

# Electrical Sensitivities in Allergy Patients

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## ABSTRACT

Some patients with multiple allergies complain of extreme sensitivities to atmospheric electrical conditions and to many man-made electrical, magnetic and electronic devices and systems. Experiments confirm that there are real and objective effects as well as subjective effects. The sensitivities are frequency specific rather than intensity specific. They have been observed at patients' specific frequencies from millihertz to gigahertz and in the most sensitive patients at field strengths approaching the theoretical noise-level limit, even in the presence of much stronger fields of other frequencies. A protocol for clinical testing has been devised based on the confrontation—neutralization technique for chemical allergens. Neutralizing frequencies can usually be found and magnetic fields at these frequencies can be used to "potentise" water for therapeutic purposes. In a given patient, the symptoms provoked electrically are similar to those provoked chemically and those provoked by the patient's environment. Electrical and chemical stimuli and neutralization appear to be interchangeable.

**Keywords:** Allergies, electromagnetic hypersensitivity/reactivity, chemical and electrical triggering, electromagnetic allergy therapy, homoeopathy theory.

## Introduction

It is known that the normal functioning of the body depends on cellular and intercellular changes in electrical parameters.

Man has evolved in an environment flooded with electromagnetic radiation of all frequencies\*, but during the past century various forms of highly coherent (very precise in frequency and phase) electromagnetic radiations have appeared in the environment. Living systems may already utilize coherent oscillations for their own control purposes, thus there are many ways in which coherent oscillations in the environment may interfere with a living system to give rise to an abnormal reaction.

The term allergy used in this paper is in its original definition by von Pirquet and it describes the state of altered reactivity to a specific environmental exposure. The abnormal reactions due to an electromagnetic field stimulus are consistent with their being described as an allergic response in this widest usage of the term.

In relation to the heart, electrical impulses originate in the sino-atrial node of the heart and initiate each contraction of the heart; the number of such contractions per minute determines the pulse rate. Abnormal changes in the pulse rate have been shown to be induced by foods. Rowe<sup>1</sup> and Coca<sup>2</sup> documented this in the early literature. Following dietary elimination and challenge, marked variations in pulse rate have been noted in many allergic patients and this has been used widely as an indicator of food allergy.

This paper postulates and documents that another situation also exists; namely that external electrical

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\* The appendix inter-compares the chemical, physical and thermal equivalent energies corresponding to the frequency of electromagnetic radiation as used by the various scientific disciplines.

stimuli can initiate changes in the body's general homeostasis, including electrical. Homeostasis represents the stable "normal" state of the body — in allergic states this is perturbed and patients may become abnormally sensitive (hypersensitive) to electrical stimuli. Many of our patients give a history of hypersensitivity to a wide range of electromagnetic fields and devices in addition to their other allergic sensitivities.

**Experimental Procedure: Testing with Antigens**

At the 2nd International Conference on Man and His Environment, held in Dallas, Texas, 1984, a case history was presented and a new method of desensitization using *surface application* of antigens in serial dilution was shown. This technique parallels the intradermal technique in provoking and neutralizing symptoms.

**The Provocation and Neutralization Technique**

This technique was first discovered by Dr. Carlton Lee of St. Joseph, Missouri, who was looking for better methods of diagnosing and treating food allergy. He found that certain dilutions of a food extract when given intradermally produced symptoms in his patients and certain dilutions nullified those effects.

In 1965, Dr. Joseph Miller<sup>3</sup> from Mobile, Alabama, studied this method very closely and soon clarified and organized a more comprehensive procedure for testing, recording and correlating wheals and symptoms. A brief outline of this intradermal technique is as follows:

If allergy to wheat is suspected, for example, one may begin testing by injecting 0.05 ml of a given dilution of wheat intradermally. The resulting wheal is then measured and other characteristics of the wheal such as color, hardness and shape are also noted. Other symptoms can also be provoked, for example: headaches, urticaria, broncho-spasm, muscular pain, restlessness, or drowsiness. After ten minutes the wheal is measured again and any symptoms reassessed. Depending on the growth of the wheal and other characteristics, the wheal will be termed as a positive, negative or a neutralization wheal. If it is positive or negative then further dilutions are tried until a neutralization point (end point) is achieved, when all symptoms have disappeared. The dilutions are made serially and usually five-fold (1 part allergen of previous dilution + 4 parts solvent usually normal saline).

**FOR EXAMPLE**

Dilution No	Wheal Measurements	Symptoms
4	6 x 7 ..... 9 x 9	Headaches
5	6 x 7 ..... 8 x 9	Headache Less
6	6 x 7 ..... 6 x 7	No Headache

No. 6 is therefore the neutralization point (end point).

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Expanding the above example, if dilution No. 7 is then given to the patient after neutralization at dilution No. 6 the headache may return, No. 8 might provoke more severe headache, but No. 9 might lessen the headache. On being given No. 10 the headache will once again disappear. As in this example we have two end points, No. 6 and No. 10. If we were to carry on with this procedure we would observe cycles of exacerbation and remission of symptoms.

In highly sensitive patients, a multitude of symptoms can be provoked by just one antigen. On reaching an end point some symptoms may be better, some may remain the same, while others may become worse. Hence, another end point is required, when all the provoked symptoms are neutralized simultaneously. With these multiply sensitive patients, that end point may be in the very high dilution range, e.g. No. 30, No. 300, or even No. 3000. If the end point is in such a high dilution range, it is not practical to do that many intradermal injections, hence a new technique called "*Surface Application*" has been developed. *See Dr. Miller's report.*

Instead of giving intradermal injections a drop of the serially diluted vaccine is put on the skin surface. When all likely symptoms have appeared, the drop is wiped away and the next drop of a higher dilution is applied. This procedure is then continued until a dilution is reached, whereby symptoms being provoked are neutralized. This neutralizing dilution is then confirmed by injecting it intradermally. If this results in no symptoms being provoked and the wheal takes on the characteristics of a neutralizing wheal, the patient is considered to be neutralized.

**Experimental Procedure: Testing Electrically Sensitive Patients**

It is possible in many cases to do a preliminary screening test with several patients of comparable sensitivities simultaneously. The procedure as developed by us starts with taking case histories of the electrical sensitivities complained of while the patients are sitting in a room. They should be a few meters away from the table on which the oscillators are arranged. These are ordinary laboratory signal generators usually having maximum output levels in millivolts to volts range. Together they cover a range of frequencies from millihertz to gigahertz. At the lower frequencies it is often sufficient to just turn the appropriate oscillator on and use the 2cm or so output terminal as an antenna. Otherwise, if no reactions are

obtained, a 1m length of insulated wire is connected to the terminal and allowed to trail to the floor. These patients have such high sensitivities that no electrical contact with the apparatus is necessary or should be contemplated. The patients often complain that they feel shocks from touching domestic and office equipment which no one else feels. At microwave frequencies it is convenient to use a small loop antenna a few centimeters in diameter at the end of the output coaxial lead, which may rest on the table.

Table I

Oscillators Used:	Frequency Range:
Farnell Synthesized Generator DSG1	10 <sup>-4</sup> Hz to 10 <sup>+5</sup> Hz
General Radio Oscillator 1310 B	2Hz to 2MHz
Advance Electronics Signal Generator SG62 B	1.8MHz to 220MHz
General Radio Oscillator 1209 C	250MHz to 960MHz
General Radio Oscillator 1218 A	900MHz to 2GHz
General Radio Oscillator 1360 B	1.7GHz to 4.2GHz

It is important to know whether the patients have any chemical sensitivities and whether anything in the testing room is affecting them.

While the case histories are being taken, all the apparatus should be turned off and disconnected from the power outlets. In the case of microwave oscillators, it is recommended that these be kept elsewhere until needed, because we have found that a passive microwave resonant cavity coupled to an antenna can be an effective trigger for an allergic response in patients with extreme sensitivities in the microwave region. This implies that such patients may emit radiation and hence there may also be mutual interactions between the patients, in which case they must be tested singly. To avoid saturating and triggering allergic responses in the subjects with an overload signal and then losing any further responses for the immediate future, it is then convenient to take an oscillator out of the room and plug it in about 30m away down the corridor. About 1 Hz. (60/min) seems to be a good frequency to use to start with. Tests can then be made to see the levels at which the patients can accurately detect whether the oscillator is on or off. Of course, there should not be any other electrically sensitive patients within perhaps 100m of the testing room (this depends on the construction of the building) unless they are supervised and it is known that they can be readily neutralized. This preliminary test gives an estimate of the threshold levels of the particular patient's sensitivities.

It is difficult to assess the response of patients at sub-hertz frequencies and this is still a research exercise. The response time for electrical sensitivities is likely to be about 15 seconds for reported sensation and eyelid movement, and about 45 seconds to regain muscle tone. It is possible to go through the whole range of frequencies and

yet get no patient response; however, delayed allergic reactions may occur even a day later. As remarked, it can be conveniently started around 1 Hz and the frequency slowly increased while noting down the reported reactions. Frequency regions covering very adverse patient reactions need to be scanned rapidly; regions where the subject is "normal" should be particularly carefully recorded; regions where the subject goes "high" may be found. It can take several hours to cover the full frequency range. Although being challenged electrically patient may recognize allergic responses which correspond to chemical allergens; a "perfume reaction," a "beef or reaction," a ketone reaction," a "music reaction," a "made fibres reaction" and a "thunderstorm reaction" I all been described.

The question as to how far to go in frequency depends upon the patient. Some show a clear recurring pattern of reactions and neutralizations. When a stable neutralizing frequency can be found (as with stable dilutions), this is then used for neutralization. However, sometimes the patient will only show adverse reactions right up to the microwave region. If no neutralizing frequency is found up to the highest frequency available from the oscillator it is possible that one will be observed if the frequency more slowly reduced from the maximum; it having been passed through too rapidly for the patient to respond on the first occasion. If still no satisfactory neutralizing frequency is found it will be necessary to neutralize the patient on one of their chemical allergen dilutions. We have challenged chemically — neutralized chemically, challenged electrically — neutralized chemically, challenged chemically — neutralized electrically and challenged electrically — neutralized electrically.

#### Selection and Testing of Patients

The patients selected for this study were people who gave a history of hypersensitivity to electromagnetic appliances or fields; this is very clearly a clinical problem rather than an engineering problem. The degree of sensitivity found could not be controlled in any practical way by screening electromagnetic sources and is in any case well below the levels in thunderstorms and other geophysical phenomena. It is, however, worth remembering that although nature has evolved in an environment saturated with electromagnetic radiation from the sun and the environment, the arrival of highly coherent sources of electromagnetic fields such as the 50 Hz/60 Hz power distribution systems, (coherent to a fraction of a second) electrical machines, radio and T.V. transmitters, radars, lasers, etc. are all very recent on the evolutionary time scale.

The selected patients were tested intradermally by the Miller technique using surface application and by comparison with antigen solutions to determine their neutralizing doses. They were then also tested by confrontation with electromagnetic fields as described above.

## Experimental Results

Preliminary measurements on two patients (subjects J.B. and L.P.) have already been reported.<sup>4</sup> These were remarkable in the extreme changes of mood produced with quite small changes in frequency within the audio frequency range. While subject J.B. was being tested, it was found that subject L.P. had become unconscious in the corridor outside the laboratory. It was necessary to move her two floors up the building to adequately isolate her while tests on J.B. were completed; these concluded with a very strong adverse reaction at 4 kHz and the subsequent comment that it was a "perfume reaction," from which the subject was chemically neutralized. Subject L.P. was then tested and at the first neutralizing frequency found (105 Hz) she regained full consciousness. No further testing was done because she was so sensitive. The electrical field at this subject would have been of the order of 1mv/m. It appears that extremely sensitive subjects can respond to small signals in their environment even against much greater background of the 50 Hz/60 Hz power supply frequencies usually to be found inside buildings. A similar specificity is found with chemical allergens. The high sensitivity and immediate response of subject J.B. enabled a number of interesting measurements to be made. In the first of these, tubes containing (59 and 60) dilutions of the mold, *hormodendrum cladsporium*, against which this subject was reacting at a distance of ½ meter, were first placed on the top of a tall glass cylinder containing water. The clinical assessment was recorded as a function of the distance of the subject's fingers on the cylinder below the tube of *hormodendrum cladsporium*. The effects showed a 10cm periodicity suggesting some interaction between the subject and the allergen which was "wave-like" in respect of distance.

The second measurements suggested that the interactions in this case were electromagnetic in origin. When a tube of *hormodendrum clad.* was placed inside a solid aluminium container and was brought right up to the subject—there was absolutely no reaction. A 1cm square metal mesh (corresponding to a 15 GHz high pass filter) gave negligible screening of the tube of allergen and a large reaction was obtained. Screening the tube by a 3 x 1½ mm aperture mesh (corresponding to a 100 GHz high pass filter) had an intermediate effect. It was subsequently confirmed (by courtesy of Dr. J.R. Birch, National Physical Laboratory, England) that the glass tubes used had an absorption commencing at 30 GHz and completed by 300 GHz and would have just transmitted to frequencies around 100 GHz suspected of being responsible for the patient-allergen interaction. This is exactly the part of the frequency spectrum in which Frohlich predicted coherent electrical vibrations in the cell membranes of biological systems. It would appear that the allergen acts as resonator, while the reacting allergic sub-

ject acts as the active device in electronic terms; coupling the two together would trigger the allergic reaction. This might be considered to be analogous to a control system becoming unstable or oscillatory, remembering that allergy is also defined as the "failure of a regulatory system."

Subject S.L. is the most sensitive allergy patient so far measured. Reactions were obtained over the frequency range 10<sup>-4</sup> Hz (1 cycle in 2¼ hours) to 2 GHz (2 x 10<sup>9</sup> Hz). This subject only responded to coherent oscillations when in a reacting allergic condition. Then she responded to signals even lower in level than the background electromagnetic ambient. This clearly presents a great problem in measurement which is still being researched. At present all that can be said is that this subject reacted or was neutralized at certain frequencies in the 2 Hz to 200 MHz range when the oscillator output was connected to a 1 meter length of wire 1 meter away from the chest region of the patient. This is close to the thermal noise limit. At microwave frequencies the power levels were less than a micro watt per square centimeter. The reactions of subject S.L. on subsequent testing as a function of the full range of frequencies used are shown in Figure 1; these include the clinical assessments made by one of us (J.M.). The important factor in all these electrically sensitive patients appears to be the frequency the signal strength is of secondary importance once a critical signal strength is exceeded. Only when trying to optimize the neutralization conditions slight changes may be observed following quite major alterations in the signal strength.

In an earlier testing, this patient (S.L.) had volunteered to be challenged by being taken near overhead powerlines when in an allergically reacting state so that the environmental effects could be clearly recorded by independent observers.<sup>5</sup> This removed her from all the other electromagnetic background of buildings and an urban environment. The nearest distance it was judged safe to approach the overhead powerlines was 200 meters; here the patient convulsed. On the return trip to the clinic, the ambulance had to pass beneath overhead powerline, the patient again convulsed inside the ambulance as it passed beneath. Back at the clinic the patient was neutralized electrically at a frequency of 144 MHz (2uV or 1 meter wire, 1 meter distant from the bed)—then she felt better. This frequency was left on during the night. About ten hours later she started to react and the neutralizing frequency was found to have moved to 107 MHz.

This subject stated that she and many other allergic patients attending the clinic had been born of premature birth. Premature babies often remain in incubators for varying periods of their time in hospital; conventional incubators offer a 50 Hz/60 Hz environmental field. One wonders whether this increases their tendency to electrical hypersensitivities later in life.

Number 3

Figure 1: The Allergic Reactions of Subject S.L. #3 as a Function of Frequency.

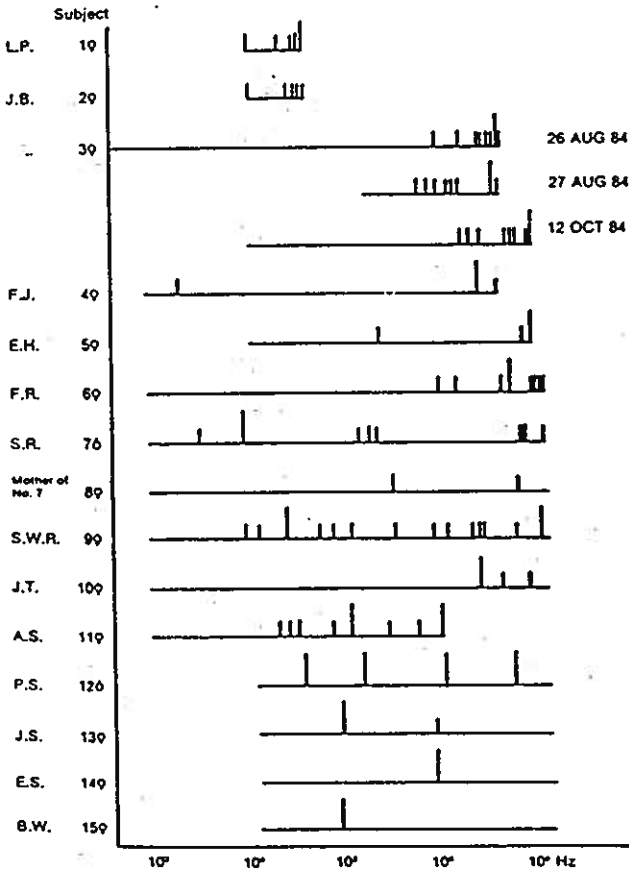
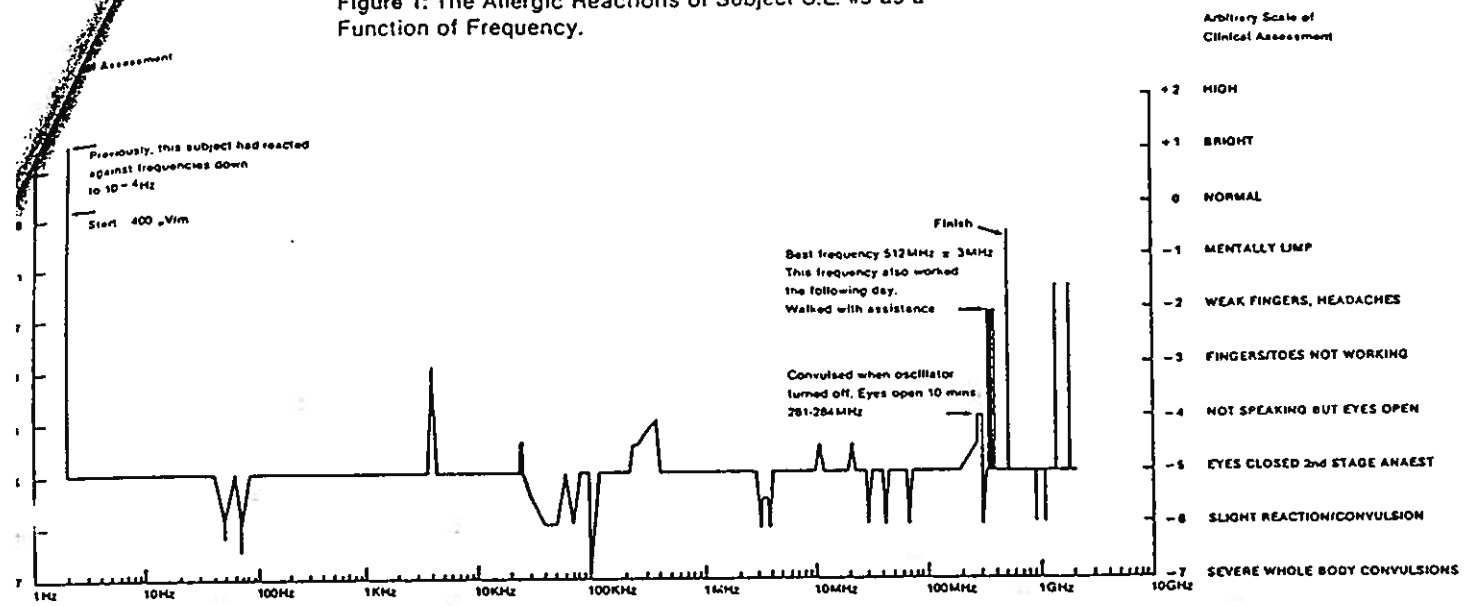


Figure 2: The Neutralizing Frequencies for 15 Patients. The longer lines represent the frequencies which gave stable neutralization and were used singly or in combination to treat water/saline filled tubes for long term therapy. The shorter lines represent frequencies at which near normal conditions were obtained; this should be taken to imply that allergic reactions were found at all other frequencies. The horizontal line indicates the range of frequencies covered in that particular test. In this figure, Subject 1 is L.P.; Subject 2 is J.B.; Subject 3 is S.L. as mentioned in the text.

Figure 2 shows, diagrammatically, the neutralizing frequencies noted for the first 15 patients tested in detail. Allergic reactions of various degrees of severity were obtained at all the frequencies over the range tested other than the neutralizing frequencies as shown. About 60 patients have been tested or re-tested to date. Tables II and III summarize the results of some clinical observations. A few patients have consistently held their neutralizing frequencies for more than a year.

The interaction between responses chemical and electrical in nature is well shown in the following case objective changes in the ECG which were repeatedly obtained.

Mrs. B.T., a 46-year-old State Registered Nurse with a 15-year history of allergic illnesses, had as her main symptoms extreme fatigue, mental disorientation, aggressiveness and cardiac arrhythmia. She was challenged intradermally with an extract of banana and immediately developed a cardiac arrhythmia which righted itself when she was given the neutralizing dose. A specimen of these E.C.G. tracings is shown in figures 3 and 4.

### Therapy for Electrically Sensitive Patients

The therapy problem arose first with subject S.L. in that it was eventually found necessary to repeatedly neutralize her at 512 MHz but the oscillator could not be made constantly available at the hospital and was in any case a research instrument and not suitable for general or home treatment purposes. It was then remembered that the homeopathic pharmacopoeia includes potencies of electricity and magnetic remedies.

Accordingly we placed phials (B.D. silicone coated "Vacutainer") containing saline or a mineral water tolerated by the patient (e.g. "Malvern") inside the output coupling loop of the oscillator and exposed this to 512 MHz for 5-15 minutes. This gave exactly the same re-

Table II  
Patients with a History of Electromagnetic Sensitivities

Initials	Fig 2 Refs	Age	Sex	Diagnosis	
L.P.	1	15	F	RHINITIS MIGRAINE	History of electromagnetic sensitivities. Overhead power lines produced unconsciousness when in a highly allergic state.
J.B.	2	30	F	COLITIS	Overhead power lines produced extreme weakness when in a highly allergic state.
S.L.	3	38	F	MIGRAINE RHINITIS WEAKNESS	Overhead power lines produced extreme weakness when in a highly allergic state, and led to coma.
F.J.	4	57	F	PAROXYSMAL TACHYCARDIA	Since 1982 reactive to electric typewriter and other electrical equipment—this produces paroxysmal tachycardia.
E.H.	5	19	F	HEADACHES	Since 1984, on the introduction of computers into her office, she was quite unable to work, developing severe headaches and she also had to stop athletics at the Crystal Palace (nr London, England) where there is a TV high power transmitter, because of loss of muscle tone, breathing and fainting; she hears hissing noises when there. Her athletic ability is also affected by the power lines over the training track at Carshalton (nr London). She runs 3000m upwards and has done a 4-minute mile. A word processing computer was recently installed in her work place; her headaches became more severe. They are more severe when she is near the terminals.
F.R.	6	53	F	COLITIS FATIGUE MIGRAINE	When she travels beneath overhead high tension wires she gets extreme pain in glands in the anterior triangles of her neck; she also becomes aphonic. Adverse effects also occur in humid and pre-thunderstorm weather characterized by weak pains in the glands in the neck. She had glandular fever in November 1983. When passing under electric pylons in a car, she has the same symptoms if it is overcast; these symptoms persist, resembling a glandular fever for three days. She has an electric cooker but she only uses the hob; she cannot tolerate meats cooked inside the oven, but tolerates cakes, etc. Use of electric toaster gives trouble in summer when humidity is high. Her own hair dryer causes no problem but hairdresser's hair dryers do, even when they are hand held. Electric iron gives discomfort. She finds it helps to unplug all electric sockets at night. Fluorescent lights in shops cause symptoms.
S.R.	7	13	M	FATIGUE HYPERACTIVITY HEADACHES	Since 1984, electric light bulbs, computer games, television, electric car hand-held controls produced malaise, fatigue, severe headache and hyperactivity. He reacts to fluorescent lights in shops.
S.W.R.	9	41	F	HEADACHES FATIGUE	Since 1965, she has taught deaf children and has worn a microphone-radio transmitter on her chest and the children have receivers and hand sets. This has induced headaches and severe fatigue necessitating 12-15 hours sleep a night.
J.T.	10	50		MIGRAINE	Electric equipment induced headache.
A.S.	11	41		MIGRAINE	Fluorescent lights cause severe headache after few minutes' exposure.
P.S.	12	39	M	DEPRESSION LETHARGY HEADACHES	Ill when travelling south. Got shocks from dictaphones; these were checked and found to have no electrical leakage.
J.S.	13	61	F	MIGRAINE	Lived under pylons for 25 years. She now gets severe attacks of migraine when exposed to some electrical equipment, especially overhead high tension cables and to color TV, and she had to move house when off-shore surveillance radar was installed near her home.
E.S.	14	41	F	MIGRAINE	Extreme hypersensitivity to cold—resulted in headaches. These were more severe in the presence of electrical equipment, illustrating a cumulative physical load phenomenon.
B.W.	15	35	F	FATIGUE	Since 1985, video machines introduced into her office induced over-fatigue, allergies previously controlled became out of control.
J.M.		41	F	MALAISE	She developed severe weakness when she had an allergic colitis reaction on exposure to electrical apparatus.
L.W.		32	F	MIGRAINE COLITIS	A computer produced faintness and dizziness, headaches, nausea and diarrhea.
H.G. Not Tested		61	F	TINNITUS	Since 1976, she has been sensitive to electrical (not tested) appliances. Tinnitus and fatigue were her main allergy symptoms. A vacuum cleaner gave "prickles all over" sensation. Fridges and freezers and an electric cooker made her lean over towards it, as did lamp posts and transformers in the street; she went into a deep sleep after meals; she committed suicide in 1984.
P.R.		46	F	ECZEMA	Two-year history from 1982, electrical sensitivities aggravated eczema.
A.H. Delayed Reaction		65	F	FATIGUE	Overhead wires near her home in Norway induced paroxysmal tachycardia. She developed tachycardia and panic reactions when in the mountains. Power lines descend down the mountains over a crest, and pass 500m from her cottage (wooden).
H.B.		49	F	FATIGUE	Overhead high tension wires near her home are thought to have induced severe fatigue and headaches. These cleared when she moved from the area.
A.B. Not Tested		19	M	ASTHMA	He had an acute asthmatic attack when he went under overhead high tension wires on a very damp night. He drove off the highway and subsequently died of an asthma attack walking back under lines for assistance.

Table III  
patients with Specific Reactions  
to Electromagnetic Fields

Initials	No.	Description
E.H.	5	Oscillator scanned over frequency range, 2Hz-2GHz. Patient felt odd in the leakage field at minimum setting with no connections to output terminals of oscillator. At 3-4Hz, vision reduced to outlines at maximum oscillator output, but again no connection to output terminals, only instrument leakage fields. Signs and symptoms during testing—immobility; rigid foot; crying; flaccid limbs; severe headaches. At 1630 MHz patient was symptom free, started on "philosophical discussions"
F.J.	4	With the oscillator in the patient's room, minimum output, no connections to terminals. 4Hz-5.5Hz symptoms—pulling sensation in hand; buzzing feeling in body; tingling of scalp. Tested with a pendulum in her hand—definite frequencies for maximum and minimum amplitude observed over the range of 4Hz-220MHz. At 32.4MHz—pendulum stabilized and also reported that she felt better.
F.R.	6	At certain frequencies from 55Hz to 3.5GHz symptoms—she developed eye pains, weakness and headache.
S.R.	7	(Male) At 2Hz symptoms—watering eyes; at 0.9Hz and 15-24Hz euphoria; at 8MHz—pain in right leg; at 700MHz, 300MHz, 720MHz, 1060MHz—pain in left leg.

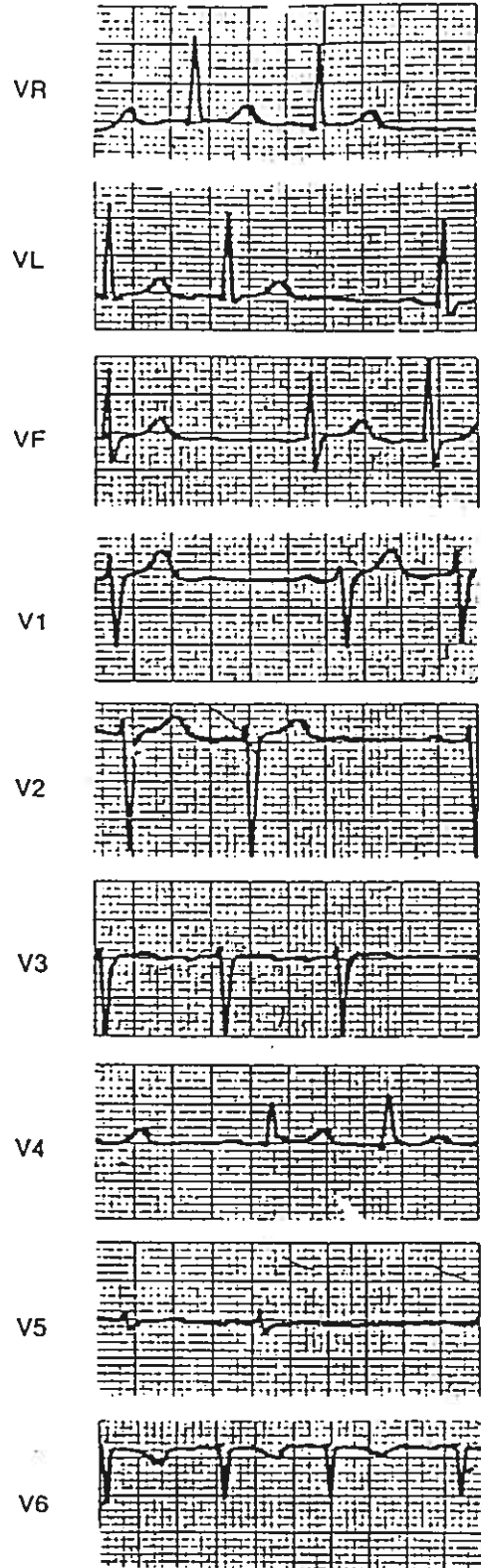


Figure 3: The E.C.G. of Mrs. B.T. showing cardiac arrhythmia developed following intradermal challenge with an extract of banana (dilution #4).

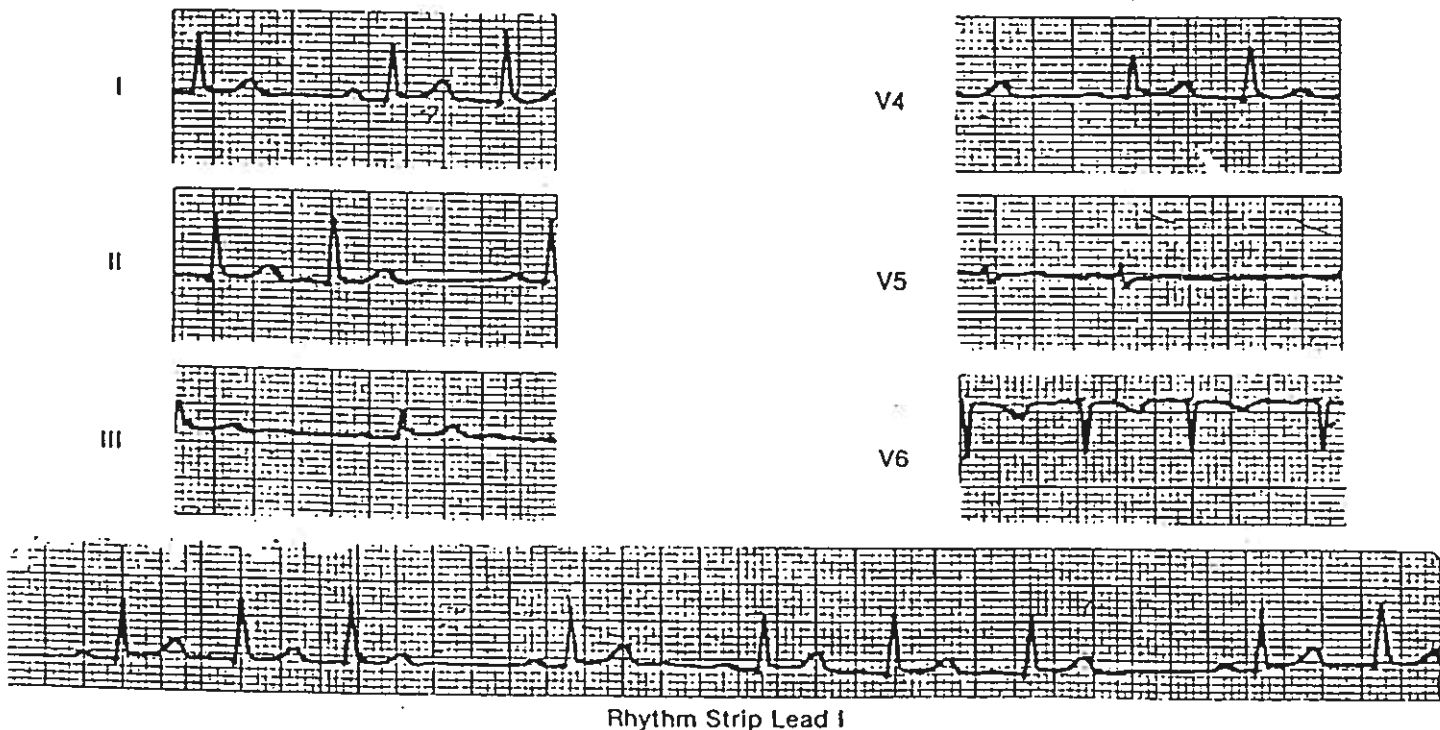
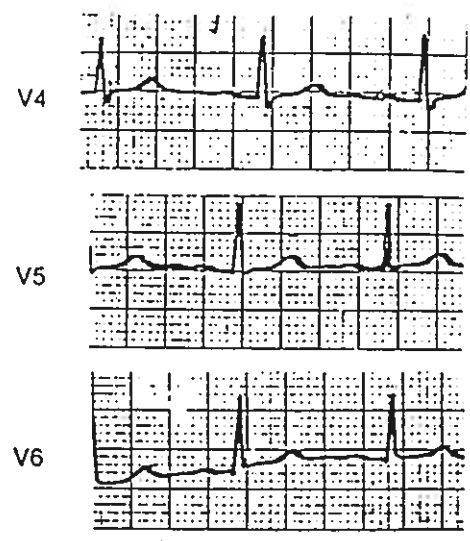
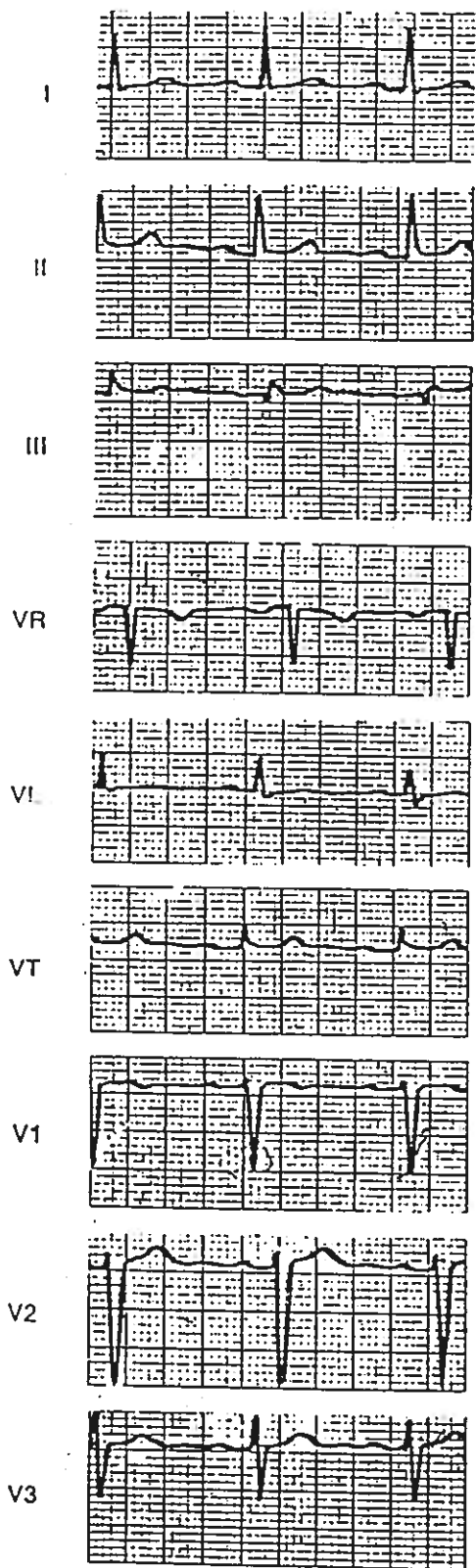


Figure 4: The E.C.G. of Mrs. B.T. when given her neutralizing solution (#10) of the extract of banana. Testing at a rate of 1:10 dilution each 10 min. means that the tracings in Figure 4 were taken 1 hour later than those in Figure 3.



response when held by the patient as that obtained when the oscillator was taken into the patient's room and switched on.

This technique has been repeated at a number of frequencies with many different patients. It seems that water is able to "remember" for at least six weeks the frequencies of magnetic fields to which it has been exposed. It is still not clear whether the water or the patient has altered by this time or whether the patient's own electromagnetic emissions have altered the water. Several frequencies can be superimposed successively in cases where it is not possible to neutralize all the patient's reactions with a single frequency. However, a frequency giving provocation takes precedence in its effects over those of the neutralizing frequencies.

We have found that water so exposed can be serially diluted to produce the recurring pattern in response with dilution which is characteristic of the chemical allergens. It also implies that the effects of extreme dilution beyond the point at which no molecules would remain, and high potencies in homocopathy must be physical and not chemical in origin, however the initial therapeutic substance may have been prepared.

The electrical end points achieved for each of the patients tested were documented. Each patient was given a phial containing saline which had been "potentized" by exposure to a magnetic field at the frequency at which their symptoms were negated, and were asked thereafter to hold the tube for 5 minutes daily and on the inadvertent exposure to their particular electromagnetic allergen or to wear it near the skin. We have not yet fully documented the efficacy of these tubes, but in those patients in whom the antigen dilutions had been utilized for more than 10 months we have found that their symptoms are negated when these electromagnetically potentized solutions are utilized. A new phial of the solution has to be employed after a period between six weeks and two months has elapsed, but this can be prepared without the attendance of the patient.



Discussion

We have found that people react to electromagnetic fields over an extremely broad range of frequencies.

Patients with allergies have been shown to react to these frequencies manifesting symptoms similar to those which they show when allergically provoked, either by antigen, as encountered in the environment, or by antigen challenge. The challenges have been by intradermal, cutaneous or confrontation exposure.

The doses of potentized saline given to patients have protected them when they became exposed to electrical equipment and or environmental electromagnetic fields that had previously induced symptoms.

We have demonstrated that shields interposed between the phials and the patients on confrontation neutralization have been able to modify the symptoms manifested by the patient. Metal meshes 1cm in size have not altered the reactivity of the phials, whereas mm size meshes have. The frequencies corresponding to these fine mesh sizes would have been in the 100 GHz range. It is known that yeast cells respond with very sharp periodicities to frequencies around 40 GHz<sup>6</sup> and around 30 GHz.

It is possible that the symptoms induced in patients by electromagnetic fields are due to interference with endorphin release since Sicuteri<sup>7</sup> has suggested that

migraine is a syndrome of withdrawal symptoms to endogenous opiate insufficiency. It is known that electrical stimulation can interfere with endogenous opiate production. We also suggest that antigens act by interfering with the body's own homeostatic mechanism for maintaining electrical equilibrium as shown by the effects of an allergen on the ECG wave-form. In allergic patients their regulatory control is in some way imperfect. Antigenic dilutions at the neutralizing concentration seem to act to stabilize a faulty regulatory system.

Conclusion

Non-thermal and non-ionizing electromagnetic fields can have a profound effect on biological systems and this can account for illnesses that have hitherto not been explained by current knowledge. More research needs to be done into the properties of water<sup>8</sup> as these special properties can be enhanced and put into good use, especially in the field of therapeutics. The effects are primarily frequency specific once the triggering threshold has been exceeded for a particular patient.

APPENDIX  
Electromagnetic Radiation and Biological Systems

Radiation	Frequency Hz	Wavelength	cm <sup>-1</sup>	Quantum eV	Chemical k Cal/Mole (kJ/Mole)	Thermal K
Ionizing	3x10 <sup>16</sup>	100 nm	100,000	12.4 eV	260.00 (1090)	130,000
UV						
Visible	10 <sup>14</sup>	300 nm	30,000	3.7 eV	86.00 (360)	43,000
IR	10 <sup>14</sup>	3 μm	3,000	0.37 eV	8.60 (36)	4,300
	10 <sup>13</sup>	30 μm	300	37 meV	0.86 (3.6)	430
Ambient Temperature				25 meV		300
SUB-MM	10 <sup>12</sup>	300 μm	30	3.7 meV		43
MM	10 <sup>11</sup>	3 mm	3			4.3
CM	10 <sup>10</sup>	3 cm				
	10 <sup>9</sup>	30 cm				
RF	10 <sup>8</sup>	3 m				
	10 <sup>6</sup>	300 m				
Audio	10 <sup>4</sup>	30 kHz				
Flicker	10 <sup>3</sup>	30,000 kHz (Earth's Circumf.)				
Telluric	10 <sup>2</sup>					

DIELECTRIC PROPERTIES  
 α DISPERSION (Water Relaxation)  
 β<sup>\*</sup> DISPERSION (Proteins)  
 β DISPERSION (Maxwell-Wagner)  
 α DISPERSION (Ions and Membranes)



## References

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It is more important to know what sort of person has a disease than to know what sort of disease a person has.

Hippocrates  
460-377 BC

A physician is obligated to consider more than a diseased organ, more even than the whole man — he must view the man in his world.

Harvey Cushing  
1869-1939

(Quoted by Rene Dubos in  
*Man Adapting*, Chapter 12)

- otherwise it is washed out [11]
- e) a subject consequently can "resist" to a remedy if its message does not fit with the messages coming for instance from the emotional or mental activity of the brain [11]
- f) meditation or suggestion, namely unusually coherent activities of the brain, may act as homoeopathic remedies and then have somatic consequences [11]
- g) the placebo can act as an homoeopathic remedy [11] VERY GOOD

#### REFERENCES

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