

How Hospitals Can Accommodate Patients who have EHS

Electrohypersensitivity (EHS)

EHS is an *environmentally-induced disability* that has been recognized for more than 100 years. It has been called *neurasthenia* (weakening of the nervous system), *microwave sickness*, *radio wave illness*, *screen dermatitis*, *electromagnetic sensitivity*, and *idiopathic environmental intolerance attributed to electromagnetic fields*.

EHS Symptoms

The symptoms of EHS vary from person to person and may be short-term, chronic or episodic.

Symptoms include some combination of the following:

- sleep disturbances
- chronic fatigue
- chronic pain including migraine headaches
- poor short-term memory
- difficulty concentrating (e.g. “brain fog”)
- mood disorders like depression or anxiety
- skin problems
- dizziness
- loss of appetite
- excessive thirst or dehydration
- tremor or movement difficulties
- vision problems
- tinnitus
- frequent night-time urination (any age)
- bedwetting (children)
- heart palpitations
- difficulty regulating blood sugar levels
- nose bleeds
- asthma
- cold extremities
- reproductive problems
- and other symptoms

Individuals become symptomatic at environmental levels far below legally allowed electromagnetic field exposures established by Health Canada in their Safety Code 6 guidelines.

The World Health Organization (WHO)

The WHO recognizes EHS and recommends that EHS be called “idiopathic environmental intolerance,” with “idiopathic” meaning the cause is unknown.

A phenomenon where individuals experience adverse health effects while using or being in the vicinity of devices emanating electric, magnetic, or electromagnetic fields (EMFs) ... EHS is a real and sometimes a debilitating problem for the affected persons ... Their exposures are generally several orders of magnitude under the limits in internationally accepted standards.

The WHO recommends that people reporting sensitivities receive a comprehensive health evaluation ... Some studies suggest that certain physiological responses of EHS individuals tend to be outside the normal range. In particular, hyperactivity in the central nervous system and imbalance in the autonomic nervous system need to be followed up in clinical investigations and the results for the individuals taken as input for possible treatment.

EHS Precursors

While exposure to electromagnetic fields/radiation is the trigger for EHS symptoms, the common precursors of EHS include:

- **physical trauma** to the central nervous system, such as concussion or whiplash
- **chemical trauma** in the form of exposure to toxins [including but not limited to drugs, pesticides, metals (especially mercury), and other neurotoxins].
- **biological trauma** in various forms, such as lyme disease, fungal toxins, parasite load, etc.
- **electrical trauma** resulting from acute or chronic electromagnetic field exposures, such as multiple shocks; low, moderate, or high levels of electrosmog (electromagnetic pollution wherever electricity or “wireless” travels or is available); battery- or electricity-powered items; and lightning strikes.
- **impaired immune system** as a result of medical diagnostic/preventative/treatment methods (radiological, chemical, etc.), biological implants, lupus, AIDS; or a **poorly developed immune system** in very young children and in elders.

For more information visit: www.electrosensitivesociety.com.

Recommended Equipment for Detecting and Measuring EMFs

Health and Safety Departments should measure three types of electrosmog within the facility at regular intervals (since exposure can change) and prior to the scheduled admission of a patient who has EHS (or immediately after emergency admission) by using all of these metering devices:

- *Radio Frequency Microwave Radiation*
Model: Safe and Sound Pro II
www.slt.co/Products/RFMeters/SafeandSoundProIIRFMeter.aspx
- *Extremely Low Frequency Electric and Magnetic fields*
Model: ME 3830B
www.slt.co/Products/EMFMeters/ME3830B.aspx
- *Dirty Electricity*
Model: Graham Stetzer Microsurge Meter
www.stetzerelectric.com

Sources of Electrosmog

- *Radio Frequency (RF) Radiation*: Cell network antennas (on towers, buildings, poles, boosters); WiFi routers/hotspots; battery-or electricity-powered wireless devices, sensors, controllers, audio equipment, and vehicles using or enabled for WiFi or Bluetooth; WiFi boosters; cell phones; tablets, laptops, and desktop computers; signal boosters; medical data transmitters; MRI equipment; microwave ovens; pagers; personal wearables (smart watches/necklaces, fitness trackers, etc.); cordless telephones; wireless baby monitors; vehicle radar; airport or naval radar; security systems; pest-control systems; smart utility meters; digital automatic meter readers (AMR), smart appliances; and nearby broadcast antennas.
- *Extremely Low Frequency (ELF) Electric and Magnetic Fields (EMFs)*: Power transmission lines; power distribution lines (above or below ground), substations, transformers, light fixtures, breaker/fuse panel, faulty wiring, knob and tube wiring, power supply cables, electric appliances especially those that generate heat (e.g., electric stove, toaster, hair dryer, convection stovetops), all sizes of computers and electronic devices, air-conditioning and other HVAC equipment, fans, metal pipes (in some circumstances), power outlets.

- *Dirty Electricity*: Computers, televisions, tube fluorescent lights, compact fluorescent light bulbs, energy efficient LED light bulbs, dimmer switches, variable speed motors/tools, treadmills, vacuum/floor cleaners, sewing machines, solar photovoltaic cells (if converted to AC power), wind turbines, smart utility meters, AMR meters, devices that require inverters. Dirty electricity flows along metal — such as in wires, pipes, construction materials and furnishings — and can also enter an area or building from neighbours and neighbourhoods through the electrical panel or water service infrastructure.

>> Reducing the Levels of All Types of Electromog << is Critically Essential for Patients who have EHS

Ideal Electromog Levels for Patients who have EHS

- Radio Frequency Radiation – less than 0.1 $\mu\text{W}/\text{m}^2$
- Dirty Electricity – less than 25 GS Units
- Magnetic Field – less than 20 nT (0.2 mG)
- Electric Field – less than 1 V/m

Severity of EHS Sensitivity

Some EHS patients may be able to tolerate more EMFs exposure than other patients. Any EHS patient may seem to have a variable tolerance level, dependent on a myriad circumstances. Therefore, it is critical to closely monitor each EHS patient if electromog levels are higher than the ideal values listed above.

“FIND” (determines the exposure): **F**requency, **I**ntensity, **N**earness, and **D**uration. Exposure is cumulative and the sensitivity reaction can be immediate or delayed, and the reactions and symptoms can worsen and/or be prolonged due to increased duration of exposure. Reducing the intensity and duration while increasing the distance from the radiating source decreases the exposure.

Specific Recommendations for reducing EMF/EMR for environmentally sensitive patients in your hospital

This is not an all-inclusive list of recommendations. Please do not hesitate to contact us about other possible or known items and circumstances, whether to collaborate on solutions or to inform future versions of this document.

Radio Frequency Radiation Microwave Radiation

- When locating patients, avoid cell network antennas both within and outside of building.
- Identify WiFi routers and WiFi boosters. If the hospital does own and have control over these devices, disconnect or reduce power on individual hotspots/routers in order to create areas where RF/MW Radiation is lower. For example, some routers powered down to 16% power will still provide adequate WiFi connectivity for users.

- Cell phone network boosters: Consider shielding boosters (with a double-layered aluminum mesh) where necessary when you do NOT have control over turning off or reducing their output. Consider inquiring about how to obtain control of their output or at least a reliable emergency contact who has such control.
- Identify and avoid medical device data transmission hotspots – if there are no other options, shield with double-layered aluminum foil where necessary. [Going forward, establish and maintain the option of turning off the power to all wireless devices within the hospital, or if there are no other options then lowering the intensity of wireless emissions and protectively shielding areas occupied by patients, visitors, staff, and volunteers]
- Ensure blood pressure monitors or other hospital equipment does NOT use wireless technology. Use non-wireless or corded diagnostic devices whenever possible. [Going forward, in decisions and policies for planning, renovations, protocols, updates, purchasing, and in employee agreements, clearly specify non-wireless or corded equipment, services, and environments (indoor and outdoor).]
- Eliminate cell phones (absent or powered all the way OFF, and never brought into the same room as the patient even when powered off), pagers, and all personal devices (smart watches/necklaces, fit-bits, etc.).
- Doctors “on call” – should leave their phones at nurses’ station (at least 10 metres distance from the patient) before tending to an EHS patient. [Going forward, ideally, enable “on call” and other communication protocols to be conveyed through wireline communication systems throughout the hospital. Note: Carrying powered on “wireless” devices on the body is against manufacturer’s instructions, and therefore this is an occupational health and safety issue.]
- Consider using RF radiation-blocking fabric (such as bed canopies specialized for this purpose) to create a faraday cage that can be used wherever there is a patient need. Create a RF radiation-blocking hospital gown for EHS use; note: such garments do not necessarily provide relief for all patients or in all circumstances, so abide by a patient’s expressed experience, and if the patient is unconscious or otherwise unable to comprehend or communicate adverse reactions that may happen when such a garment is added to monitor for reactions that may warrant removal of the garment (suppliers in Canada: www.slt.co/Products/RFShieldingFabrics/ www.emrss.com).

Extremely Low Frequency (ELF) Electric and Magnetic Fields (EMFs)

- Measure to locate and avoid high electric and magnetic fields.
- Avoid all types of fluorescent lighting, particularly above the hospital beds.
- Unplug hospital beds from power sources whenever the adjustment features are not directly in use.
- Position the hospital bed away from walls as often and as far as possible, to increase distance between patients and wiring.
- Unplug assessment equipment (e.g., blood pressure monitor) from power sources when the equipment is not directly being use, or remove the equipment from the patient’s vicinity.

Dirty Electricity

- Locate sources of dirty electricity and eliminate these sources where possible. Filter dirty electricity that cannot be eliminated with appropriate filters.

General Recommendations

Establish an environmentally-friendly (low-EMF/EMR and low-chemical) waiting room, treatment room, and in-patient room. Many patients who have EHS also have Multiple Chemical Sensitivity (MCS), which means they have adverse reactions to chemicals such as cleaning products, car exhaust, perfumes, laundry detergents, paint, natural flower and food aromas, etc.

- Provide an area that has no cell phone network antenna within, above, below, adjacent, or outside the building (roof, balcony, etc.).
- Turn off (power off) and/or reduce emission intensity of WiFi routers, hotspots, or anything that can emit wireless signals.
- All cell phones powered OFF.
- Prohibit wireless wearable devices.
- Provide MCS-friendly soaps, cleaning products, and laundered linens.
- Avoid newly painted areas.
- Avoid new furniture (due to off-gassing).
- **Post signs** that prominently indicate a “no wireless and no scent” zone within 10 metres (cell phones powered OFF, etc.). Note: signage should serve as a reminder, not as a substitute for instructions (to staff, visitors, and other patients).

Reduce waiting times:

- Expedite admission to reduce waiting time (to avoid additional EMF/RF radiation exposure).
- Schedule appointments first or last in the day (to reduce exposures caused by uninformed or non-compliant persons/places).

Isolate to reduce exposures caused by other persons:

- For any wait time, agree to find patients wherever they prefer to wait in a safer environment (e.g., inside their car, outside, in another hospital area) when ready to see them.
- Provide a separate and shortest possible entrance route, preferably directly from outside the destination area of the hospital.
- Give attention to ensure paint-free and construction-free zones outside and within the building.
- Provide exclusive use of elevators.

Assign a helper (volunteer) for the person who has EHS:

Recommendations for the **Helper**:

- All **cell phones powered OFF** (“silent” modes and “airplane” modes do not adequately halt wireless emissions).
- No fitbit and/or smart watches/necklaces.
- Use a dedicated elevator to avoid electrosmog emissions caused by other people.
- Inform the EHS person that all of your personal wireless devices have been eliminated. Give this information at the beginning of each in-person interaction.
- Prior to and during interactions do not use personal scented products (perfume, laundry soap, hair products, skin products, deodorant, etc.).
- Ensure cleaning products are scent-free (including soaps).
- Avoid newly painted areas.
- Avoid new furniture due to the off-gassing that occurs.

Communication with a person who has EHS:

- Good communication is critical in the accommodation of EHS. This applies in both pre-arrangement of appointments and emergency situations. Communication directly to the patient from the administrative staff, nurses, doctors, and other healthcare professionals and volunteers is important so that EHS/MCS patients know their needs are both recognized and accommodated.
- Communicate with the patient about where to arrive for each visit – even if it will be a location previously attended by the patient, as the patient may experience brain fog due to the electrosmog environment enroute to the destination.

Further accommodation for a person who is EHS/MCS:

- Allow the patient to bring their own RF radiation-shielding fabric.
- Allow the patient to bring anything else needed for a comfortable environment (e.g., clothing, bedding due to MSC, personal hygiene products).
- Continue to monitor electrosmog at frequent intervals to ensure low-level exposure – see template below. Also use the template prior to a scheduled arrival and to aid accommodation in an emergency situation.
- Determine, in advance of first electrosmog measurements regarding a patient visit/stay, to report the electrosmog environment, to report electrosmog changes (detrimental or beneficial, as a consequence change in accommodation or protection or medication may be necessary), and to arrange any collaborations necessary to accomplish recommendations. For example, it might be the patient, or the patient’s representative, an off-site healthcare professional, or a knowledgeable third-party expert.
- Assign responsibility for timely action points: review of monitoring details, providing recommendations, and acting on recommendations.

Template

Low-EMF/MCS Room Electrosmog Monitoring Details

Room	Date (m/d/yr)	Time	RFR (μ W/m ²) <0.1	DE (GSU) <30	E-Field (V/m) <1	M-Field (mG) <0.2	Recommendations

Observations

- A patient’s vital signs or test results may vary dependent on EMF/EMR exposures at a specific location and at a specific moment (electrosmog can affect the autonomic nervous system, the blood, the heart and even blood sugar levels in some sensitive diabetics). Our understanding is that this can lead to misdiagnosis, over-treatment, under-treatment, inappropriate medications or dosages, etc.
- In different types and intensities of electrosmog (or other contaminating) exposures, patients may experience a different constellation of EHS symptoms.
- When a device or equipment is hybrid (i.e., can connect/communicate via both wireless and a cord), using the cord does not necessarily disable the wireless emissions. Whenever a connection is via cord, manually assure that all wireless capability is set as disabled or turned off. For each use of hybrid devices/equipment verify those settings, as some devices/equipment do not retain such settings between uses.
- If you will be transporting an EHS patient, be mindful of the need for accommodation.