

A
wake up
call

& Mobile communications & electromagnetic pollution

excerpted from

A Guide *to* Child Health



From "A Guide to Child Health : A Holistic Approach to Raising Healthy Children"
Dr Michaela Glockler and Dr Wolfgang Goebel (2011)

1 INTRODUCTION

The effects of electricity and magnetism on health did not become a popular topic until people began debating the dangerousness or harmlessness of mobile telephony, with its base stations and threshold values (SAR refers to the specific absorption rate by cells, bodily tissue and organs). Why is every aspect of this essential ? Because, although electromagnetic radiation usually affects living systems, such as the human organism, without being noticed and it occurs outside the realm of conscious sense observation, nevertheless its influence is profound. This is due to the nature

of life itself. Our experience of life processes is almost entirely unconscious. We may notice our heartbeat when we exert ourselves physically or are agitated. And we may become aware of our breathing. When our health is affected it is most likely to be the rhythmic processes that we notice, and these rhythmic life processes are indeed affected by electromagnetic waves, particularly by low frequency pulsed radiation.

“electromagnetic radiation usually affects living systems, such as the human organism, without being noticed...”



How does this happen ?

All cell activity generates small amounts of electricity, electrochemical potentials. It is the rhythmic character that differentiates the body's inherent electricity (which is weak or low frequency) from technologically generated low and high frequency radiation. Life is capable of adapting and developing by virtue of the rhythms which support it. A cellular phone transmission, in contrast, is based on a technically induced perfect oscillation that results in a uniform pulse. That is, the radiated frequency repeats itself precisely and is not flexible in the way that differentiated rhythms are. Just as no two heartbeats or breaths are entirely identical, the same can be said of the body's electrochemical cell potentials and their integrals, which we know as the electrical activity of the brain (EEG), heart (ECG) and muscles (EMG).



In contrast, the transmitters and receivers of artificially generated waves are precisely designed to process the very frequencies that are transmitted and received. Otherwise the communication would be disrupted or impossible. We distinguish between the following oscillations per minute :

2 FREQUENCY

Electromagnetic Waves	Frequency	Device
Low frequency (LF)	30 to 300 kilohertz (kHz)	Radio
Medium frequency (MF)	300 to 3000 kHz	Radio
High frequency (HF)	3 to 30 megahertz (MHz)	Radio
Very high frequency (VHF)	30 to 300 MHz	Radio and television
Ultra high frequency (UHF)	0.3 to 3 gigahertz (GHz)	Television and mobile communications
Super high frequency (SHF)	3 to 30 GHz	Radar

UHF and SHF are in the microwave range. The definition of the unit of frequency is : 1 hertz (Hz) = 1 cycle/sec. ; 1 kilohertz (kHz) = 1000 hertz/sec. ; 1 megahertz (MHz) = 1 million cycles/sec. ; 1 gigahertz (GHz) = 1000 megahertz/sec. ; 1 terahertz (THz) = 1000 gigahertz/sec.

Frequency When investigating the effects of high frequency radiation a distinction is made between thermal effects (microwave heating) and non-thermal effects. With low frequency radiation the distinction is between irritation that is observed and subconscious effects.

Thermal effects endanger our health when tissue temperatures rise by 1-2 °C, according to Switzerland's Federal Office for the Environment. The result can be memory decline and an adverse effect on various bodily functions, including the reproductive capacity.

It is more difficult to ascertain the health effects below this thermal threshold. They range from nervousness, disquiet, general weakness and fatigue to muscular-skeletal pains and sleep disturbances. The irritation generates electrical currents in the human organism that can trigger faulty impulses in the nerve cells, causing unwanted contractions in the muscles, which is can be especially dangerous for the heart muscle.

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ny has found subconscious biological effects. At the end of a study in May 2000 it issued a warning that radiation from mobile communications can be conducive to cancer. This finding was confirmed by the International Agency for Research on Cancer (IARC), which classified low frequency magnetic fields as possible carcinogens in 2001. The latest studies at least agree that the risk of leukemia in children may be doubled by long-term exposure to an averaged magnetic field of 0.4 microteslas. (Switzerland's Federal Office for the Environment, www.bafu.ch).

It is interesting to note that the experiences of people who are sensitive to electromagnetic fields, as well as many studies, show that the resulting health disturbances afflict the very functions and functional systems that enable human beings to adapt to their environment :

3 RISKS

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Sense activity and thinking capacity

The complaints range from temporary ear noise and ongoing tinnitus to attention disorders, a weakened ability to concentrate, memory problems, fatigue, headaches, nervousness and sleeping difficulties. In 1999 it was determined that EEGs can change under the influence of mobile phone radiation. Researchers suspect that this may also disturb the intercellular communications system in the brain. In particular, it was discovered in Sweden in 1999 that the permeability of the blood-brain barrier is raised by radiation from mobile telephony, so that the brain is less protected from harmful metabolic products, drugs, poisons, etc. (110) Disruption of the blood-brain barrier is also conducive to diseases such as Alzheimer's and Parkinson's.

Breathing

Hemograms taken from an earlobe after only three minutes of radiation from a cellular phone show an agglutination of the blood cells, which substantially curtails their ability to transport oxygen and also increases the danger of thrombosis and infarction. (111) This anomaly reverses again after a certain time.

The Immune System

It is undisputed that mobile electromagnetic radiation causes cancer in animals, according to studies. The same is suspected in children, and less often also in adults, based on the results available so far. Impressive results have also been obtained regarding a clear increase in the rate of miscarriages and monstrosities in a herd of dairy cows that was housed in the direct vicinity of a mobile phone mast. It was also seen that the animals lost weight, rubbed their inflamed eyes on fences and other objects, and suffered from hectic behavior, unusual apathy and a loss of orientation. These symptoms disappeared within a few days after they were placed 25 km away. (112)

Capacity for movement

Some people complain of a lack of joy of movement due to fatigue and reduced vitality.

4 CONVERSATION

Edwin Hübner concluded his very instructive information booklet on the risks of mobile communications (110) with the following anecdote from a trade school,

which the school had posted on its website. It recounted a conversation between a mathematics teacher and a pupil on the topic of cellular phones :

Instructor: "...and since I do not want to stand all day in this radiation you must turn off your mobile phones! They are not permitted at this school anyway."

Pupil: "Why ? What harm can the radiation do to you ?! I have my cell phone with me day and night."

Instructor: "Night ?! Where do you keep it at night ?"

Pupil: "On my bedside table."

Instructor: "And you keep it switched on all the time ?"

Pupil: "No, now I always turn it off at night."

Instructor: "Why is that ?"

Pupil: "Because I didn't sleep as well with it on."



Hearty laughter ended this exchange.

Why is it that health questions were not discussed when radio and television were introduced worldwide ? Why did this not happen until the onset of blanket coverage with mobile communications technology ?

Because the step from analog transmissions (radio and television) to digital (as required for mobile phones) brought with it the application and effects of a new principle of electromagnetic activity – low frequency pulsed radiation.

Mobile telephony and the Integrated Services Digital Network (ISDN) require digital transmission techniques that permit the continuous flow of language to be collected and transformed into a binary system at a rate of 800 bytes/sec. The dense mobile telephone traffic of today makes it necessary to consolidate the binary signals into data packets, so that several users at a time can communicate via the same frequency, without overlapping each other, as would happen with analog technology. This means that if there

are eight people talking each cell phone sends a very brief high frequency signal to a base station 217 times per second. Each participant's cell phone sends its signals (pulses) during the intervals when the others are not. Each cell phone thus transmits a 217 Hz low frequency-pulsed high frequency signal during the conversation. Studies done so far indicate that it is likely this low frequency pulsing of the high frequency electromagnetic waves, among other things, that has a particularly harmful effect on the human organism, because the body's life rhythms are also low frequency and they are interfered with by the pulsed non-rhythmic and exact cycles of the telephone signals.

Edwin Hübner's formulation

Edwin Hübner's formulation of this state of affairs makes sense : "As the regular cycles of the low frequency pulsed electromagnetic waves penetrate the rhythmic processes of the body, they affect the ability of the rhythmic system – which mediates between the nerve/sense and metabolic/limb systems – to adapt and vary its activity. The dead pulse imprints itself on the living rhythm and robs it of its flexibility. But a person whose rhythmic system is cramped and hindered in the long term begins to show the classic signs of rigidity and decreased performance, making him more susceptible to illness." However, each person has their individual weak spots where the propensity to illness can



manifest, so it is difficult to obtain scientific proof without taking such holistic considerations into account. As a result, the broad front of experts who want to play down the problems can always claim that the research has not yet yielded sufficiently decisive evidence.

What
can we
do ?



“It would be unthinkable to remove electricity from our daily lives today, yet the use of electricity necessarily generates electric and magnetic fields, which are practically omnipresent today. On the one hand such fields work upon us from outside, for example when they are generated by high voltage power lines, overhead railway lines, or radio, television and mobile telephone transmissions. On the other hand we also generate them in our own homes and workplaces. Unnecessary exposure comes from electrical installations that are unsuitably arranged, household appliances that are kept on standby, and seemingly harmless radio alarm clocks and cordless telephones. The total electromagnetic exposure is a combination of these two sources from inside and outside our buildings. It is interesting that

home-generated fields are usually the source of greater exposure than the electromagnetic fields that we cannot influence. Thus the basic rule in the case of self-imposed fields is to avoid what is avoidable.” (113)

Since it will be a long time before the life-hostile nature of this invisible “sub-natural” element becomes generally recognized (even the dangers of radioactive pollution are still played down due to massive economic and political interests) we would like to trust in the healthy common sense of our readers. Every hour in which a child is permitted to be creative and also protected as much as possible from the effects of electromagnetic radiation benefits his development of body, soul and spirit. Thus we recommend the following :

- Install power outlets that can be turned off (disconnect the safety fuse at night if necessary)
- Turn off the standby mode of devices
- Limit the consumption of television and wireless communication to the minimum necessary and if possible keep it away from children under 12 years of age
- Check the radiation of baby phones, do not use DECT devices
- Do not use a cordless telephone with the baby in your arms or nearby
- Give preference to landline connections for telephones and computers
- Keep electronic devices out of the bedroom
- Keep the mobile phone shut off if it is used as an alarm clock, and keep it at least one meter away from the person’s head
- Allow children under 16 years of age to use mobile phones only for emergencies
- Make sure that electrosmog is also kept to a minimum in the kindergarten or school. Avoid access points and WLAN.
- Political commitment (114)

2 RECOMMENDATIONS & FOOTNOTES

You can find further recommendations in the following books and websites :

Hübner, Edwin : Mobilfunk – die riskante Kommunikation, Bad Liebenzell 2001
Grasberger, Thomas/Kotteder, Franz: Mobilfunk – Ein Freilandversuch am Menschen, München 2003
Newerla, Barbara/Newerla, Peter : Strahlung und Elektrosmog, Saarbrücken
Neugeborene unter dem Einfluss von TV und Handy, published by Vereine Spielraum-Lebensraum, Spitalstr. 33, 9472 Grabs, Switzerland
Rittelmeyer, Christian : Kindheit in Bedrängnis, Stuttgart 2007.

- Footnotes
- 110 Hübner, Edwin : Mobilfunk – die riskante Kommunikation, Bad Liebenzell 2001
 - 111 ibid.
 - 112 Praktischer Tierarzt 79, p. 437-444, 1998.
 - 113 www.sgsw.ch: Broschüre der Fachstelle Umwelt und Energie der Stadt St. Gallen, 2005.

114 “As long as people do not have a genuine say in the question of mobile communications, the deployment of this technology is accompanied by massive de-democratization. Communities, as essential participants in the federation, have also had no real possibility of making decisions in this matter. Our communities are often hopelessly overwhelmed by the problem of mobile telephony, because they have too little authority, too little information about the technology and the installations, and often lack a person knowledgeable enough to deal with this topic. Many communities therefore feel that the federal government and the states have left them in the lurch. One has the impression that the government has systematically curtailed itself right down to the communal level. Entangled in economic interests, the government does not give its officials or citizens a chance to participate in the question of mobile telecommunications. Government has given away most of its decision-making ability in this matter to industry. [...] Whereas official directives exist and normally have to be followed for every garden post, in this case the operators are left to keep their commitments however they see fit. Sometimes they do keep their commitments, but often they do not. [...] We urgently need a reversal of the burden of proof. The decisive question is : Who must prove what to whom in this case ? Should the injured party continue to have to justify himself to the initiator of the problem ? Or shouldn't it actually be the obligation of those who introduce such technologies ?

115 Further information is available on the internet : www.fgf.de (Forschungsgemeinschaft Funk e.V., an association supported by telecommunications operators. This is also where you will find the studies that conclude that the technology is not harmful). www.buergerwelle.de (Dachverband der Bürger und Initiativen zum Schutz vor Elektrosmog. Here you will find the studies that show that mobile communications radiation affects people and can be harmful).

Learn more about "A Guide to Child Health"

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