

# **23rd ANNUAL INTERNATIONAL SYMPOSIUM ON MAN & HIS ENVIRONMENT**

## **Handout for Presentations**

### **“Electromagnetic Sensitivity and the ANS” and “ANS Involvement in Chemical and Electromagnetic Sensitivities”**

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#### **1. Background**

**Since 1974** – The writer has been involved since 1974 in research on the ‘Interactions of Electromagnetic Fields with Bio-Materials and Living Systems’. He cooperated in this with Professor Herbert Fröhlich FRS. An early conclusion of this work was that there were anomalous magnetic field effects in water and living biological systems and that these were only explicable in terms of coherence phenomena giving long-range order.

**Since 1982** The writer first became involved in the diagnosis and therapy of patients ‘Hypersensitive to their Electromagnetic Environment’ in 1982 at the request of Dr. Jean Monro. Work with her electrically hypersensitive patients and with those of Dr. W.J. Rea has given an insight into the extremes of sensitivity of which living systems are capable as evidenced when their ANS control mechanisms fail.

The writer’s publications on “Electrical Hypersensitivity and Water Phenomena” and some definitions of electromagnetic quantities are listed at the end of this document. A set of “Notes for Patients on Electrical Sensitivities” are also appended as these may be found useful for clinicians to have available.

#### **2. Electromagnetic Hypersensitivity**

Electromagnetically sensitive patients almost invariably have a history of hypersensitivities to many chemicals, and/or foods and particulates. The autonomic nervous system appears to be the first body system to become involved. Patients may react within seconds to something in their environment. They can readily distinguish *verum* from *placebo*. The frequency and its coherence seemed to be the clinically important parameter. There is a threshold for the intensity or amplitude of the field at the

patient for the onset of any effects but, once this is exceeded its value usually matters little until the onset of thermal effects; *it is the frequency which is important.*

The clinical effects of frequencies are unique to each individual. Some frequencies are stimulatory or therapeutic and these usually alternate with depressive or stressful frequencies. This alternation of the stimulatory-depressive effect of frequencies is a general phenomenon with few exceptions. It resembles the effects produced by the serial dilution of an allergen, higher frequencies resemble higher dilutions or potencies.

The clinically effective frequencies range from near circadian (0.4 milliHertz, 2,500 sec/cycle or, 42 min/cycle) to above microwave frequencies (1 GigaHertz =  $10^9$  Hz) and sometimes to optical frequencies for patients hypersensitive to sunlight.

Identical reactions can be triggered in a patient by chemical means and neutralised with electrical frequencies or triggered electrically and neutralised chemically. The clinical effects of environmental frequencies or chemicals can be reproduced by water contained in sealed glass ampoules after its exposure to coherent frequencies of an alternating magnetic field *without any chemical contact*. The unexposed water produces no clinical effects.

Chemical toxicity in these patients is manifest through the appearance of *frequency signatures*. These are frequencies arising from H-bonding between water and the chemical. It has been possible to re-program the frequency imprints of a cell culture and have these were transmitted correctly to cultured daughter cells which demonstrates that lasting effects are possible. The presence of frequencies which fluctuate to a limited extent (a few percent) over time is a sign of a normal healthy biological system. Chemical contamination restricts this activity by imprinting a chemical signature frequency. After a patient has been chemically detoxified, a “memory” of the toxin may remain in the body and this needs to be removed.

### **3. Entrainment of Environmental Frequencies**

There is a surprising degree of interaction between living systems and external frequencies. Although the frequency bandwidth on a meridian is only about  $\pm 2\%$  of its mean frequency the latter can be ‘entrained’ or ‘pulled’ by external oscillations such as from an electrical oscillator or an environmental source of radiation such as a computer, TV, mobile phone, or the frequency signature of a chemical. This entrainment may be up to  $\pm 30\%$  before the acupuncture meridian frequency jumps back to its normal endogenous value. Table 1 shows this entrainment at the heart acupuncture meridian (He9). The endogenous frequencies were 7.768 Hz and 382 MHz. It should be noted that the 7.8 Hz endogenous frequency of the acupuncture point He9 (also the heart chakra) is exactly 6-times the heart-beat frequency 78/min; it is also one of the frequency bands in the Schumann Radiation from the upper atmosphere.

**Table 1**  
**Entrainment by Environmental Frequencies**

Exposure Frequency	He9 High Band	He9 Low Band
MHz	MHz	Hz
No Exposure	382	7.768
260	382	7.718
<b>270</b>	<b>270</b>	<b>5.245</b>
<b>370</b>	<b>370</b>	<b>7.652</b>
<b>390</b>	<b>390</b>	<b>7.864</b>
<b>400</b>	<b>400</b>	<b>7.933</b>
<b>450</b>	<b>450</b>	<b>9.830</b>
<b>480</b>	<b>480</b>	<b>7.657</b>
500	382	7.660

The subject was exposed to the high frequency only by sitting in front of the output loop of a microwave oscillator for 3 minutes after which the frequencies on acupuncture point He9 were immediately imprinted into water in a pipette and measured. The pipette tip was placed on the point and a magnet brought close to imprint. The microwave power density at the subject was estimated to be of the order of mW/m<sup>2</sup>. The frequency measurements took about 5 minutes following the exposure by which time the acupuncture point frequency had relaxed to its unexposed value so another measurement was possible. Table 1 shows that at 260 MHz and at 500 MHz there was no entrainment. From 270 MHz to 480 MHz, the frequencies measured on He9 had become entrained to the exposure frequency and the low band frequencies had also shifted in proportion. The frequencies where entrainment has occurred are shown red. Within entrainment, the high-band to low band frequency ratio is:  $50.8 \pm 4.7 \times 10^6$  (SD  $\pm 9\%$ ).

This is an example of the “Multiple Frequency Effect” characteristic of a coherent system where the constant parameter becomes the coherence length, this determines the wavelength. This makes frequency proportional to the velocity with which the coherence travels. Any velocity that the system will support has its corresponding frequency, this makes frequency a **fractal** quantity. Table 2 shows this effect for the optical spectrum of mercury imprinted into water, there are additional bands of frequencies in the microwave region and at low frequencies (ELF). It is this which couples the electromagnetic effects of environmental chemicals, microwave radiation to the endogenous frequencies of living systems.

**Table 2****Spectrum of Mercury Imprinted into Water -  
Showing Multiple Frequencies Fractal Effect**

<b>Hg spectrum</b>	<b>Optical freq.</b>		<b>Microwave freq.</b>		<b>ELF freq.</b>
nm	Hz		Hz		Hz
	$\times 10^{15}$		$\times 10^6$		$\times 1$
185	1.62		935		19.31
254	1.18		680		14.38
365/6	0.820		472		9.843
405	0.740		425		8.925
436	0.688		396		8.358
492/6	0.607		347		7.235
546	0.549		315		6.633
577/9	0.519		298		6.262
615	0.488		280		5.832
623	0.482		276		5.832
		<b>Optical/MW</b>		<b>MW/ELF</b>	
<b>Ratio</b>		$1.7340 \times 10^6$		$47.70 \times 10^6$	
<b>Std. Dev.</b>		$\pm 0.34\%$		$\pm 0.75\%$	

**4. Frequency Measurements on Patients**

The procedures adopted for testing patients for electrical sensitivities are described in the appended "Notes for Patients" and in papers cited in the bibliography. When we started patient testing, we did not know what to expect. It was sufficient for the patient to sit in the same room as a set of electrical oscillators which were tuned slowly over a wide range of frequencies and the clinician noted the frequencies at which symptoms occurred and at which they were neutralised. Subsequently, patients came in who were so sensitive that they could not tolerate an oscillator being switched on anywhere in the building. For these, it was necessary to have the patient hold a vial of water held in the fist and success it on a wooden surface. This imprinted the body fields and frequencies into the water which could then be measured in the absence of the patient. It is just possible to measure such frequencies by instrumentation in the kilohertz region with electrodes or by heats of mixing (V. Elia, M. Niccoli, "Thermodynamics of extremely dilutes aqueous solutions", *Ann NY Acad Sci* 1999; **879**:241-8) These methods are only useful for validation. The only practical method for clinical purposes is the dowsing technique (Smith, 2004). Thus, allergists like civil and mining engineers may have to be told to go and learn it!

We found that about 10% of patients with chemical, nutritional or particulate sensitivities had acquired electromagnetic sensitivities. The frequencies measured for triggering the reactions or neutralising them covered a wide range but showed little recognisable pattern until it was realised that 7.8 Hz often appeared. This frequency is used in some therapeutic or protective devices to stimulate the heart meridian. Measurements quickly revealed that each acupuncture meridian (also the chakras) had a characteristic endogenous frequency (see Tables 3 & 4) and that many of the frequencies measured from these patients were those of the acupuncture meridians. Such measurements show those acupuncture meridians which are under stress and those which need stimulation.

Figure 1 summarises the frequency imprinting by 12 electrically hypersensitive patients who during the course of their therapy had imprinted a total of 57 tubes of water with a total of 726 frequencies. Of these, 167 would have been capable of synchronisation at a Ting acupuncture point, and 655 would have been capable of entrainment. Many patients had more than one frequency capable of entraining St45, hence the >100% values. There were only 49/726 frequencies outside any entrainment range. Ten patients who lived in the EU had imprinted 19/54 tubes with the 50 Hz power supply frequency. Two patients who lived in N. America had imprinted 3/5 tubes with their 60 Hz power supply frequency (nothing at 50 Hz). It appears that adaptation and entrainment to the power supply frequency is quite common among such patients.

The endogenous frequencies on acupuncture points and meridians can be followed right through to the target organ tissue itself. Frequencies were measured in histological microscope slides of the acupuncture target organ tissues where these were available. The paired-values correlation coefficients for classical points vs. target organs were:

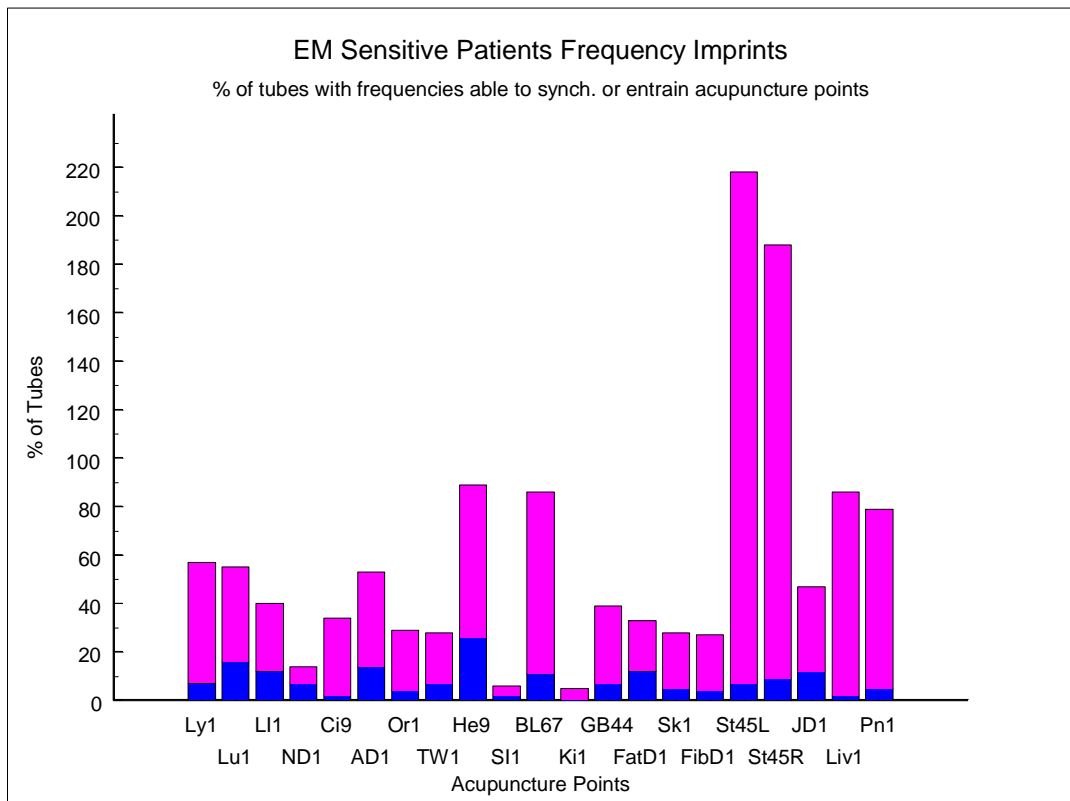
Low frequency band:	0.9999
High frequency band:	0.9771

The acupuncture meridians can be stimulated through the eye by looking at a flashing light. A light-emitting-diode was connected to an oscillator and was viewed towards its lens and at a comfortable brightness which did not give any noticeable after-image. The chakra and acupuncture points were checked for reactions when this was viewed at the frequency known to stimulate the particular chakra or meridian. All the reactions measured were of stress with both eyes open. There was only a reaction of awareness when viewing with either eye alone. With both eyes closed there was no response. All the chakra points could be stimulated. The acupuncture meridians found to be so affected were: ND, AD, Or, TW, He, BL, FibD, Liv, Ren, GV, Pe (see Table 4).

The endogenous frequencies on an acupuncture meridian are very precise. For 31 TW1 frequencies from 22 patients, the mean was 6.0178 kHz (S.D.  $\pm$  0.20%) and for 53 He9 frequencies from 38 patients, the mean was 7.7877 Hz (S.D.  $\pm$  0.92%).

**Figure 1**

**EM Sensitive Patients' Body Frequency Imprints into Water**



(Entrainment in red/grey. Synchronization in blue/black)

**Table 3****Ting Acupuncture Points (after Dr. Voll)**

These points are located on the skin at either corner of the nail bed

<b><u>Location</u></b>	<b><u>Target Organs</u></b>	<b><u>Acupuncture Points</u></b>
<b><u>Thumb</u></b>		
Outside	Lymphatic tissue, Lungs	Ly1
Inside	Lungs	Lu1
<b><u>Index Finger</u></b>		
Outside	Large intestine	LI1
Inside	Nerve degeneration	ND1
<b><u>3<sup>rd</sup>. Finger</u></b>		
Outside	Circulation, Pericardium	Ci9
Inside	Allergy	AD1
<b><u>4<sup>th</sup>. Finger</u></b>		
Inside	Organ degeneration	Or1
Outside	Triple Warmer, Endocrine	TW1
<b><u>Little Finger</u></b>		
Inside	Heart	He9
Outside	Small intestine	SI1
<b><u>Big Toe</u></b>		
Inside	Spleen, Pancreas	Pn1
Outside	Liver	Liv1
<b><u>2<sup>nd</sup>. Toe</u></b>		
Inside	Joint degeneration	JD1
Outside	Stomach	St45
<b><u>3<sup>rd</sup>. Toe</u></b>		
Inside	Fibroid degeneration	FibD1
Outside	Skin degeneration	Sk1
<b><u>4<sup>th</sup>. Toe</u></b>		
Inside	Fatty degeneration	FatD1
Outside	Gall bladder	GB44
<b><u>Little toe</u></b>		
Inside	Kidney	Ki1
Outside	Bladder (urinary)	BL67

**Table 4****Acupuncture Points and Nominal Values for their Endogenous Frequencies**

<b>'Classical' Acupuncture Meridians</b>	<b>Point Measured</b>	<b>Low Band Frequency</b>	<b>High Band Frequency</b>
		<b>Hz</b>	<b>MHz</b>
Lung	Lu1	0.48	24
Large Intestine	LI1	0.055	2.7
Stomach	St45 / right	0.044	22
Stomach	St45 / left	0.44	2.2
Spleen	Pn1	0.055	2.7
Heart	He9	7.8	380
Small Intestine	SI1	0.025	1.2
Urinary Bladder	BL67	5.5	270
Kidney	Ki1	0.00095	0.047
Pericardium	Pe9	0.25	13
Sanjiao (TW)	TW1	6000	300,000
Gall Bladder	GB44	0.05	2.46
Liver	Liv1	4.8	240
Du Mai (GV)	GV14	4.3	149
Ren Mai (CV)	Ren24	14	730
<b>'Extra' Points</b>			
Anmian I & II	Ex 8 & 9	3,000	
<b>Extra 'Ting' Points</b>			
Lymphatics	Ly1	0.06	2.95
Nerve Degeneration	ND1	0.00055	0.027
Allergy	AD1	2	98.4
Organ Degeneration	Or1	0.078	3.85
Fatty Degeneration	FatD1	0.74	36
Skin Degeneration	Sk1	0.0035	0.172
Joint Degeneration	JD1	0.3	148
Fibroid Degeneration	FibD 1	800	39,400
Circulation, pericardium	Ci9	0.05	2.46



## 5. Relation between Acupuncture Meridians and the ANS

The relationship between the acupuncture meridians and the autonomic nervous system (ANS) comes from the work of Dr. Reinhardt Voll. In his work, cited in English by Kenyon (J.N. Kenyon, "Modern Techniques of Acupuncture" Vol. 3, Chapter 11 – Disordered Autonomic Steering), Voll identifies a complete system of acupuncture points which indicate the functioning of both branches of the autonomic nervous system. These are listed in Table 5. These points, Voll accessed by his method of electroacupuncture (EAV). He found a drop in the electroacupuncture reading where there was stress on the corresponding part of the ANS.

To be able to relate the results of Voll to the writer's measurements of frequency it was decided to compare the percentage changes observed during electroacupuncture measurements with the resulting percentage frequency changes on the acupuncture meridians.

These measurements (Table 6) were made on Voll's summation point for the entire ANS (nerve degeneration meridian, ND1) on 7-days between February 15 & March 6, 2005 by the writer on himself. The measurement order was: RH frequencies, EAV % change measurement, RH frequencies; LH Frequencies, EAV % change measurement, LH frequencies. There were three frequencies to be measured in each water imprint - the frequency characteristic of acupuncture meridian ND1 ( $\sim 4 \times 10^{-4}$  Hz), the frequency characteristic of the sympathetic ANS ( $\sim 3 \times 10^{-3}$  Hz) and the frequency characteristic of the parasympathetic ANS ( $\sim 3 \times 10^{-1}$  Hz). These frequencies appear at those acupuncture points linked to the ANS in addition to the endogenous meridian frequency.

The frequency changes arose from the electrical stress imposed by the electroacupuncture measurement. The percentage frequency changes approximate to the percentage changes in the electroacupuncture readings. In practice, it is quite difficult to read the electroacupuncture meter needle movement as it takes place while the probe is being applied to the point. Mostly, there was a drop in the acupuncture reading but, where the acupuncture reading showed an increase, the frequency also increased. Measuring the frequencies characteristic of the sympathetic and the parasympathetic systems does appear to indicate which system is under stress on either side of the body.

**Table 5****EAV points Indicating the Functioning of the ANS**

		<b>ND1a Nerve Degeneration ANS</b>		
S10a	<b>Parasympathetic</b>		<b>Sympathetic</b>	GB20
GB11b	Vagus nerve nucleus in medulla		Sympathetic nerve - cranial	GB19a
S18d	Vagus nerve - cranial		Sympathetic nerve - cervical	GV16
S18c	Vagus nerve - cervical		Cervical ganglion	TW1a
S16	Pharyngeal plexus		Sympathetic trunk – thoracic	BL16*
S15	Oesophageal plexus /Vagus thoracic		Sympathetic trunk – abdominal	BL24**
S18	Pulmonary plexus		Coeliac plexus	S44c
S20 LR	Gastric plexus – anterior/posterior		Sympathetic - Pelvic	BL33
K20	Vagus nerve - coeliac		Inferior hypogastric plexus	BL63***
K21	Vagus nerve - hepatic			
K19	Vagus nerve - renal			
BL35	Sacral preganglion fibres			
BL34	Pelvic plexus			
BL32	Pelvic splanchnic nerves			

## **Notes for Table 5**

### **\*BL16 is the EAV summation point for:**

Ci8e/L	Thoracic aortic plexus
Ci8e/R	Cardiac ganglia
He8e	Cardiac plexus
Lu10d	Coronary plexus
Lu9a	Bronchial plexus

### **\*\*St44c is the EAV summation point for:**

St19	Phrenic plexus
Ki1b	Supra renal
Ki1d	Renal plexus
St30a	Testicular or ovarian plexus
St22/R	Superior gastric plexus
GB43c	Hepatic plexus
SI1a/R	Superior mesenteric plexus
SI1a/L	Inferior mesenteric plexus
Ci8a	Abdominal aortic plexus
LI1a/L	Iliac plexus
LI1a/R	Superior hypogastric plexus

### **\*\*\*BL63 is the EAV summation point for:**

Ki4	Renal or haemorrhoidal plexus
BL66c	Vesical plexus
BL49d	Prostatic plexus in male / uterovaginal plexus in female
BL50	Cavernous plexus of penis or clitoris.

After Dr. R. Voll from J.N. Kenyon, "Modern Techniques of Acupuncture", Vol. 3, Chapter 11.

**Table 6****Frequency Changes on ND1 Following Electroacupuncture Measurements**

<b>RH before</b>	<b>RH after</b>	<b>% mean frequency change</b>	<b>% EAV change</b>	<b>LH before</b>	<b>LH after</b>	<b>% mean frequency change</b>	<b>% EAV change</b>
<b>Hz</b>	<b>Hz</b>	<b>ND1</b>		<b>Hz</b>	<b>Hz</b>	<b>ND1</b>	
4.7542 $\times 10^{-4}$	4.5910 $\times 10^{-4}$	<b>3.49 %</b>	<b>5.29%</b>	4.8187 $\times 10^{-4}$	4.5839 $\times 10^{-4}$	<b>2.50%</b>	<b>6.71%</b>
$\pm$ 1.93%	$\pm$ 4.66%			$\pm$ 5.54%	$\pm$ 3.84%		
		<b>Sympathetic</b>				<b>Sympathetic</b>	
3.2485 $\times 10^{-3}$	3.1975 $\times 10^{-3}$	<b>1.48%</b>		3.2353 $\times 10^{-3}$	3.1198 $\times 10^{-3}$	<b>3.63%</b>	
$\pm$ 2.32%	$\pm$ 2.19%			$\pm$ 2.73%	$\pm$ 4.27%		
		<b>Parasympathetic</b>				<b>Parasympathetic.</b>	
3.2133 $\times 10^{-1}$	3.1660 $\times 10^{-1}$	<b>4.73%</b>		3.2169 $\times 10^{-1}$	3.1927 $\times 10^{-1}$	<b>0.76%</b>	
$\pm$ 3.89%	$\pm$ 3.79%			$\pm$ 4.02%	$\pm$ 4.94%		

**6. Magnetic Resonance in Acupuncture Meridians**

Once it was established that the acupuncture meridians carried characteristic endogenous frequencies, it was clear that a precise magnetic field (determined by the physical constants for the electron or proton) could also stimulate a meridian and thence the ANS through the linkages found by Voll. Those fields above the geomagnetic field are listed in Table 7; proton magnetic resonances are shown in italics. We had previously found that living systems could react to the magnetic resonance conditions even in fields as weak as the geomagnetic field (Jafary-Asl et al., 1983; Aarholt et al., 1990).

**Table 7****Magnetic Fields Exciting Resonances on Acupuncture Meridians**

<b>'Classical' Acupuncture Meridians</b>	<b>Point Measured</b>	<b>Low Band Frequency</b>	<b>Resonance Magnetic Field</b>	<b>High Band Frequency</b>	<b>Resonance Magnetic Field</b>
		Hz	Gauss	MHz	Gauss
Lung	Lu1	0.48		24	8.56
Large Intestine	LI1	0.055		2.7	0.96
Stomach	St45 / right	0.044		22	7.85
Stomach	St45 / left	0.44		2.2	0.79
Spleen	Pn1	0.055		2.7	0.96
Heart	He9	7.8		380	137
Small Intestine	SI1	0.025		1.2	0.43
Urinary Bladder	BL67	5.5		270	96
Kidney	Ki1	0.00095		0.047	<b>11.2</b>
Pericardium	Pe9	0.25		13	4.64
Sanjiao (TW)	TW1	6000	<b>1.42</b>	300,000	
Gall Bladder	GB44	0.05		2.46	0.89
Liver	Liv1	4.8		240	8.7
Du Mai (GV)	GV14	4.3		149	53
Ren Mai (CV)	Ren24	14		730	261
<b>'Extra' Points</b>					
Anmian I & II	Ex 8 & 9	3,000	<b>0.74</b>		
<b>Extra 'Ting' Points</b>					
Lymphatics	Ly1	0.06		2.95	1.05
Nerve Degen.	ND1	0.00055		0.027	<b>6.43</b>
Allergy	AD1	2		98.4	3.51
Organ Degen.	Or1	0.078		3.85	1.37
Fatty Degen.	FatD1	0.74		36	12.90
Skin Degen.	Sk1	0.0035		0.172	<b>40.9</b>
Joint Degen.	JD1	0.3		148	53
Fibroid Degen.	FibD 1	800	<b>0.19</b>	39,400	140
Circulation	Ci9	0.05		2.46	0.89

Proton magnetic resonance fields are shown in *italics*.

The other fields are for electron spin resonance.

The small intestine meridian is permanently stimulated by the normal geomagnetic field.

## 7. Chemical Frequency Signatures and the ANS

Figure 2 shows the frequency signatures for a number of toxic environmental chemicals measured in the blood of 22 EM sensitive patients. The frequencies entrained by the patients correlate exactly with those of the chemical signatures. The blood levels (where available) are the average of values of measured concentrations which varied by up to a factor of ten between different patients.

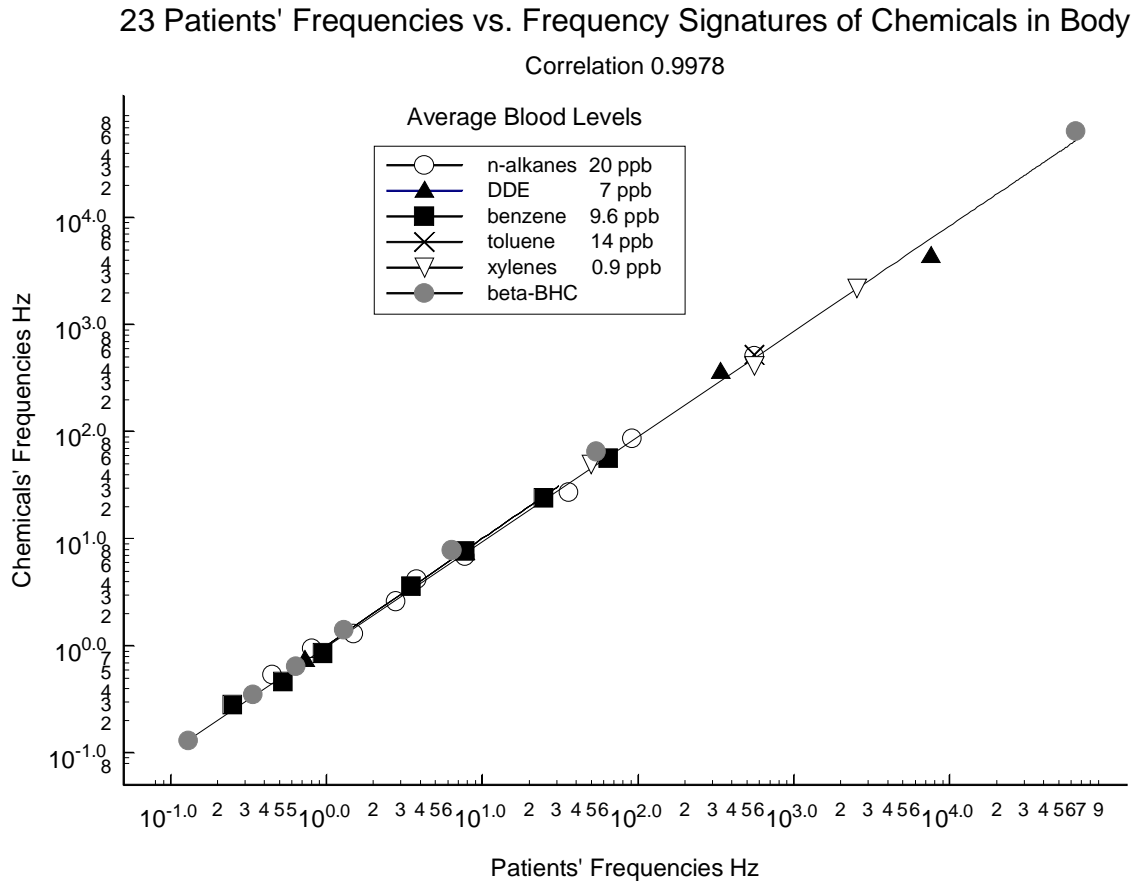
Figure 3 relates to a patient who was one of about 200 persons chronically exposed to a toxic chemical in their living environment. It was acquired in following manner: In a new building, the waste steam from the heating boiler was designed to be used to humidify the air in the air-conditioning system. In operation, an anti-corrosion and descaling chemical product was put into the boiler; this vaporised into the steam and was circulated throughout the building. The chemicals' signatures contained 31 frequencies. A particular patient's body field had 21 frequencies of which 10 corresponded exactly to those of the chemicals as shown in Figure 3. This represents an almost 50% entrainment of a patient's endogenous frequency activity by an identifiable chemical contamination in the building, namely cyclohexylamine and morpholine. Of the 10 frequencies common to the chemicals and the patient, any of the lowest three would entrain the allergy meridian, the next three would entrain the heart meridian which also relates to the cardiac plexus, and all but one would entrain the Du Mai meridian which relates to the status of the cerebro-spinal fluid and to the cervical part of the sympathetic chain.

In general, all biological cells are capable of emitting an electrical signal in response to a chemical stimulus and releasing a chemical in response to an electrical stimulus. Figure 4 maps the pathways for this activity and lists Voll's acupuncture points through which they would link to the ANS. The heavy arrows indicate the emission or absorption of a chemical, the lines indicate electrical pathways.

Tables 8 and 9 show some of the homoeopathic potencies which stimulate the ANS in the sympathetic and parasympathetic branches and the various acupuncture point linkages affected. Those potencies which affected the greatest number of acupuncture-ANS linkage points were selected from among potencies which the writer happened to have available.

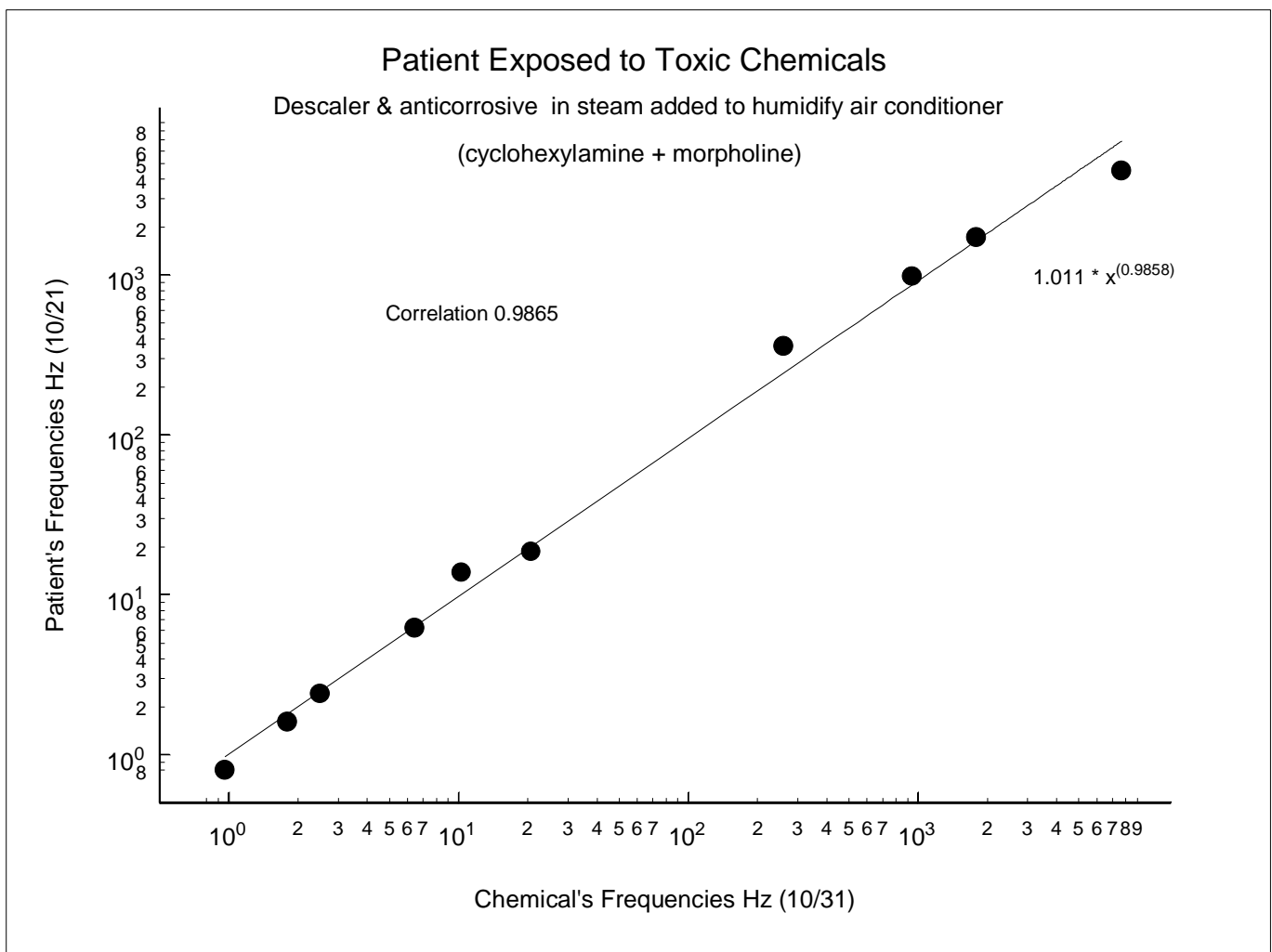
**Figure 2**

**Frequency Signatures of Chemicals in the Body**



**Figure 3**

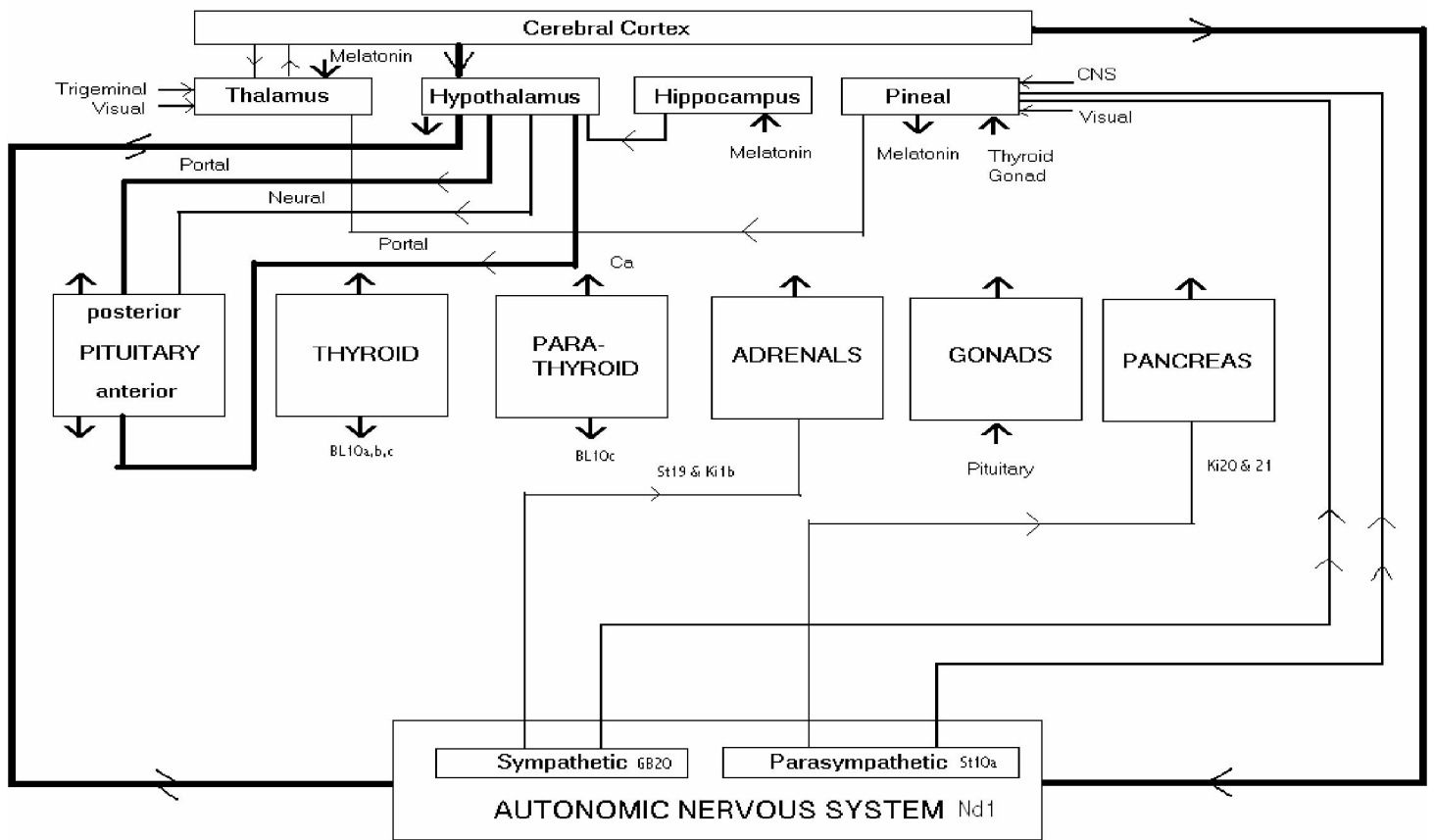
**Patient Exposed to Toxic Chemicals**





**Figure 4**

**ELECTROMAGNETIC INTERACTION SITES AND FEEDBACK PATHWAYS**



**Table 7****Homoeopathic Potencies which Stimulate the Sympathetic ANS**

	Sympathetic GB20	Sympathetic - cranial GB19a	Sympathetic - cervical GV16	Cervical ganglion TW1	Sympathetic - thoracic BL16
Arsenicum alb. 1M	X	X	X	X	
Lycopodium 6C	X	X			
Chamomilla 30C	X	X	X		
Ac. fluor. 6C	X	X	X	X	
Crotalus 6C/12C			X		X
Electricitas 200C			X	X	
X-ray 200C	X	X			
Carcinosin 200C	X	X			X
CA colon 200C	X	X			X
Petroleum 30C					
Rad. Brom. 1M	X				

	Sympathetic - abdominal BL24	Coeliac plexus St44c	Sympathetic - pelvic BL33	Inf. Hypo-gastric plexus BL63
Arsenicum alb. 1M	X			
Lycopodium 6C	X	X	X	
Chamomilla 30C			X	
Ac. fluor. 6C				
Crotalus 6C/12C		X		
Electricitas 200C	X			
X-ray 200C		X		
Carcinosin 200C				
CA colon 200C		X		X
Petroleum 30C		X	X	X
Rad. Brom. 1M	X			X

**Table 8****Homoeopathic Potencies which Stimulate the Parasympathetic ANS**

	Para-sympathetic St10a	Preganglion fibres mid-brain GB 10a	Vagus nucleus in medulla GB 11b	Vagus-cranial. /cervical St8 c/d	Pharyngeal plexus St 16	Oesophageal plexus St 15	Pulmonary plexus St 18
Arsenicum alb. 1M				x		x	
Graphites 10M	x		x	x			
Cu. met. 6X		x	x		x		
Carcinosin 200C	x				x		x
Phosphorous 6C		x					
Electricitas 200C	x		x				
Crotalus 6C/12C	x						
Rad. iod. 200C				x			
Rad. brom. 1M		x					

	Vagus – abdominal St 21	Gastric plexus ant. St 20/L	Gastric Plexus post. St 20/R	Vagus- coeliac Ki 20	Vagus- hepatic Ki 21	Vagus- renal Ki 19	Sacral pregang. fibres BL 35	Pelvic plexus BL 34	Pelvic – splanchnic nerves BL 32
Arsenicum alb. 1M		x	x	x	x	x			
Graphites 10M							x	x	x
Cu. met. 6X	x		x						
Carcinosin 200C	x	x	x						
Phosphorous 6C	x				x	x	x		
Electricitas 200C					x	x		x	x
Crotalus 6C/12C	x			x	x	x	x	x	x
Rad. iod. 200C		x	x	x	x	x		x	x
Rad. brom. 1M				x	x	x			x

## ANS active Chemical

Table 10 lists as an example the frequencies of a toxic chemical (glyphosate) for which the frequency signature is capable of linking to the whole of the ANS through ND1 (Voll's ANS summation acupuncture point) with further links to the sympathetic and parasympathetic branches through their specific frequencies. In addition there is linkage through the gall-bladder meridian to the preganglion fibres from mid-brain, the nucleus of vagus in medulla and the hepatic plexus; through the circulation meridian to the thoracic aortic plexus, the cardiac ganglia and the abdominal aortic plexus; through the Du Mai (GV) meridian to the cervical part of the sympathetic chain; through the Sanjiao meridian ('triple-warmer') to the cervical ganglion. The  $5.011 \times 10^{-2}$  Hz might also be able to entrain the LI meridian which relates through the ANS to the iliac plexus and the superior hypogastric plexus. The fibroid degeneration frequency might be a link to connective tissue.

In general, a chemical frequency signature locks up that particular frequency within the affected part of the living system and prevents normal fluctuations in response to the demands of metabolism or the environment at that frequency.

**Table 10**

### Herbicide (glyphosate)

= stimulatory (hyperactive)      ↓ = depressive or stressful (hypoactive).

Hz	Acu. Meridian	Effect on ANS
$4.536 \times 10^{-4}$	ND	ANS summation point
$3.617 \times 10^{-3}$		Sympathetic branch
$5.011 \times 10^{-2}$	GB	Preganglion fibres from mid-brain, Nucleus of vagus in medulla Hepatic plexus
$5.011 \times 10^{-2}$	Ci	Thoracic aortic plexus Cardiac ganglia Abdominal aortic plexus
$3.516 \times 10^{-1}$		Parasympathetic branch
$4.311 \times 10^0$	GV	Cervical sympathetic
$5.000 \times 10^{+1}$		50Hz (technical)
$8.031 \times 10^{+2}$	FibD	
$6.051 \times 10^{+3}$	TW	Cervical ganglion
$3.05 \times 10^{+5}$		Sympathetic branch

Note: Plants have a 'meridian' it runs from leaf nodes, to root nodes and to the root tips.

## Some Definitions

**Waves** - Regular or periodic variations or pulsations in space and/or time; their shape is the *waveform* (e.g. sinusoidal, rectangular, triangular, pulse).

**Frequency** - The number of cycles of regular or periodic variations per second of some parameter. An oscillator is a generator of frequency.

**Period** - The time between two adjacent corresponding points on a waveform, the reciprocal of the frequency is the period.

**Wavelength** - The distance in space between two adjacent corresponding points on a waveform.

**Amplitude** - The maximum, zero-to-peak, value of the oscillating parameter. Amplitude squared is the intensity and is proportional to power. The root-mean-squared (r.m.s.) value is  $1/\sqrt{2}$  of the peak value, it delivers the same power as a steady current or voltage having numerically the r.m.s. value.

**Phase** - The fraction of a complete cycle measured in degrees or radians (1 cycle =  $360^\circ$  or  $2\pi$  radians).

**Velocity of a wave** Velocity equals frequency times wavelength (metres/sec = cycles/sec  $\times$  metres/cycle).

**Coherence** - is an expression of the degree of constancy of phase, as for example between two oscillators or waves of nominally the same frequency. The bandwidth divided by the frequency is a measure of the extent to which perfect coherence (zero bandwidth) is achieved in a practical situation. *Coherence Length* is the distance over which the coherence is maintained. *Coherence Time* is the time for which the coherence persists.

## Electric Charges and Electromagnetic Waves

Electrostatics describes the properties of electric charges (e.g. electrons or ions) at rest. These charges arise from the structure of matter and the chemical bonds by which matter is condensed from gas to form a solid or liquid. The force on a given charge due to other nearby charges is the measure of the *electric field* in which it is situated. The work done by this force if the charge moves is its *electric potential*. Magnetic fields have an analogous set of parameters, they occur when electric charge is in steady motion. If electric charge is accelerated or decelerated, the changes in the associated fields travel out into space at the velocity of light, this is *electromagnetic radiation*. If these changes are

periodic at some frequency, a wave of oscillations at this frequency travels out into space with the separation between cycles being the *wavelength*.

### **Energy in an Electromagnetic Wave**

The energy per unit volume of the space occupied by electric and magnetic fields is proportional to the square of the field strength. The power density is that power (energy/sec) crossing one square metre, it is called the “Poynting Vector” and is proportional to the product of the electric and magnetic fields. This applies to most technological oscillations, and it is these electric and magnetic fields which give rise to mechanical effects (electric motor) and thermal effects (electric kettle, microwave cooker).

### **Quantum Effects**

Any material object cannot be sub-divided indefinitely, one must eventually come to its constituent molecules and atoms. Likewise, energy ultimately is packaged into so-called quanta. For a single quantum, the product of its position and momentum or, the product of its energy and time, both have a fundamental (Heisenberg) uncertainty associated with them. These products must be at least be equal to Planck’s Constant  $h$  divided by  $4\pi$ . The energy of the quantum is proportional to its frequency (energy = frequency  $\times$  Planck’s constant). A magnetic field is also quantized, a single quantum of magnetic flux equals Planck’s constant divided by twice the electron charge ( $\sim 2 \times 10^{-15}$  Wb).

A quantum can be in more than one place or its being found in each condition. The basic unit for computing systems using quanta is called the ‘qbit’; it is unlike the usual binary ‘bit’ (0 or 1) in that it only has a *probability* of having a particular value somewhere from 0 to 1. Memory in living systems is thought to involve the phase of quantum states as in a quantum hologram (P. Marcer & W. Schempp, “The Brain as a Conscious System”, *Int. J. General Systems* Vol 27(1-3) pp231-248, (1998). This is the only memory system which places the mental image where the object is in space and time (a necessity for all ball games).

These effects involve small probabilities which may only become significant if the frequency is very high, the distances very small or, the perturbing random fields from thermal vibrations are made very weak by extreme cooling. However, in a system of coherent domains such as the Del Guidice-Preparata model for water, perfect coherence is in theory possible if the system can vary the number of molecules in a domain (instead of the frequency) to accommodate the Heisenberg Uncertainty fluctuations. Many of the frequencies and fields discussed here involve the magnetic vector potential component of the magnetic field. The quantum nature of a living system is confirmed if it reacts to the magnetic vector potential field such as that generated by a toroidal coil. This field only has an effect on the phase of the wave function. Such systems may have the ‘Josephson Effect’ available, this offers frequency/voltage inter-conversion at 500 MHz/ $\mu$ V. All these are so-called “non-thermal” effects.

## **Electrical Hypersensitivity and Water Phenomena**

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