

**ELECTROMAGNETIC SENSITIVITY  
AND  
ELECTROMAGNETIC HYPER-SENSITIVITY**

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**FUNCTIONAL DISABILITY  
AND  
EQUALITY ISSUES:**

**SOURCES OF PROBLEMS  
AND  
POSSIBLE SOLUTIONS**

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All people who are sensitive to electromagnetic exposure face many problems in daily living.

There are three possible solutions to the growing number of these problems of functional disability:

**A. Long-term solution**

The obvious long-term solution is to remove all high levels of man-made electromagnetic exposure. This could be achieved by the whole of society switching to other forms of communication than non-ionising radiation. This approach is similar to that adopted for ionising radiation, asbestos, lead, air pollution etc..

**B. Medium-term solution**

A medium-term solution is to provide numerous and extensive "white zones", where there is no man-made electromagnetic exposure. These would need to be in proportion to the proportion of people affected. Thus if 3-8% of the population is currently affected, 3-8% of each city, town and village should be free of man-made electromagnetic exposure. In addition all public areas, such as transport, schools, hospitals, shops, parks etc would need to be free of man-made electromagnetic exposure.

**C. Short-term solutions**

Until all high levels of man-made electromagnetic exposure are removed, people who are sensitive need practical solutions to access work, housing, family life, friends, transport, hospitals, shops, libraries, schools and all the other aspects of ordinary life. This would then enable society to fulfil its requirement to provide equal human rights and equal access to people functionally disabled by this sensitivity.

Extra precautions are need for:

- (a) schools and children, since
  - (i) often children are unaware of what is making them ill and whether they are sensitive to electromagnetic exposure;
  - (ii) children are more vulnerable to electromagnetic exposure than adults;
  - (iii) the adverse effects of electromagnetic exposure appear to be cumulative in sensitive people.
- (b) pregnant women, since studies show adverse teratogenic effects on the fetus;
- (c) the elderly, since studies show increased adverse effects on people with compromised immune systems.

The following list gives some current problems experienced by people contacting our charity ElectroSensitivity UK, and possible solutions, under 10 headings (workplace, schools, nurseries, universities and colleges, housing, transport, public places, information other places, information general).

<i>Problems and Solutions for people sensitive to electromagnetic radiation</i>							
		<i>Sources of Problems</i>		<i>Possible Solutions</i>			
		<i>Area</i>	<i>Aspect</i>	<i>Practical Solution</i>	<i>Device Regulations</i>		<i>Warnings, Advice</i>
					<i>Design</i>	<i>Use</i>	
1	a	Workplace	WiFi			<b>Design:</b> WiFi routers should default to 'off' unless in use.	
	b						<b>Location:</b> only within permitted areas.
	c	Mobile phones or tablets	Use of mobile phones or tablets only within specified areas.		Only within permitted areas.	Warning notices for mobile or tablet wireless zones.	
2	a	Schools (teachers and pupils)	WiFi	(i) WiFi should be switched on only when in use; (ii) some classrooms should not have any WiFi; (iii) no WiFi in common areas; eg playgrounds, staff rooms, dining halls, sports hall; (iv) no WiFi in examination rooms.	School WiFi routers should default to 'off', unless in use.	School WiFi routers should be switched on only when in use.	Warning notices for WiFi wireless zones.
	b		Mobile phones or tablets	Wireless use of mobile phones or tablets only within specified areas.		Wireless within specified areas only.	Warning notices for wireless zones.
	c		iPads and tablets (common in UK schools)	These can be switched to airplane or flight mode, but iPads are difficult to link to the internet in airplane or flight mode since they do not have an Ethernet port. [note 1].	iPads and tablets should have Ethernet ports, or provide an easy non-wireless access system.		Warning notices for iPads and tablets: airplane mode in except in designated wireless zones.

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			iPad and tablets should be used only in airplane mode outside designated wireless zones	iPads and tablets should be designed to default to airplane mode.		Warnings for wireless use of iPads and tablets in designated wireless zones.
	d	Bring Your Own Device	as for mobile phones, iPads or tablets	as for mobile phones, iPads or tablets	as for mobile phones, iPads or tablets	as for mobile phones, iPads or tablets
	d	Interactive whiteboards	No wireless whiteboards, wired only.	All school interactive whiteboards should be wired.	Wireless whiteboards should not be used in schools.	
	e	Examination results	Where an EHS candidate has not performed properly in an examination for cognitive reasons, such as memory loss or lack of cognitive speed or function because of electromagnetic exposure during the examination, the candidate should have the right to more than the 2% or 5% compensation currently awarded by the examination boards.			
3		Nurseries (children and adults)	No wireless allowed (difficult to assess nursery-age children for sensitivity to EM radiation).[note 2]		No wireless (WiFi, mobile phones, cordless phones, tablets) allowed in nurseries.	
4		Universities and colleges (students and lecturers)	Universities and colleges should designate areas free from WiFi and mobile phones. Where a student is EHS they should ensure that they provide lectures online if they cannot control the levels of electromagnetic radiation within a lecture hall. An EHS student should have the right to have seminars, tutorials, lectures, laboratory sessions, library access and examinations in locations free from electromagnetic radiation.	WiFi routers should default to 'off', unless in use.	WiFi use should be limited to wireless zones.	Warnings for wireless use in designated wireless zones.

5	a	Housing	Flats, apartments, detached, semi-detached, terraces.	People diagnosed with Electromagnetic HyperSensitivity (EHS) (e.g. according to the Austrian Medical Association or Russian protocols) should be given financial help for shielding their property [note 3] and measuring levels of electrosmog [note 4], where radiation indoors is above BioInitiative 2012 biological safety limits [note 5] or where more stringent limits are required by the medical condition of the sensitive person.			
	b		Council accommodation	Councils and housing associations should be obliged to provide accommodation appropriate to the medical needs of EHS people.			
	c		Wireless smart meter	People with EHS should have the right to refuse, or have removed, wireless meters on their property or nearby properties, at the expense of the company installing the radiation device.			
	d		Legal presumption	In all cases, the legal presumption should be that the occupier of a property, including its garden and surrounding land, has the right to its safe use without any disturbance or intrusion by electromagnetic radiation from an outside source.			
	e		House design, wiring	Housing should be designed to produce as low electromagnetic fields as possible. This includes: fibre optic cable into the property for data access, avoidance of ring mains, reduced use of mains circuits in sleeping quarters especially around the bed space, reduced use of devices producing 'dirty' electricity, passive not wireless security sensors, etc.			
	f		Power lines, substations	Housing should be set back from power lines by the 300 m or more as shown as biologically active in health studies for dementia and leukaemia etc. and further, about 500m, for people with EHS. People with EHS should also keep 50 m or more away from substations.			

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6	a	Transport	Trains	At least one carriage per train should be a “white zone” free from electromagnetic radiation.			There should be notices to indicate the “radio quiet” carriage.
	b		Buses, coaches, airplanes	Internet connections should be available only through wired links. WiFi should not be allowed.			
	c			Mobile phones and other communication devices should only be permitted in a designated area if at all.			
	d		Cars	Drivers and passengers should be discouraged from using mobile phones because of passive radiation outside the vehicle.			
	e			Where a driver or passenger has EHS, drivers and passengers should not use mobile phones.			

7	a	Public places	Shops	Shops should have at least 3 hours opening per week where WiFi is switched off and mobile phones and cordless phones are not used.			
	b		Hospitals	Hospitals should have public and emergency areas and at least one ward or accommodation area free of WiFi and mobile and cordless phones.			
	c		Libraries, museums	Libraries and museums should have at least 3 hours opening per week where WiFi, mobile phones and cordless phones are not used.			
	d		Parks, beaches, national parks	Parks, beaches, national parks should have designated areas for the use of mobile phones and wireless devices.			
	e		Churches, concert halls, theatres	Churches, concert halls, and theatres should not have WiFi or wireless microphones. If photography is allowed, mobile phones should be in airplane mode.			

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	f		Sporting stadiums, outdoor arenas	Sporting stadiums and other outdoor arenas should provide seating or viewing areas where mobile phones and other wireless devices are not permitted.			
	g		Mobile phone masts, TETRA masts, antennas, smart meters, radar etc	When people with EHS suffer disability near a mobile phone mast, TETRA mast, antenna, smart meter, radar etc, there should be a national hotline which they can contact which has to record the all mast and radar complaints, which can then insist that the operators make dangerous masts and antennas safer by reducing the power of their output and/or redirecting the angle of the radiation from their transmitters. All such complaints about masts and radar, and subsequent requests to operators, should automatically be made available to the public. Accommodation for people with EHS should be at least 500m from phone masts etc.			
8	a	Information, other locations	Hotels, holiday homes, camping sites	Hotels, conference centres, guesthouses, holiday houses, cottages caravans, camping sites, etc should state whether WiFi is usually present and can be switched off.			

9	a	Information,	Financial	Information on the financial help for people with EHS should be available from local councils and the health services and on government websites.			
	b	general	Equality rights, disability rights	People with EHS should have easy access to their rights under Equality and Disability legislation, from employers, trade unions, local councils, government departments, including legal advice on how to compensate for lost earnings and the extra expense of private purchase of shielding materials or the conversion of wireless devices to make them safe.			
	c		Family and medical information	There should be a national Health Service helpline able to give advice and information regarding, for instance, family and emotional problems encountered by children and/or parents with EHS, family break-ups because of EHS, loneliness, the failure of some governments and medical persons to understand EHS, the effect of the symptoms of anxiety and depression on people with EHS, and the availability of expert medical information for doctors and their EHS patients.			

**Notes**

1. The cost of unofficially linking iPads to the internet with cables and a central single hub for a school class of 28 iPads could be 200 Euros.
2. Increasing numbers of countries are banning WiFi and other wireless in nurseries, and limiting wireless exposure for children by time as they grow older (e.g. 1 hour per day for years 1-3, ages 5-7).
3. Financial help for shielding an EHS person’s property is, or has been, granted in Sweden, France etc.
4. Some cases of financial help for EHS people have included financial help for purchasing meters to assess the levels of electrosmog. The key measurements are: Electric Fields (Volts/metre), Power Density (microWatts/metre squared), and Magnetic Fields (nanoTesla). People with EHS often react especially badly to one particular type of exposure, such as WiFi, or cordless phones.
5. The BioInitiative 2012 or Council of Europe biological safety limits, for sensitive people and children indoors, are:
  - (a) Electric Fields (Volts/metre): 0.2 V/m (Salzburg: 0.02 V/m)
  - (b) Power Density (microWatts/metre squared): 3 uW/m<sup>2</sup>
  - (c) Magnetic Fields (nanoTesla): 100 nT