

## Electrical Hypersensitivity (ES)

The Electrical hypersensitivity set of articles is separated into 8 sections, each of which can be individually downloaded. It is a 'work in progress' incorporating new information whenever time permits.

### Section 6

### The Challenges

1. Electrical Hypersensitivity, a reaction to the environment; introduction, should ES be diagnosed as an illness? Should ES be diagnosed as an allergic (atopic) condition? Should ES be diagnosed as a 'functional impairment'?
2. What ES is and what produces it; ES and the problems of diagnosis; Allergy/functional impairment; what produces ES? The Hum; ultrasound
3. The Triggers and Symptoms; what can provoke symptoms; the symptoms; behavioural disturbances; haematological (blood) effects; breathing problems; cardiac problems; cognitive changes; eyes; headaches and migraines; other symptoms experienced on the face or in the head; ingestion and digestion disturbances; joint, muscle, limb and nerve sensations; light sensitivity; psychological effects; skin; sleep disturbance, tiredness & dizziness; other reactions
4. The Biology; the living being; what effects do EMFs have on living beings? Why do only some people become ES if all people are coping with increasing EMF stress? Research problems; what different countries have found, or are finding
5. What you can do; Reducing your exposure to EMFs, in the home, in the work place, in the community; treatments and other things that can help, acupuncture, chiropractic, diet including supplements, pulsed electromagnetic field therapy, exercise, geopathic stress, grounding, holidays, homeopathy, hydration, injections, ionised environments, medication, oral treatment, osteopathy, oxygen therapy, plants, prayer and healing, protection 'devices', provocation therapy, psychological improvements, water supply; screening products; raising public awareness; campaigning and information organisations
6. The Challenges; what can the ES person do? Recognition by the general public; employment and benefits advice; Disability Discrimination Act 1995, words (or phrases) defining disability according to the DDA, mobility, memory or ability to concentrate, learn or understand; accidents, incidents and liability; policy makers abroad; normal day-to-day activities; education needs; employment needs; medical needs; housing needs; transport needs
7. References – 150 references

## 8. Appendices:

Appendix 1- The Powerwatch response to the October 2005 Health Protection Agency–Radiation Protection Division report on Electrical Sensitivity; definition of ES; epidemiology of ES; management of ES

Appendix 2 - Powerwatch Comments on Rubin et al study, 2006

Appendix 3 - Study Flaws (Essex), Flaw counter-arguments, discussion, conclusion, Essex University study on Health Effects from TETRA radiation (2010)

## The Challenges

There are several major challenges facing the people who suffer from ES. These can be generally put under the following general headings:-

- **Recognition by the general public**
- **Recognition by the medical professions**
- **Action by the policy makers**

The general public seem to be largely unaware of the existence of electrical hypersensitivity. Those who have heard of it may describe it as 'all in the mind', like the early responses to ME. This is one of the most unhelpful attitudes which the person with ES may have to deal with; at worst ignored, or treated as an object of ridicule, certainly they are likely to be disbelieved. As their symptoms are related to environmental pollution, this makes it hard when families and friends refuse to change the home and social environments to make the ES person's physiological reactions less likely. It is also hard to establish the link between exposure and symptoms, when these can take quite some time to diminish after the offending source is removed.

There are not many GPs who have heard of, or acknowledge electrical sensitivity. The subject is unlikely to have been covered in the training of even the most recently qualified practitioners. The symptoms are so variable, that they may be forgiven for seeking out alternative diagnoses first. Where neurological and cognitive problems predominate, the first person the GP may think to refer the patient to may be a psychiatrist. Psychiatrists seem to be as lacking in knowledge as most others in medical practice, so it leaves the person suffering from ES with little option than to turn to private health care and complementary health practitioners. By and large they are more open minded, some GPs in private practice have shown a healthy interest in the subject, but the quality of training and experience of practitioners can be very variable, and they may offer no better help and support than the more traditional healthcare practices, at a significant cost.

In a study by Gibson ([2015](#)), the most common barriers to receiving care were the inability to find a provider who understands environmental sensitivities and a lack of accessibility due to electromagnetic exposures in health care environments. Lower income and poorer health (longer illness, a worsening or fluctuating course of illness, and a higher level of disability) were significantly correlated with the total number of reported unmet health care needs. She continues in 2016, *“due to the polluted nature of most public venues, this population is robbed of a sense of ‘place’ necessary to maintain personal relationships. This population is marginalized by health-care providers and shunted into mental health categories, as our current health paradigms are not adequate to frame and categorize health problems caused by our toxic industrial lifestyle.”*

Respondents with chemical and electrical sensitivities described their level of access to common community resources that most persons take for granted, including communities of worship, grocery stores, health food stores, community meetings, public libraries, the homes of extended

family members and friends, offices of dentists and medical doctors, public parks, and classes at their local universities (Gibson [2010](#)). Most had tentative access at best.

A further study by Gibson ([2016](#)) reports “We were interested in how informants thought their needs would be met as they grew older with ES. We found a central process (that which motivates informants) of “balancing on a changing tightrope with great overwhelm” with three categories: No Safety Net, The Knowing, and Going Through the Cracks. No Safety Net refers to the inaccessibility of most community and health resources for persons who must avoid chemicals, electromagnetic fields, or both. The Knowing refers to having the awareness that one has been dealt out of the equation and will not receive help from conventional sources. Going Through the Cracks describes living one's life by finding small openings and opportunities for living and experiencing what most take for granted. We describe these categories in detail and appeal to health care providers and the general public to view culture through the eyes of those who are unable to participate in it to an extent considered ‘normal.’”

Bensefa-Colas & Dupas ([2014](#)) conclude “The lack of established etiology renders treatment difficult. It is important for practitioners to recognize such disorders and assess the social and professional impact so as to improve patients' quality of life.”

A study by Choudhry ([2002](#)) found that the vast majority (87%) of doctors involved in establishing national guidelines on disease treatment have financial ties to the pharmaceutical industry that could potentially sway their recommendations and inappropriately influence thousands of other doctors. 38% of respondents said they had served as employees or consultants for pharmaceutical companies and 58% had received financial support for medical research. It is not surprising that ES does not get considered seriously. There is no pharmaceutical answer to the condition, and it is only the psychiatric profession that can enable to drug companies to make a profit from the sufferings of people with ES.

The DSM, published by the American Psychiatric Association is a manual describing and defining psychiatric disorders. 16 of the 28 members of the group overseeing the revision of the manual have disclosed financial ties to drug or medical device companies. Whilst this has some logic to it, that these people may be better informed than most about *accepted* medical conditions and their treatment, it may beg the question about who represents the patients who have a condition which does not readily respond to medical drugs, such as ES. It is almost guaranteed that their particular medical symptomatology will neither be described nor acknowledged.

Meanwhile, the result of non-recognition can lead to problems at work, even losing jobs, reduced income, maybe a home that continues to radiate you, difficulty in visiting friends and family, lack of access to transport and leisure facilities, and a general reduction in quality of life.

## What can the ES person do?

### Recognition by the general public

There are various organisations, both in this country and abroad which have been set up to support people with ES. You might try **ES-UK** <http://www.es-uk.info/> tel: 0845 643 9748, or **Circuit** ~ Ann Ermel, PO Box 1UZ, Newcastle upon Tyne NE99 1UZ. They can provide information for you to give to family, friends, medical personnel, schools and colleges, doctors' surgeries, employers, MPs and councillors, the local paper, libraries, leisure centres, etc. Write lots of letters to whoever you think might listen. The only limit to where you can send letters or put leaflets is the limit on your energy imposed by the condition. It is a thankless task and the dividing line between enthusiasm (being listened to) and obsession (not being listened to) is a fine one. Persistence however, can pay off. The French Authorities removed WiFi from their public libraries because of EHS symptoms among the staff. There has been a recent judgement by

a High Court in Italy that an employer who forced his staff to use mobile and cordless phones has been held legally responsible for a brain tumour and instructed to pay compensation to the person concerned, plus legal costs. There have been some demonstrations on behalf of people with ES.



The two pictures here are from Stuttgart in Germany, and there was one in section 5 from Nantes, in France.

A study by Schreier, as long ago as [2006](#), concluded that "the large proportion of the population who is concerned or attributes own symptoms to EMF may cause societal conflicts given the ubiquity of EMF in our everyday life." They found a prevalence of 5% for ES in our study sample. The most common health complaints were sleep disorders (43%) and headaches (34%), which were mostly attributed to power lines and mobile phone handsets. In addition, 53 percent were worried about adverse health effects from EMF, without attributing their own health symptoms to them.

## Employment and benefits advice

At the moment ES people usually cannot get entitlement to the special benefits available for people with disabilities or get any financial support for reorganising their home, without accepting some form of psychiatric diagnosis. The US National Institute of Building Sciences' Indoor Environmental Quality Project in its 2005 report stated that *"The Board recognizes that multiple chemical sensitivities and electromagnetic sensitivities may be considered disabilities under the ADA (Americans with Disabilities Act) if they so severely impair the neurological, respiratory or other functions of an individual that it substantially limits one or more of the NIBS IEQ Final Report 7/14/05 individual's major life activities. The Board plans to closely examine the needs of this population, and undertake activities that address accessibility issues for these individuals."*

## Disability Discrimination Act 1995

Those who suffer from ES and are experiencing difficulties in accessing their employment and/or education due to WiFi or other people's mobile phones switched on at work/use of cordless phones etc. might want to explore whether their rights are protected under the Disability Discrimination Act 1995.

[www.direct.gov.uk/en/DisabledPeople/RightsAndObligations/DisabilityRights/DG\\_4001068](http://www.direct.gov.uk/en/DisabledPeople/RightsAndObligations/DisabilityRights/DG_4001068)

Advice and help can be obtained from the Equality and Human Rights Commission

[www.equalityhumanrights.com](http://www.equalityhumanrights.com)

On the Equality and Human Rights Commission website it states that *"If you have an impairment or a long-term health condition that has an impact on your day-to-day life, you are likely to have rights under the Disability Discrimination Act (DDA)"*.

## Words (or phrases) defining disability according to the DDA

- **A physical or mental impairment** ~ A physical impairment is a condition affecting the body, perhaps through a mobility difficulty or a health condition. A mental impairment is a condition affecting 'mental functioning'.
- **Substantial** ~ Means more than 'minor' or 'trivial'. When carrying out day-to-day tasks, does your condition make them more difficult (compared with those without the impairment) in terms of:

The time taken to carry out an activity; the way in which an activity is carried out; the overall cumulative effect if the effects of more than one activity are taken together.

If changing your behaviour reduces the adverse effects of your impairment on day-to-day activity, then you may not be covered by the DDA. If the success of any coping strategies you use to reduce the adverse effect of your impairment is lessened by 'environmental factors' (such as extreme heat, humidity, how tired you are or how stressed you are), then this should be taken into account.

- **The effects of treatment** ~ In most cases, the treatment or **equipment** that you may use for your disability or health condition should not be considered in deciding whether you are 'disabled' in terms of the law.

People who have progressive illnesses are subject to special provisions in the DDA. A progressive condition is regarded as having a substantial adverse effect from the moment any impairment resulting from that condition has some effect on your ability to carry out normal day-to-day activities.

- **Long-term** ~ Long-term means that an effect of the impairment has lasted, or is likely to last, 12 months or more from the onset, or for the rest of your life.

In 2010, the Human Rights Equality Commission asked people with disabilities to tell of their experience of being harassed because of their disability. It was suggested by campaigners that people with ES could stipulate that not enough information is given to the general public about the condition. If you look in the terms of reference it will say exactly the type of situations they are looking at and also from which people. One such affecting many people with ES is that of public transport. It was agreed that communications bearing at the top 'Electrosensitivity is classed as a Disability by the World Health Organisation' would be helpful.

These include (among others):

- mobility
- memory or ability to concentrate, learn or understand

Sometimes it is clear that if you have difficulty with one of the activities, it will affect your ability to carry out many day-to-day activities.

The information that follows can only identify whether you *may* be defined as disabled under the DDA: only the courts can categorically decide whether you are covered.

### **Mobility**

This includes using public transport or getting around in an unfamiliar place (e.g. where the existence of WiFi exposure may be unknown).

For example, if you have difficulty in:

- travelling a *short* distance in a car as a passenger
- using one or more forms of public transport

### **Memory or ability to concentrate, learn or understand**

You need to consider your ability to remember, organise thoughts, plan a course of action and carry it out, take in new knowledge, understand spoken or written instructions, as well as the speed at which you are able to learn. You should also think about your ability to read and use numbers.

Examples of a substantial adverse effect include:

- random loss of consciousness and confused behaviour
- persistent difficulty remembering the names of family or friends
- difficulty coping with minor changes in routine after a reasonable time
- not being able to write a cheque without help
- big problems following a short sequence such as a cooking recipe or a brief list of things to do in the house

It is not reasonable to say there is a substantial adverse effect if you:

Sometimes forget the name of a familiar person; are not able to concentrate on a task for several hours or are not able to fill in a long, detailed, technical document without help; are not able to read faster than normal speed; have minor problems with writing or spelling.

However the government is proposing to cut disability living allowance (DLA) and attendance allowance to fund the new National Care Service. The benefits are intended to meet the

additional costs of living with an impairment or long-term health condition (approximately 2.87 million people in the UK), many of whom are not eligible for social care services. The government announced that DLA for people under 65 will not be scrapped.

### **Accidents, incidents and liability**

ES sufferers should complete an accident form for any organisation, workplace or institution where they suffer adverse EHS symptoms. It is suggested that the illness is recorded as 'Radiation Sickness', as this is often the most accurate terminology and one commonly accepted medically.

There is a growing movement to ensure that all such incidents are recorded under HSE reporting in the UK. European legislation now requires that employers should record instances of non-thermal electrosensitivity symptoms among their employees.

Organisations such as theatres, shops, trains and buses allowing unregulated radiation devices to be used on their premises, such as WiFi in smart phones and tablets, may be responsible for any injury caused and therefore need to know of such instances.

### **Policy makers abroad**

The Section for Transport, Energy, Infrastructure and the Information Society (TEN) of the European Economic and Social Committee (EESC) has recently met and debated the issue of Electrical Sensitivity in January 2015.

The key extracts say:

1.5 The EU should assist currently affected groups and limit exposure fields ... with respect to recognising this exposure as a cause of functional disability and environmental illness. Steps should also be taken to prevent the number of sufferers from gradually increasing in the future due to the expansion of devices using these technologies.

2.2 It is now believed that electromagnetic hypersensitivity syndrome, which is one aspect of what is known as Idiopathic Environmental Intolerance (IEI), attributed to electromagnetic fields (EMFs) from such everyday devices as mobile phones and WiFi, can lead to permanent disability since there are reasonable indications that it could cause anatomical and functional disorders for sufferers to the point that it limits or prevents their capacity to work.

For interesting presentations from the 2015 EHS and MCS conference "Idiopathic Environmental Intolerance: What Role for Electromagnetic Fields and Chemicals?"

<http://www.mast-victims.org/resources/audio/5th-paris-appeal/index.html>

2.8 There are more and more people suffering from electromagnetic and environmental hypersensitivity syndrome. In addition, these people may sometimes suffer the incomprehension and scepticism of doctors who do not deal with the problem professionally. That is why measures to stem the increase in the numbers of those affected and prevent those suffering becoming socially excluded are so important.

3.2 Any recurring radiation-induced conditions that diminish or disappear when the sufferer moves away from the source constitute electromagnetic hypersensitivity, even when according to some doctors, scientific evidence of a direct causal link is lacking.

3.3 Electromagnetic hypersensitivity sufferers experience a serious deterioration in their quality of life, not only because of the physical symptoms it usually entails, but also because their lives are totally disrupted by the need to avoid exposure. In practice, it means that they not only have to avoid almost all public facilities such as transport, hospitals and libraries, but even their

own homes, in order to escape adverse health effects, which is a breach of rights that are enshrined in the EU Charter of Fundamental Rights.

8.1.1 The EESC believes that the EU ... supports the creation of white zones as emergency measures for people worst affected by this syndrome.

8.5 Electromagnetic safety thresholds for the use of products should be regulated and rules concerning the planning of electric power lines and relay antenna base stations should be established by adopting legislation on:-

- A safe distance between high-voltage power lines and other electrical installations and homes;
- Maximum permissible exposure levels and effective and transparent control mechanisms;
- Requirement for spatial planning tools to include public and private EMF-free zones (i.e. 'white' zones, which would have to include housing, and public spaces that were free of electromagnetic pollution, such as health centres, hospitals, libraries, workspaces, etc.).

The EU Directive of 2013, to be implemented in the UK by mid 2016, requires employers to report non-thermal symptoms.

In October 2016, a draft press release was issued:-

The European Economic and Social Committee's Section for Transports, Energy, Infrastructures and Society of Information (TEN) adopted a previous Opinion on 7 January 2015 <sup>(2)</sup> after a laborious process (6 months of consultations and discussions, including a public hearing <sup>(3)</sup>) led by one of its members, Bernardo Hernández Bataller (General Secretary of the Spanish Association of Communication Users). That opinion, which followed the line of caution initiated by other European institutions <sup>(4)</sup> and health agencies of several Union countries, warned of the potential danger of electromagnetic radiation and recognized electrosensitivity together with the rights of the people who are suffering it:

- It calls for the precautionary principle, aiming to minimize the risks of exposure to electromagnetic fields (EMF) in general and their social costs, by reducing exposure levels considering non-thermal biological effects (not covered by the current limits).
- It claims for a comprehensive recognition (health, labour and social) of electromagnetic hypersensitivity syndrome in relation to EMF, including enabling "white areas" (places free of radiation).
- It recommends minimizing the risks linked to the exposure to artificial electromagnetic radiation by implementing specific protection measures for the most vulnerable groups, such as giving priority to the wired internet connection instead of Wi-Fi in education.

The **American** Academy of Environmental Medicine (AAEM) has been studying and treating the effects of the environment on human health for over 50 years. They are asking for recognition that EHS is a growing problem worldwide.

The **American** Academy of Pediatrics, representing 60,000 primary care paediatricians, in a letter in December 2012 to a US congressman states: "*Children are disproportionately affected by environmental exposures, including cell phone radiation.*"

In 2009, Fred Budgell, a Mayor in Newfoundland, in a proclamation declaring October 2009 as Electromagnetic hypersensitivity Awareness Month, said that Electromagnetic Hypersensitivity is recognised by the **Canadian** Human Rights Commission, the Canadian Government as an Environmental Disability, and the Americans with Disabilities Act.



Also in April 2009, 5 **French** senators presented a bill restricting EMF exposure. The following are excerpts from the 21 articles.

1. Every person has the right to health and to protection from the harmful effects of electromagnetic radiation.
- 1.2 Public exposure levels to EMFs cannot exceed 0.6 V/m.
- 2.11. Advertising mobile phones to children under 14 is prohibited.
- 2.12. All mobile phones must be sold with a reliable hands-free kit.
- 3.14. The WiFi function of all WiFi-equipped devices is deactivated by default.
- 3.15. Where possible, in public buildings wired connections will be obligatory for all new communications networks, except in special circumstances which are in the public interest. Where possible, existing WiFi installations will be replaced by wired networks within 5 years of the promulgation of the present law.
- 3.16. WiMAX roll-out is suspended for 5 years from the promulgation of the present law and will be replaced by wired broadband.
- 4.17. Within a year of the present law's promulgation, a report on electrohypersensitivity will be submitted to parliament and will include an epidemiological study carried out with transparency.

The resolution called on Member States to recognise persons that suffer from electrohypersensitivity as being disabled so as to grant them adequate protection as well as equal opportunities.

In **France** in January 2015 parliament passed a law addressing electromagnetic fields and electromagnetic sensitivity.

1. Any advertisement for mobile phones must mention, clearly and legibly, the recommended use of an accessory device that reduces exposure of the head to radio frequency radiation.
2. Advertisements promoting the use of mobile phones without such accessories are prohibited.
3. Anyone selling a mobile phone must provide, upon request, an accessory designed for children under 14 years of age that reduces exposure of the head to radio frequency radiation.
4. Wireless internet is prohibited in places dedicated to the welcome, rest and activities of children under 3 years of age.
5. Wireless access for internet in primary schools must be disabled when not in use for teaching.
6. In one years time, the government shall submit to the Parliament a report on electromagnetic hypersensitivity.
7. Anyone who intends to build one or more radio installations must submit to the local government, if requested by the mayor, calculations of electromagnetic fields that will be generated. This information must be made available to the public.
8. L'Agence nationale des fréquences (the French equivalent of the Federal Communications Commission) will compile an annual census of atypical exposure locations and periodically report on measures taken to reduce exposure at such locations.
9. Within one year, l'Agence nationale des fréquences will produce a municipal-level map of all base stations in France.

The 2016 edition of the Larousse French dictionary, published in May 2015 includes "l'électrosensibilité ensemble des troubles physiques dus, selon la description des personnes atteintes, à une sensibilité excessive aux ondes et aux champs électromagnétiques ambiants":

electrosensitivity, a syndrome of physical disorders, according to the description of people affected, an excessive sensitivity to the waves and ambient electromagnetic fields”).

In **Spain** in September 2011, a Labour Court made a precedent-setting ruling that a college professor who suffered from chronic fatigue and environmental and electromagnetic hypersensitivity should be awarded 100% of his base salary as a recognition of permanent incapacitation.

In **Sweden** electrosensitivity is fully recognised as a physical disability and hospitals must make provision for patients who suffer from electrosensitivity. By law, alterations must be made to homes and workplaces of sufferers.

The **World Health Organisation (WHO)** has an ‘action plan’ using ‘disability’ as an umbrella term for impairments, activity limitations and participation restrictions, denoting the negative aspects of the interaction between an individual (with a health condition) and that individual’s contextual (environmental and personal) factors. This definition appears to apply to the condition of electromagnetic hypersensitivity.

In 2005, the WHO recognised the condition of electromagnetic sensitivity, although, interestingly, it did not believe that the symptoms are caused by exposure to electromagnetic radiation WHO, ‘Electromagnetic Fields and Public Health - Electromagnetic Hypersensitivity’, Fact Sheet, December 2005, <http://www.who.int/peh-emf/publications/facts/fs296/en/> .

These symptoms, which afflicted individuals attribute to exposure to EMFs include dermatological symptoms (redness, tingling and burning sensations) as well as neurasthenic and vegetative symptoms (fatigue, tiredness, concentration difficulties, dizziness, nausea, heart palpitations and digestive disturbances).

ES-UK (Newsletter June 2014) recommends pursuing 3 objectives as suggested by the WHO

1) **To remove barriers and improve access to health services and programs.**

Doctors could be given information and training in the existence of EHS; medical facilities (doctors’ surgeries, hospitals, etc.) might be low-EMR zones and this could be achieved by use of shielding, wired technologies and signage requesting patients and staff not to use wireless devices. Doctors could make home visits to patients with EHS who find it difficult to travel to appointments.

2) **To strengthen and extend rehabilitation, habilitation, assistive technology, assistance and support services and community-based rehabilitation.**

EMF-free accommodation could be provided and low-cost shielding could be provided for homes. Assistance with essential services could be provided, including shopping, banking and low-EMR transport.

3) **To strengthen collection of relevant and internationally comparable data on disability and support research on disability and related services**

Resources could be made available for independent research on EHS focusing on causes, biological changes related to exposure and remediation.

## Normal day-to-day activities

The following photo was shown by Next-up in November 2010.



ES people could have symptom-free access to public and commercial spaces, if shopping centres, libraries and other public buildings would turn off their WiFi for part of each day to provide radiation-free times of access.

According to the **Vienna** Medical Association, there should be mobile-free zones in public places. These are, of course, not the only source of polluting RF; so maybe the zones should be 'zones of RF exposure less than ... x, which probably, and unhelpfully, brings us to ICNIRP levels.

The US Access Board published in 2002, in the Background for its Final Rule Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Recreation Facilities: *"The Board recognizes that multiple chemical sensitivities and electromagnetic sensitivities may be considered disabilities under the ADA if they so severely impair the neurological, respiratory or other functions of an individual that it substantially limits one or more of the individual's major life activities. The Board plans to closely examine the needs of this population, and undertake activities that address accessibility issues for these individuals."*

## Education needs

How can children who are sensitised to RF access schools using WiFi, unless each area has one or more schools without WiFi or mobile phone use? Two students and one teacher developed symptoms of EHS in schools using WiFi. Parents, teachers, and school boards have the responsibility to protect children from unnecessary exposure (Hedendahl [2015](#)).

## Employment needs

How can people keep their jobs when some employers are unwilling to restrict RF exposure from WiFi and mobile or DECT phones?

## Medical needs

In a study by Mårell ([2016](#)) women aged between 37 and 63 years suffering from ES experienced better support and confirmation of symptoms and illness from alternative medicine practitioners. However, sick-leave certificates from alternative medicine practitioners were not approved and this led to a continuous cycle of visits in the health care system.

## Housing needs

For those people whose ES makes them react to RF radiation (rather than to powerfrequency radiation *only*), finding a home in which they can feel as well as they can is getting harder. With digital TV and radio broadcasting adding to the ubiquitous telecommunications signals supporting mobile phones and wireless internet, most homes now are subject to RF radiation often at very high levels.

A landlord in Canada has begun action for arrears of rent. The tenant, a single parent with a 14-year-old child, withheld the rent, asserting the premises were unfit for habitation because in December 2009 the landlord permitted the installation of numerous mobile phone masts on the roof (reported in ES-UK newsletter September 2010). The tenant is seeking a 100% abatement of the rent as she has been unable to live in her apartment since January 2010. In July, the court of appeal in Tunis ordered the removal of an antenna on a roof of a villa in a residential area of the capital because of health risks.

Finding an unexposed property in a city or large town is virtually impossible. There are still some isolated pockets of rural living that can offer minimal exposure, but these are few and far between and go nowhere near meeting the needs of people with ES, even if they could afford to move there, or persuade their families of the necessity to do so.

Italy is the only country we know of that has a small basic community, which has minimal radiation specially for people with ES. There was one in France, but the people there were told to leave as the appropriate permissions to live there had not been granted. You can apply to stay in the EHS Refuge Zone in Italy, the Parc de Carnè. Further information: B&B "Eremo del lupo" email: [eremo\\_del\\_lupo@percorsietnici.net](mailto:eremo_del_lupo@percorsietnici.net) Associazione Italiana Elettrosensibili - A.I.E. -Via Cadorna, 5 - 35.

There is at least one initiative in the USA that we have heard about recently, see [http://www.onaravenswing.com/land\\_steward\\_page.htm](http://www.onaravenswing.com/land_steward_page.htm).

How can people avoid being forced out of their homes because neighbours use WiFi and mobile, or DECT phones which irradiate other people's property, or masts are located too close?

How much progress is being made in establishing 'white zones' free of RF exposure in each city and town in the UK for those already sensitised, as advised to member states including the UK by the Council of Europe in 2011.

## Transport needs

Transport for people with ES is getting more and more difficult. Cars are likely to have both powerfrequency and radiofrequency emitting sources. We have always suggested that a guideline for buying cars is 'the older and simpler the better'. However, these are old enough now to be becoming unreliable and expensive to keep on the roads, and may be made illegal if they do not conform to low emission technology.

Trains, trams, buses, planes; all are being equipped with state of the art WiFi, making them impossible for ES people to use without suffering severe consequences. Electric cars are likely to be extremely problematical.

Train and bus companies could provide coaches free of WiFi and mobile phones, as in other countries.

The future looks very challenging unless ES is recognised as the 'functional impairment' that it is and society begins to spend money to ensure that the increasing numbers of people so affected can maintain a reasonable quality of life.