingling and a burning feeling in the vicinity of electric appliances;
- a wide range of other symptoms: fatigue, exhaustion, concentration problems, dizziness, nausea, heart palpitations and indigestion.

These symptoms are non-specific: they may appear in connection with many conditions.

People that suffer from electromagnetic hypersensitivity try to avoid particular sources of electromagnetic fields. In certain cases, people with electromagnetic hypersensitivity are so affected that they isolate themselves, change their lifestyles and even discontinue their professional activities.

The symptoms appear during an exposure well under the international limits and that causes no reaction in most people.

EHS is not a diagnosis

So far, no typical pattern has been found in these symptoms. There is also no clinical test (such as a test on certain cells in the blood) that could mark this hypersensitivity. The only thing that differentiates the symptoms is the fact that the affected people suspect a connection with the presence of sources of the electric or electromagnetic field.

In some cases there is an underlying, often chronic condition found that is responsible for the symptoms. In other cases, the symptoms can be explained by a poorly adjusted or uncomfortable work or living environment, such as poor lighting, ventilation, psychosocial factors or professional stress. But a cause is not found for all complaints. Further research is needed.

Due to the fact that no methods have been found to objectify the symptoms and describe these as separate pathology, "electrohypersensitivity" is not included in the internationally recognised list of diseases ([International Classification of Diseases and Related Health Problems](#)) of the World Health Organisation.

Research

So far, almost 40 good-quality provocation studies have been performed with people reporting electromagnetic sensitivity. In order to be able to rule out the possibility that the electromagnetic field is actually the cause, the experiments are performed blind or double-blind.

Double-blind research is used in biomedical sciences to rule out the so-called placebo effect: the influence of the belief or the conviction of the participant or researcher is limited in this way. The volunteer in a blind provocation experiment does not know which of the two situations he is in. The researchers in a double-blind provocation experiment who conduct the test are also not aware of the nature of the session.

In only a few of these studies has a connection been observed between the symptoms and exposure to an electromagnetic field. However, these results were neither statistically strong nor reproducible. The majority of these studies have found no association.

This suggests that exposure to electromagnetic fields plays no role – or a very small role – in the existence of EHS. The World Health Organisation has concluded on the basis of these findings that there is no scientific basis to associate symptoms of EHS to exposure to electromagnetic fields. (see the WHO fact sheet no. 296).

A more general term for such forms of scientifically unproven sensitivity to environmental factors is Idiopathic Environmental Intolerance, IEI. EHS is considered a form of idiopathic environmental intolerance. In this regard, electromagnetic hypersensitivity resembles Multiple Chemical Sensitivity (MCS), in which the symptoms are subjectively attributed to exposure to low doses of chemical substances.

But the research continues. Researchers are also studying electromagnetic hypersensitivity in our country. The BBEMG (Belgian BioElectroMagnetic Group) is performing a study to better understand the problem, and to evaluate the effects of 50 Hz magnetic fields on people.

Offer help

Even if no causal connection to electromagnetic fields is found, the symptoms themselves are very real and we need to pay attention to that.

- To begin with, the presence of underlying disorders or unhealthy living or working conditions should be examined. When tracking problems at home that could imply a risk for the health of the residents, the physician can call for the help of the Medical Environmental Experts ([MMK](#)) in Flanders, the Service Analysis of Indoor Environments ([SAMI](#)) in Wallonia and the [Green Ambulance](#) in the Brussels Capital Region.

Not only the doctor, but also the municipal environmental service, the housing commission, a nurse or social worker can act as an intermediary. For the identification of health risks on the work floor, every employer must create an internal service for prevention and protection at work (or hire in a recognised external service).

- After the medical, psychosocial and environmental conditions have been investigated, it is necessary to treat an electromagnetically sensitive person in a personal, multidisciplinary and global manner.
- There are various therapeutic techniques suggested, of which cognitive behavioural therapy (CBT) has proved to be the most efficient. In cognitive behavioural therapy, patients are encouraged to question their assumptions and to look for other causes and interpretations of their symptoms. They look for ways to deal with their symptoms and if necessary, learn techniques to deal with psychosocial stress. The best results are achieved when the treatment is started in a timely fashion.

Reducing the exposure is often seen by the affected people as a solution. This, however, brings the person reporting electromagnetic sensitivity into a vicious circle, in which the existence of symptoms, the attribution of them to one source of electromagnetic fields or another and avoidance follow and support one another. Sometimes a significant amount of money is spent on measures to change the living environment.

The isolation of a person with electromagnetic hypersensitivity can be aggravated by lack of understanding in the professional and familial environments and lack of recognition by the medical world. Although there is currently no clearly outlined therapeutic treatment, it is certain that a good relationship between doctor and patient and the emotional support of people in their environment are important.

Want to know more?

www.bbemg.ulg.ac.be (Belgian BioElectroMagnetic Group)
www.who.int (fact sheet n° 296 of the World Health Organisation)