Guideline of the Austrian Medical Association (ÖÄK) for the diagnosis and treatment of EMF-related health problems and illnesses (EMF syndrome)

Consensus paper of the Austrian Medical Association's EMF Working Group (ÖÄK AG-EMF)

Adopted at the meeting of environmental medicine officers of the Regional Medical Association´s and the Austrian Medical Association on 3rd March 2012 in Vienna.

Introduction

There has been a sharp rise in unspecific, often stress-associated health problems that increasingly present physicians with the challenge of complex differential diagnosis. A cause that has been accorded little attention so far is increasing electrosmog exposure at home, at work and during leisure activities, occurring in addition to chronic stress in personal and working life. It correlates with an overall situation of chronic stress that can lead to burnout.

How can physicians respond to this development?

The Austrian Medical Association has developed a guideline for differential diagnosis and potential treatment of unspecific stress-related health problems associated with electrosmog. Its core element is a patient questionnaire consisting of a general assessment of stress symptoms and a specific assessment of electrosmog exposure.

The guideline is intended as an aid in diagnosing and treating EMF-related health problems.

Background

Many people are increasingly exposed, to various degrees, to a combination of low and high frequency electric fields (EF), magnetic fields (MF) and electromagnetic fields (EMF) of different signal patterns, intensities and technical applications for varying periods of time, colloquially referred to as electrosmog.

Physicians are often confronted with unspecific complaints without clearly identifiable causes (Huss and Röösli 2006). It has been suspected that environmental conditions such as increasing exposure of the population to radio waves, emanating e.g. from cordless phones, mobile phone base stations, cell phones, GPRS, UMTS, data cards for laptop and notebook computers and wireless LAN (WLAN), but also exposure to electric and magnetic fields emanating from power lines, devices and equipment, may play a causal role (Blake Levitt and Lai 2010). For the medical profession, this raises new challenges in diagnosis and treatment. A central issue for

the causal attribution of symptoms is the assessment of variation in health problems depending on time and location, which is particularly relevant for environmental causes such as EMF exposure.

Austria is currently rolling out the fourth generation of mobile telephony (LTE), as well as smart metering (for electricity, gas and water consumption), resulting in additional EMF exposure of the population.

New radio technologies and applications have been introduced without certainty about their health effects, raising new challenges for medicine. For instance, the issues of so-called non-thermal effects and potential long-term effects of low-dose exposure were hardly investigated at all prior to introduction. Some patients suspect a link between EMF exposure and their health problems. Moreover, physicians are increasingly confronted with health problems with unidentified causes. Pursuing an evidence-based treatment strategy in this context is a challenge for differential diagnosis.

In Austria, there are no democratically legitimized limits to protect the general population from EMF exposure. The recommendations of the WHO, compiled by the International Commission on Non-Ionizing Radiation Protection (ICNIRP 1998), are based on a thermal model. These recommendations were adopted by the EU in its Council Recommendation of 1999 (EU-Ratsempfehlung 1999) and by Austria in its pre-standard ÖVE/ÖNORM E 8850:2006 02 01 (ÖNORM 2006) without taking into account long-term non-thermal effects.

In August 2007, the BioInitiative, an international group of experts, published a comprehensive report calling for preventive measures against EMF exposure based on the scientific evidence available (BioInitiative 2007). Consequently, the European Environment Agency compared electrosmog to other environmental hazards such as asbestos or benzene (EEA 2007).

In April 2009, a resolution of the European Parliament called for a review of the EMF limits in the EU Council Recommendation of 1999, which was based on the guidelines of the ICNIRP, with reference to the BioInitiative Report (EU Parliament 2009).

In May 2011, the Parliamentary Assembly of the Council of Europe adopted the report "The potential dangers of electromagnetic fields and their effect on the environment" (PACE 2011). The report calls for a number of measures to protect humans and the environment, especially from high-frequency electromagnetic fields. One of the recommendations is to "take all reasonable measures to reduce exposure to electromagnetic fields, especially to radio frequencies from mobile phones, and particularly the exposure to children and young people who seem to be most at risk from head tumours".

Also in May 2011, a group of experts at the International Agency for Research on Cancer, an agency of the WHO, classified radiofrequency electromagnetic fields as possibly carcinogenic (Group 2B) for humans (IARC 2011).

A representative telephone survey (n=2048, age >14 years) carried out in 2004 in Switzerland yielded a frequency of 5% (95% CI 4-6%) for a self-attributed "diagnosis" of electrosensitivity (Schreier et al. 2006).

In another survey carried out in Switzerland, in 2001, 394 respondents attributed specific health problems to EMF exposure. Among others, the following symptoms were reported as occurring frequently: sleep problems (58%), headaches (41%), nervousness (19%), fatigue (18%) and difficulty concentrating (16%). The respondents listed mobile phone base stations (74%), cell phones (36%), cordless phones (29%) and high-voltage lines (27%) as causes. Two thirds of respondents had taken measures to reduce their symptoms, the most frequent measure being to avoid exposure. Remarkably, only 13% had consulted their physicians (Röösli et al. 2004).

While a 2006 study by Regel et al. described no exposure effects, two provocation studies on exposure of "electrosensitive" individuals and control subjects to mobile phone base station signals (GSM, UMTS or both) found a significant decline in well-being after UMTS exposure in the individuals reporting sensitivity (Zwamborn et al. 2003, Eltiti et al. 2007). Analysis of the data available on exposure of people living near mobile phone base stations has yielded clear indications of adverse health effects (Santini et al. 2002, Navarro et al. 2003, Hutter et al. 2006, Abdel-Rassoul et al. 2007, Blettner et al. 2008).

Based on the scientific literature on interactions of EMF with biological systems, several mechanisms of interaction are possible. A plausible mechanism at the intracellular and intercellular level, for instance, is interaction via the formation of free radicals or oxidative and nitrosative stress (Friedmann et al. 2007, Simkó 2007, Pall 2007, Bedard and Krause 2007, Pacher et al. 2007, Desai et al. 2009). It centres on the increased formation of peroxynitrite ($ONOO^-$) from a reaction of nitrogen monoxide (NO) with superoxide ($O2^-$). Due to its relatively long half-life, peroxynitrite damages a large number of essential metabolic processes and cell components.

This approach can serve as a plausible explanation of many of the health problems, symptoms and their progression observed in the context of EMF exposure. There are increasing indications that EMF syndrome (EMFS) should be counted among multi-system disorders (Pall 2007) such as Chronic Fatigue Syndrome (CFS), Multiple Chemical Sensitivity (MCS), fibromyalgia (FM) and Post Traumatic Stress Disorder (PTSD).

In Sweden, EMF syndrome is designated as electrohypersensitivity (EHS), considered a physical impairment and recognized as a disability. With reference to UN Resolution 48/96, Annex, of 20 December 1993 (UN 1993), local governments grant support to individuals with EHS. Employees with EHS have a right to support from their employers so as to enable them to work despite this impairment. Some hospitals in Sweden provide rooms with low EMF exposure.

The Austrian Medical Association considers it its duty and its mission to provide members of the medical profession with a compilation of the current state of the scientific and political debate from a medical perspective and with specific recommendations for action in this first guideline. The guideline can only be improved by suggestions, criticism and amendments. Due to the rapid development of various technologies, the recommendations need to be adapted on an ongoing basis. We therefore invite all medical professionals to send contributions to the next edition of the guideline to the following email address: post@aerztekammer.at

What to keep in mind when dealing with patients and EMF

In the case of unspecific health problems (see patient questionnaire) for which no clearly identifiable cause can be found, EMF exposure should in principle be taken into consideration as a potential cause, especially if the patient suspects that it may be the cause.

How to proceed if EMF-related health problems are suspected

The recommended approach to diagnosis and treatment is intended as an aid and should, of course, be modified as each individual case requires.

1. History of health problems and EMF exposure
2. Examination and findings
3. Measurement of EMF exposure
4. Prevention or reduction of EMF exposure
5. Diagnosis
6. Treatment

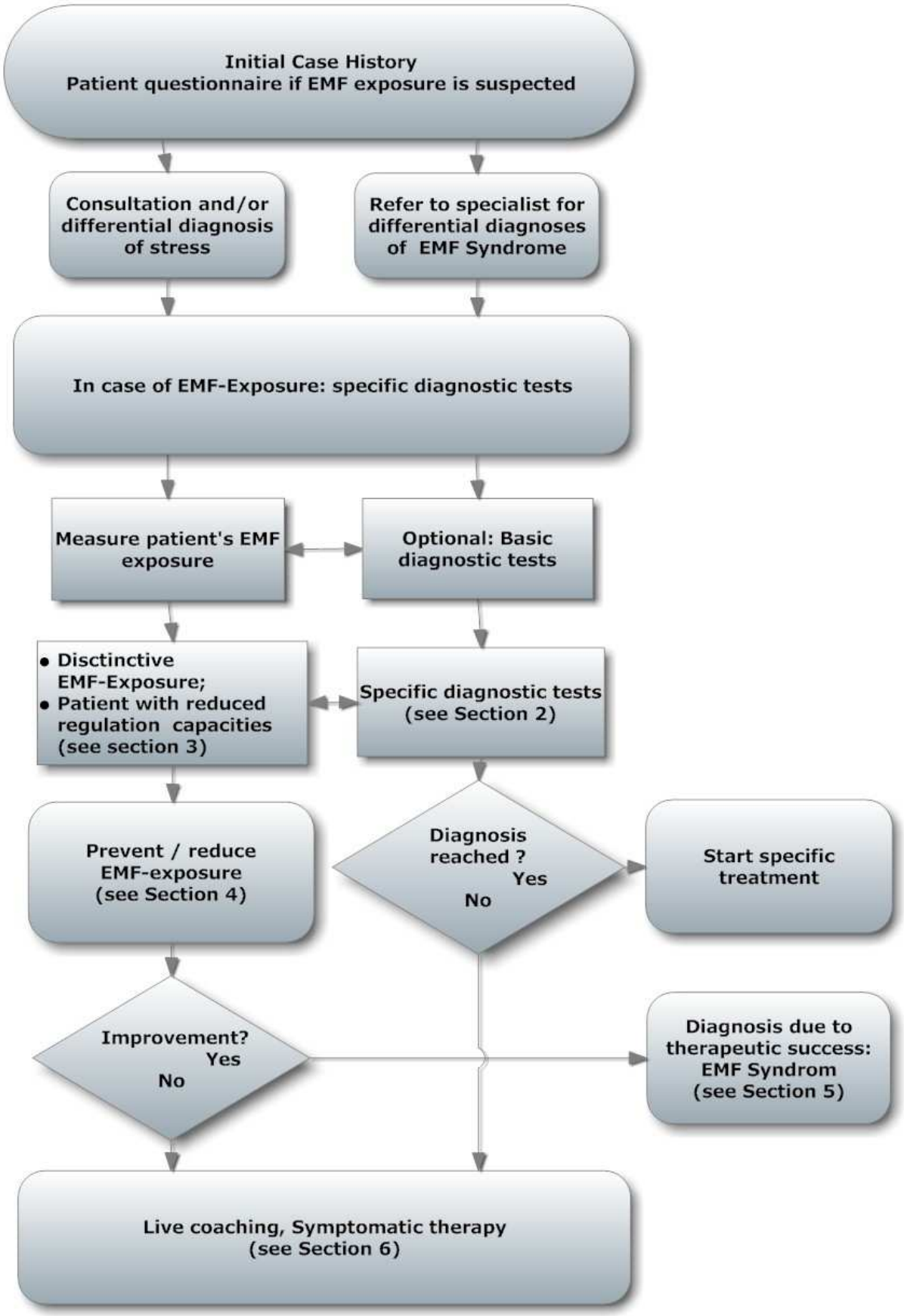


Fig. 1: Flow chart for diagnosing EMF-related health problems

1. History of health problems and EMF exposure

A **patient questionnaire** to facilitate a systematic history of health problems and EMF exposure, compiled by the Austrian Medical Association's EMF Working Group, is available for download at: www.aerztekammer.at/referate Umweltmedizin.

The patient questionnaire consists of three sections:

a) List of symptoms
b) Variation of health problems depending on time and location
c) Assessment of EMF exposure

a) List of symptoms

The list of symptoms in the patient questionnaire serves to systematically quantify stress-related health problems regardless of their causes. It also includes questions on when the health problems first occurred. Most EMF-related symptoms fall within the scope of so-called stress-related health problems, e.g. sleep problems, fatigue, exhaustion, lack of energy, restlessness, heart palpitations, blood pressure problems, muscle and joint pain, headaches, depression, difficulty concentrating, forgetfulness, anxiety, urinary urgency, anomia, dizziness, tinnitus and sensations of pressure in the head and the ears.

The health problems may range in severity from benign, temporary symptoms, such as slight headaches or paraesthesia in the head when using a cell phone, to severe, debilitating symptoms that drastically impair physical and mental health.

b) Variation of health problems depending on time and location

The answers to questions on when and where the health problems occur or recede, and when and where the symptoms increase or are particularly evident, provide indications as to whether the health problems may be related to specific times and locations. They must be interpreted in the context of the patient's living conditions and circumstances.

c) Assessment of EMF exposure

Regardless of whether or not the patient suspects EMF exposure as a cause, these questions should be used to assess the kind of exposure that exists. It is important to note that only certain types of EMF exposure can be assessed by means of the questionnaire, such as use of cell phones and cordless phones. Detection of other types of EMF exposure, e.g. due to high frequency transmitter sites or the electric or magnetic fields of power lines, generally requires measurements (see section 3: Measurement of EMF exposure). In principle, questions should be asked to assess EMF exposure at home and at work, keeping in mind that the degree of EMF exposure may vary at different times.

2. Examination and findings

There are no findings specific to EMF, which makes diagnosis and differential diagnosis a considerable challenge. A method that has proven useful is to use stress-

associated findings for diagnosis and follow-up and to evaluate them synoptically. Basic diagnostic tests should be carried out as a first step, followed by measurements of EMF exposure as a second step. Only then can specific diagnostic tests be considered.

Cardiovascular system

Basic diagnostic tests

- Blood pressure and heart rate (in all cases resting heart rate in the morning while still in bed), including self-monitoring, possibly several times a day, e.g. at different places and with journaling of subjective well-being for a week.

Specific diagnostic tests

- 24-hour blood pressure monitoring (absence of night-time decline)
- 24-hour ECG (heart rhythm diagnosis)
- 24-hour heart rate variability HRV (autonomous nervous system diagnosis)

Laboratory tests

Basic diagnostic tests

- Early morning urine
  - Adrenaline
  - Noradrenaline
  - Noradrenaline/adrenaline quotient
  - Dopamine
  - Serotonin
- Early morning urine
  - 6-OH melatonin sulphate
- Saliva
  - Cortisol (8 am, 12 am and 8 pm)
- Blood
  - Blood count and differential blood count
  - Fasting blood glucose and postprandial blood glucose
  - HBA1c
  - TSH

Additional diagnostic tests – specific individual parameters depending on symptoms

- Late morning urine
  - Histamine, glycine
  - Gamma-aminobutyric acid GABA
  - Glutamate
- Saliva
  - Alpha amylase A (10 am)
  - Dehydroepiandrosterone DHEA (8 am and 8 pm)
- Blood
  - Homocysteine
  - Intracellular ATP

- Intracellular glutathione (redox balance)
- Malondialdehyde (lipid peroxidation)
- 8-hydroxydeoxyguanosine (DNA oxidation)
- Interferon-gamma (IFNg)
- Interleukin-1 (IL-1)
- Interleukin-6 (IL-6)
- Interleukin-10 (IL-10)
- Tumour necrosis factor alpha (TNFa)
- NF-kappaB
- Vitamin B2 (FAD and riboflavin) (whole blood)
- Vitamin B6 (whole blood)
- Vitamin D
- Ubichinon (Q 10)
- Selenium (whole blood)
- Zinc (whole blood)
- Magnesium (whole blood)
- Differential lipid profile

3. Measurement of EMF exposure[1]

In general, a wide variety of forms of EMF exposure (e.g. from cordless phones, wireless internet access, electrical installations and electrical devices in the building, mobile phone base stations, radio and TV transmitters, high-voltage lines or transformer stations) may be the root causes of health problems.

EMF measurements should be planned and carried out by specially trained and experienced measurement engineers.
See e.g. http://www.salzburg.gv.at/adressen_elektrosmog.htm.

After the measurements have been commissioned by the patient and carried out, the results should be discussed with the attending physician or a physician familiar with the issue.

The measurements should be carried out in accordance with relevant standards, e.g. the guidelines of the Professional Association of German Building Biologists (VDB-Richtlinien). In addition to the readings, the measurement report should include suggestions for a potential reduction of exposure.

Basic measurements

Low-frequency alternating magnetic fields

Isotropic magnetic field sensor (for all spatial axes) in the frequency range from 5 Hz to 2 kHz, e.g. near the bed, near the desk with source identification (short-term orientation measurement); in addition, long-term measurements e.g. during the night can be useful.

Low-frequency alternating electric fields

[1] EMF measurements are not covered by statutory health insurance.

Isolated isotropic electric field sensor (for all spatial axes) in the frequency range from 5 Hz to 2 kHz, e.g. near the bed, near the desk with source identification.

High-frequency electromagnetic radiation

Broadband measurements and/or band-selective measurements of common frequencies in the high frequency range, e.g. GSM base stations (900 and 1800 MHz), DECT base stations (1900 MHz), UMTS (2100 MHz), WLAN (2450 and 5000 MHz), possibly WiMAX (3400-3600 MHz), LTE (2500-2700 MHz), within a defined measurement space such as the head and torso area on the bed, or the desk chair, with source identification (e.g. acoustic diagnosis); identification of maximum reading; peak detector.

Additional measurements

High-frequency electromagnetic radiation

Frequency-selective measurements (individual frequencies) of common frequencies in the high frequency range, within a defined measurement space such as the head and torso area on the bed, or the desk chair, with source identification; identification of maximum reading; peak detector. The measurements should be adapted to each individual case, e.g. to account for short-wave transmitters, radar, "dirty power" and other high frequency sources.

Benchmarks

The following aspects should be taken into account when evaluating the readings in each case: duration of exposure, exposure during the night or the day, multiple exposure to different EMF sources, additional exposure to noise, chemicals etc., patient's individual regulation capacity status. Based on epidemiological studies (BioInitiative 2007, Kundi and Hutter 2009) and measurements relevant in practice (Standard of Building Biology Testing Methods, SBM 2008), the Austrian Medical Association 's EMF Working Group has recommended preliminary benchmarks.

Irrespective of the ICNIRP recommendations for acute effects, the following benchmarks apply to regular exposure of more than four hours per day.

High-frequency electromagnetic radiation (as power flow density)

- ≥1000 µW/m² (≥1 mW/m²) very far above normal
- 10-1000 µW/m² (0.01-1 mW/m²) far above normal
- 1-10 µW/m² (0.001-0.01 mW/m²) slightly above normal
- ≤1 µW/m² (≤0.001 mW/m²) within normal limits

The benchmarks listed are intended to be applied to individual types of radiation, e.g. GSM, UMTS, WiMAX, TETRA, radio, TV, DECT or WLAN, and refer to peak levels. The benchmarks do not apply to radar, which must be evaluated separately. Highly critical types of radiation, such as periodic signals (mobile telephony, DECT, WLAN, digital broadcasting…), should be critically evaluated, especially if levels are far above normal, while less critical types, such as non-pulsed or non-periodic signals (USW, shortwave, medium and long wave, analogue broadcasting), may be considered more leniently.

Low-frequency alternating magnetic fields

- ≥400 nT (≥0.4 µT) very far above normal
- 100-400 nT (0.1-0.4 µT) far above normal

- 20-100 nT (0.02-0.1 µT) slightly above normal
- ≤20 nT (≤0.02 µT) within normal limits

The benchmarks are intended to be applied to the range up to and around 50 Hz; higher frequencies and distinct harmonics should be more critically evaluated. Mains current (50 Hz) and traction current (16.7 Hz) should be assessed separately. Long-term measurements should be carried out – also and especially during the night – if intense and frequent field variations occur over time; in such cases, evaluation should be based on the arithmetic mean over the period of exposure.

Low-frequency alternating electric fields

- ≥10 V/m very far above normal
- 1.5-10 V/m far above normal
- 0.3-1.5 V/m slightly above normal
- ≤0.3 V/m within normal limits

The benchmarks (potential-free measurement) are intended to be applied to the range up to and around 50 Hz; higher frequencies and distinct harmonics should be more critically evaluated.

4. Prevention or reduction of EMF exposure

Preventing or reducing EMF exposure after consultation of a measurement engineer is advantageous for several reasons:

a) to prevent and reduce risks to the individual and to public health,
b) to treat the causes of EMF syndrome and
c) to aid in identifying any links to health problems.

There are numerous potential causes for EMF exposure above normal limits, and this guideline can only give a few examples. Further information can be found, for instance, in the building biology checklist "Gebäudecheckliste Baubiologie" (Land Salzburg and VDB 2009) as well as in the information folder on electrosmog (Land Salzburg 2009), which also lists contact data of measurement engineers, sources for measurement devices and materials to reduce exposure. In most cases, it will be necessary to consult an experienced measurement engineer.

Based on documented cases, it is useful to recommend that patients take certain measures (also as preventive measures) to eliminate or reduce EMF exposure, which may lead to an alleviation of health problems within days or weeks. Such measures include the following:

- Disconnecting (unplugging) the power supply of all DECT cordless phones – the use of "classical" cord phones is recommended instead.
- Disconnecting (unplugging) the power supply of all WLAN access points or WLAN routers. (NB: Many LAN routers now come equipped with additional WLAN.)
- Disconnecting the power supply in the bedroom (switching off the fuse) while sleeping. – NB: The benefits should be weighed against the potential risk of accidents and the use of a flashlight should be recommended.
- Disconnecting the power supply to all non-essential electric circuits, possibly in the entire flat or building. NB: See note above.
- Moving the bed or desk to a different place with lower exposure, such as another room or floor; in case of external high frequency sources, rooms facing away from the source should be chosen.
- Discontinuing use of certain appliances and lamps.

- Retrofitting the electrical wiring of the building to reduce residual current and equalising current (installation of a residual current device RCD).

We also recommend following the 10 medical rules for cell phone use published by the Vienna Medical Association :
http://www2.aekwien.at/media/Plakat_Handy.pdf.

5. Diagnosis

A diagnosis of EMF syndrome will largely be based on a comprehensive case history, focusing in particular on correlations between health problems and times and places of EMF exposure, as well as the progression of symptoms over time. In addition, measurements of EMF exposure and the results of additional diagnostic tests (laboratory tests, cardiovascular system) serve to support the diagnosis. Moreover, all other potential causes should be excluded as far as possible.

We recommend that the code Z58.4 (Exposure to radiation) under the International Classification of Diseases (ICD-10) be used for EMF syndrome for the time being.

6. Treatment

The primary method of treatment should consist in the prevention or reduction of EMF exposure, taking care to reduce or eliminate all sources of EMF if possible. Many examples have shown that such measures can prove effective.

Since sufficient EMF reduction is not possible in all cases, other measures can and must be considered. These include not only keeping additional exposure to a minimum, but also enhancing and increasing resistance to EMF. In some cases, positive effects of holistic medicine treatments have been reported.

We take it as given that appropriate treatment will be initiated after diagnosis if the patient presents manifest illness. Regardless of such treatment, the above-mentioned measures to reduce exposure should also be taken.

There is increasing evidence that a main effect of EMF on patients is the reduction of oxidative and nitrosative regulation capacity. This hypothesis also explains observations of changing EMF sensitivity and the large number of symptoms reported in the context of EMF exposure. From the current perspective, it appears useful to recommend a treatment approach such as those gaining ground for multi-system disorders, with the aim of minimizing adverse peroxynitrite effects.

In summary, the following treatment measures appear advantageous, depending on the individual case:

a) **Reduction of exposure** to electric and magnetic fields and high frequency electromagnetic waves.
For more information see e.g. the information folder on electrosmog at www.salzburg.gv.at/infomappe-elektrosmog.pdf.

b) **Lifestyle coaching** (exercise, nutrition, addictive substances, sleeping habits etc.) and stress reduction measures (reduction of general stress and work stress), as well as methods to increase stress resistance (autogenic training, yoga, progressive muscle relaxation, breathing techniques, meditation, tai chi, qui gong).

c) **Holistic treatments** such as anti-oxidative and anti-nitrosative therapies, trace elements, vitamins, amino acids.

d) **Treatment of symptoms** until the causes have been identified and eliminated.

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Download of guidelines and patient questionnaire and contact to the Austrian Medical Association :
www.aerztekammer.at/referate Umweltmedizin

Patient questionnaire

Last name, first name, Mr/Ms ……

Place, date …….

a) List of symptoms

How often have you experienced the following health problems in the past 30 days? Please mark the appropriate box in every line.

Symptoms	**Never**	**Rarely**	**Sometimes**	**Often**	**Very often**	**If yes, since when (month/year)**
Anxiety	☐	☐	☐	☐	☐	/
Tightness in chest	☐	☐	☐	☐	☐	/
Depression	☐	☐	☐	☐	☐	/
Difficulty concentrating	☐	☐	☐	☐	☐	/
Restlessness, tension	☐	☐	☐	☐	☐	/
Hyperactivity	☐	☐	☐	☐	☐	/
Irritability	☐	☐	☐	☐	☐	/
Exhaustion	☐	☐	☐	☐	☐	/
Fatigue	☐	☐	☐	☐	☐	/
Anomia (difficulty finding words)	☐	☐	☐	☐	☐	/
Forgetfulness	☐	☐	☐	☐	☐	/
Headaches	☐	☐	☐	☐	☐	/
Dizziness	☐	☐	☐	☐	☐	/
Sleep problems	☐	☐	☐	☐	☐	/
Noise sensitivity	☐	☐	☐	☐	☐	/
Sensation of pressure in the ears	☐	☐	☐	☐	☐	/
Ear noises, tinnitus	☐	☐	☐	☐	☐	/
Burning sensation in the eyes	☐	☐	☐	☐	☐	/
Nervous bladder, urinary urgency	☐	☐	☐	☐	☐	/
Heart palpitations	☐	☐	☐	☐	☐	/
Blood pressure problems	☐	☐	☐	☐	☐	/
Muscle tension	☐	☐	☐	☐	☐	/
Joint pain	☐	☐	☐	☐	☐	/
Skin conditions	☐	☐	☐	☐	☐	/
Other (please state) ……	☐	☐	☐	☐	☐	/
Other (please state) ……	☐	☐	☐	☐	☐	/

b) Variation of health problems depending on time and location

Which health problems do you perceive to be the most severe?	
Since when have you been experiencing these health problems?	
At what times do the health problems occur?	
Is there a place where the health problems increase or are particularly severe? (e.g. at work, at home)	
Is there a place where the health problems recede or disappear altogether? (e.g. at work, at home, other places, at the home of a friend, on holiday, at your weekend home, in the woods)	
Do you have an explanation for these health problems?	
Are you experiencing stress, e.g. due to changes in your personal life or at work?	
Please list any environmental assessments made, measurements or measures taken up to now.	
Please list any environmental medicine diagnoses and treatments given up to now.	
Other	

c) Assessment of EMF exposure at home and at work

1. Do you use a cell phone at home or at work?

How long have you been using it (years/months)? _____
How much do you use it to make calls per day (hours/minutes)? _____
Have you noticed any relation to your health problems?

_____

2. Do you have a cordless phone (DECT base station) at home (H) or at work (W)?

How long have you had it (years/months)? _____
How much do you use it to make calls per day (hours/minutes)? _____
Have you noticed any relation to your health problems?

_____

3. Do you use wireless internet access (WLAN, WiMAX, UMTS) at home (H) or at work (W)?

If yes, how long have you been using it (years/months)? _____
How much do you use it per day (hours/minutes)? _____
Have you noticed any relation to your health problems?

_____

4. Do you use energy-efficient light bulbs in your immediate vicinity (desk lamp, dining table lamp, reading lamp, bedside lamp) at home (H) or at work (W)?

If yes, how long have you been using them (years/months)? _____
For how long are you exposed to them per day (hours/minutes)? _____
Have you noticed any relation to your health problems?

_____

5. Is there a cell tower (mobile phone base station) near your home (H) or your workplace (W)?

If yes, how long has it been there (years/months)? _____
At what distance is it from your home/workplace? _____
Have you noticed any relation to your health problems?

_____

6. Are there any power lines, transformer stations or railway lines near your home (H) or your workplace (W)?

If yes, for how long are you exposed to them per day (hours/minutes)? _____
Have you noticed any relation to your health problems?

_____

6. Do you use Bluetooth devices in your car?

If yes, how long have you been using them? _____
Have you noticed any relation to your health problems?

_____