



RESEARCH REPORT

COMPARATIVE STUDY OF THE PROTECTIVE EFFECT OF AN IMPLOSION-TREATED DEVICE KNOWN AS THE PERSONAL HARMONISER

AUGUST 2000

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SUMMARY

This study investigated the claimed protective effect of a device called The Personal Harmoniser, which is said to depend on a mechanism known as implosion, discovered by Viktor Schauberger in the first decades of the last century. The producers claim that wearing the device will protect the human body against adverse health effects caused by weak electromagnetic fields and radiation from modern electrical and electronic appliances and instruments such as cellphones and visual display units.

In this study the model used to detect any protective effects was human peripheral blood lymphocyte viability. Lymphocytes ("T-cells") are a vital part of the cellular immune system, and are indispensable for tumour immunity, as well as protecting against infection and other toxic agents. Their viability is routinely assessed using a dye (trypan blue) where the intact cell shows transparent under a light microscope while damaged non-viable T-cells admit the dye and turn preferentially bright blue. By counting (blind) the numbers of white and blue stained cells in a culture sample the extent of viability can be assessed. There have been many studies of lymphocytes demonstrating that exposure to very weak ELF fields and RF radiations inhibits the competence of these cell types.

The method used here was to expose samples of a culture of isolated T-cells in various modalities with and without the device present, and compare percentage viability of the two groups of samples (the protected and the unprotected).

Cell Numbers	Viable (%)	Non-Viable	Total
Protected by Harmoniser	433 (72.8%)	162	595
Mu metal shielded*	384 (60.9%)	246	630

*standardised to same vol. as protected cells.

The resultsshowed that the protected cells enjoyed much higher post exposure viability compared with cells which do not have the benefit of the Harmoniser. Furthermore it did not seem to matter that the water in the Harmoniser had been imploded more than a year prior to the study, or that the Harmoniser had itself been previously exposed to ambient radiation. This study therefore confirmed the results of a previous study and leads us to conclude that the device lives up to its protective claims



INTRODUCTION

With the increasing use throughout the world of electromagnetic appliances and systems, at frequencies covering nearly the entire non-ionising spectrum, has come a gradual awareness on the part of users and producers alike that the fields and radiations emitted by electric and electronic products have biological consequences not always beneficial to health, and these at power flux densities too low to be simply the result of thermal change.

The scientific evidence has naturally been challenged by those whose commercial interests might be damaged by acknowledging this evidence, and even in May 2000 the UK Institution of Electrical Engineers, whose members encompass the power utilities and the telecommunications industries, continued to deny that such effects exist, thereby occupying an increasingly isolated position (Barker, Cartwright et al., 2000).

At the same time a bewildering variety of protective devices have arrived in the marketplace, the mechanism of action of many of which is little if at all explained in terms acceptable to the normal sciences. Moreover such devices rarely have been supported by peer-reviewed publications, and these twin disadvantages have led to scepticism and purchasing resistance.

The scientific evidence emerging indicates that there is clearly a need in today's society for effective protection devices against adverse EM field and radiation effects. There is a concomitant need to investigate such devices by means of studies using established scientific methods, and to formulate mechanisms which explain their interactions. The human peripheral blood lymphocyte has been used widely as a model for assessing the impact of noxious agents, particularly ELF and RF/MW electromagnetic fields, and may therefore also be used to assess the extent of protection within the normal sciences (tests such as kinesiology or aura inspection, though often producing impressive results, are not regarded as scientifically acceptable. Moreover tests for lymphocyte viability are also commonly used and reported in the scientific literature.

The Concept of Implosion

The mechanism of implosion was first described by Viktor Schauberger, (1885-1958) an autodidact Austrian forester whose work on water energy is described by various authors (e.g. *Implosion instead of Explosion*, Brandstatter, 1956; *Living Water*, Alexandersson, 1976; *Living Energies*, Coats, 1996;) and he himself published peer-reviewed papers. Schauberger in the 1920s and 1930s promoted the idea that in nature energy could be reconstituted by cycloid spiral motion of water. These were embodied in a serialised treatise published in *Die Wasserwirtschaft* (Water Technology), 1930-1931.

He noted in one experiment that large trout in a fast-flowing stream were sensitive to temperature increase too small to be detected by instruments, which altered their behaviour and adversely affected their ability to stay motionless against a strong current. He further knew from previous family experience (his father and previous generations were forest wardens) that log-bearing water could carry its greatest loads on cold clear nights around the time of full moon, and that large metal-bearing stones were raised from river beds to the surface by an upward spiralling motion of the water itself. He successfully applied this discovery to problems of log transportation, and was appointed Austrian State consultant for timber flotation, as well as building log flumes in several other countries including Yugoslavia and Turkey. In 1929 he patented an "inserted installation for controlling wild streams and flood regulation".

From these early researches Schauberger became interested in the energy contained in water. He argues that at 4 degrees C in water the oxygen is bound by the hydrogen, imparting a healthy lively quality, including a centripetal spiral motion, whereas above that temperature the energy diminishes and hydrogen is bound by the oxygen, leading to loss of carrying power and encouragement of pathogenic bacteria. He developed apparatus for mimicking this "living water" via creating cycloid spiral motion, patenting it in 1934.

In the last decades of his life Schauberger promoted the idea of implosion, saying:

"[Our object] must therefore be to publicise and widely and put before the Government the fact that the Einstein theory of energy gain through the splitting of the atom is an offence against nature, and that one can make use of atomic power through the biotechnology of implosion".

He concentrated on developing "implosion machines" duplicating natural implosion "through the diamagnetic use of water and air" which can be either bioelectrical (destructive) or biomagnetic (levitative), ideas which like the 19th century ideas of Tesla, were unlikely to appeal to Western capitalist societies since they required no fuel.



Schauberger's basic hypothesis was that hydrogen becomes active by cooling and combines with oxygen to produce a concentrated form of energy of lift and growth in opposition to gravitational force, whereas oxygen becomes active through heating to produce a dissipative energy which results in decomposition. Implosion is the result of natural centripetal movement in water and air.

After the war his ideas were tested at Stuttgart Technical University (1952) by Professor Franz Popel, Director of the Institute of Hygiene, who *inter alia* investigated whether molecular structural changes occurred in water during inward flowing motion. The results appeared to confirm Schauburger's claims.

US interest in implosion attended increasing global public awareness of implosion, but after a mysterious and traumatic three months visit to the Texas during the summer, ostensibly to exploit his inventions, Viktor Schauburger died in 1958.

Schauberger is remembered for his concerns over environmental degradation by technology, but his inventions remain largely unexploited today. The producers of the personal Harmoniser, the Centre for Implosion Research, claim that their device is filled prior to use with water subjected to implosion, and that this effect on water is beneficial to organic life and protects the user against the adverse effects of artificially induced electromagnetism. It is not clear whether Schauburger himself ever made this claim, being mainly concerned with the use of implosion as a motive force.

A previous study by this author (Coghill, 1999) suggested that imploded fluid in a specially constructed copper tubular container protects the viability of human peripheral blood lymphocytes against degradation by electromagnetic fields at RF/MW and ELF frequencies. The objective of this new study is to investigate the extent to which a fluid treated with an implosive process its efficacy over time in protecting biological systems from adverse effects of electromagnetic radiation. The protocol also tests that a protective effect is achieved with both recently and previously imploded fluids.

METHOD & MATERIALS

Human peripheral blood lymphocytes were isolated from a healthy 60 years old male donor by differential centrifugation on Histopaque (Sigma-Aldrich Chemicals Ltd.) from 30 ml of whole blood obtained via venipuncture of *v.cubitale* into vacutainers containing anticoagulant (K2), and maintained in RPMI 1640 nutrient with antibiotics and antimycotics. The baseline viability of the sample was checked after 25 hours at around 70 percent. Two standardized samples of Imploded fluid synthesized several months prior and exposed to a normal environment during that period (including exposure to a cocktail of environmental EMFs) were used to protect two samples from the culture during an 8 hour exposure period close to one cathode ray tube visual display unit (VDU).

The viability of these samples was examined post-exposure by trypan blue exclusion, a commonly used test for viability. In another room and separated by mu-metal shielding from the first set, a second set of two samples of Implosion-treated fluid, this time only recently synthesized, were exposed to a similar VDU, also for 8 hours. Both VDUs displayed the same screensaver during the exposure period. A third set of two samples was maintained in a double-skinned mu-metal container at ambient 20 degrees C. as a control. A fourth set of samples was maintained in culture geographically distant in a nearby building close to a VDU not switched on. The effect of coating the devices with silver and gold plating was also investigated in four other samples from the same culture.



In summary, the 12 samples and their exposure mode was as follows:

Table 1: Samples & Their Exposure Mode

Study	Energised	Type of Device	Exposure	Location
A	yes	Cu (old stock)	ambient	Laboratory rm 1
A	yes	Au	ambient	Laboratory rm 1
A	yes	Ag	ambient	Laboratory rm 1
C	no	Control	in mu-metal	Portakabin
C	no	Control	ambient	Portakabin
B	no	Control	VDU	Portakabin
B	no	Control	VDU	Portakabin
B	yes	Cu (old stock)	VDU	Laboratory rm 3
B	yes	Cu new	VDU	Laboratory rm 3
A	yes	Cu (exposed to cellphone for 1 year)	VDU	Laboratory rm 2
A	yes	Au	VDU	Laboratory rm 2
A	yes	Ag	VDU	Laboratory rm 2

Three studies were therefore embedded in these exposures: A) comparison of copper, gold, and silver Harmoniser effects, to see which of these types was most effective in conserving lymphocyte viability, B) comparison of newly-energised Harmonisers with those subjected to a period of exposure from cellphones and other ambient EMFs; and C) comparison of triple-skinned mu-metal shielding with ambient exposure to see if there is any inhibiting effect of the shielding on the efficacy of the Harmoniser. The last of these studies also serves as a general control.

All samples were counted double blind on the following day with the coding agent instructed to code the samples so that the several hours of time needed to count the 12 samples was not likely to bias the results.



RESULTS

The samples were decoded and analyzed to compare viability. This aimed to reveal whether a) the implosion protected samples were significantly more viable than the unprotected sham and control samples, and b) whether the recently implosion-treated fluid was significantly more protective of lymphocyte viability than fluid treated some months before. The results are given in tabular form below (Table 2):

Table 2: Summarised Results

The Controls:	Viable (%)	Non-viable	Total
1. Mu-metal encased, Unenergised, Separate building	64 (60.9%)	41	105
2. Ambient, Unenergised, Separate building	84 (69.4%)	37	121
3. VDU, Unenergised, Separate building	113 (76.3%)	35	148
4. VDU, Unenergised, Separate building	85 (75.9%)	27	112
VDU exposed:			
5. Copper (old stock)	99 (71.2%)	40	139
6. Copper (new stock)	71 (72.4%)	27	98
7. Silver-plated	58 (77.3%)	17	75
8. 2000 gauss Magnet	50 (64.9%)	27	77
Ambient exposed:			
9. Gold-plated	49 (75.3%)	16	65
10. Silver-plated	93 (72.6%)	35	128
11. Copper (old stock)*	17 (54.8%)	14	31
Previously Cellphone-exposed:			
12. Copper	63 (70.0%)	27	90

**data possibly corrupted.*

This part of the study was repeated with a different culture, the results were as follows:

Table 3: Comparison of Harmoniser energised 12 months previously

	Viable (%)	Non-viable	Total
Control (mu-metal)	2142 (81.8%)	476	2618
Copper (old stock)	505 (75.6%)	163	668
Unprotected	325 (70.8%)	134	459

These results cannot be compared with the data above since the culture was isolated from a different blood sample, on a different date. However they support the view that Copper (old stock) has a protective effect compared with controls.



DISCUSSION

General Considerations

An examination of the four controls (1-4) suggests that the cells least perturbed, i.e. encased in triple skinned mu-metal and maintained at 37 degrees C., were least activated, and showed the lowest counts (105), and the lowest viability (60.9%). (There was no likelihood of dissimilar oxygen deficits in this exposure regimen). By contrast, the cells near to a computer CRT screen showed the highest cell counts (mean 130) and highest viability (76.1%). This indicates that some care must be taken in interpreting the results of the various exposures; for example a high cell count and high viability could be the result of challenging the cells with a mitogen or pathogen rather than as indicating effective protection. Similarly a low count and high viability could indicate a good measure of protection, whereas a low count and low viability may simply be the result of cells being in a resting state, and this as a result of perceiving no challenge. It is also possible that a protective effect might have this latter result. The study data did not capture the size criteria which would enable distinction between activated and non-activated lymphocytes, though this should be retrievable from the video back-up.

A second important issue is whether the differences in cell count and viability observed have sufficient statistical power to be regarded as interpretable. For example, the three highest cell counts are VDU-exposed cells energised by a Harmoniser of copper (old stock), cells energised by silver-plated Harmoniser and ambient exposed, and VDU-exposed cells unenergised by any Harmoniser, and it is difficult to see any affinity between these groups other than exposure to a VDU in two of the three cases.

The total cells counted were as follows:

Table 4: Summary of totals, means and standard deviations

	Viable	Non-viable	Totals
Total	849	340.00	1189.00
Means	70.75	28.33	99.08
Sd	26.30	9.10	33.65

From this it can be seen that there is a large overall standard deviation of the data in relation to the mean, making comparison of subgroups of questionable value. In order to gain statistical power capable of detecting a difference of say 10 percent in terms of cell counts and viability a larger sample would be needed, as well as distinction between various major types of lymphocyte activity (e.g. Activated vs. Unactivated)

Comparison of gold-silver plated and solid copper material

This was determined by reference to samples 9-11, and showed that the gold-plated Harmoniser was marginally superior to the silver-plated in terms of viability, with copper (old stock) falling way below both in cell count and viability. However the copper (old stock) count was flawed due to an unavoidable interruption during the count, so that the cells were left under the light microscope much longer than normal, during which time some cells may have been degraded, and too much reliance cannot be placed on this sample's data. The gold- and silver-plated samples differ in that the silver-plated sample contained almost twice the number of cells as the gold-plated. As indicated this may be due to cell activation in response to what they interpret as a challenge, whereas the gold-plated Harmoniser protected cells may still have been in a resting state. On balance however, these data are compatible with the hypothesis that the gold-plated Harmonisers convey greater protection than the other types of Harmoniser.



Effects of time and ambient exposure on Harmoniser efficacy

This was tested by comparison between samples 5 and 6. All of these cell samples were from the same culture and were simultaneously exposed for 7 hours to a VDU cathode ray tube at 20 cm distance prior to blind counting. The results show that there was no difference between old stock (sample 5) and new stock (sample 6) regarding viability (71.2 % versus 72.4 %) but the old stock energised sample gave a near 40 % higher cell count (139 versus 98), which, as indicated, may be due to a greater degree of activation. Moreover sample 12, exposed to a cellphone exposed Harmoniser, showed a 70 % viability (90 cells in total), which is very similar.

On balance the data support the view that there is no difference in effect between old or cellphone exposed and new stock, but that, on the other hand, none of these differ significantly from the unenergised cell counts and viability shown in sample 2 (121, 69.4%), which had not been exposed to a VDU cathode ray tube, but had been exposed to ambient EMFs.

There are several possible explanations for this failure to find any significant difference. First there may not be any adverse biological effect from VDU exposure of lymphocytes. Certainly VDU producers have reduced radiation levels from their screens in the last decade, and at 20 cm. nowadays the ELF and VLF radiation is relatively low. In an effort to see if VDU screens affect lymphocyte function a 2000 gauss static magnet was placed under the sample 1 during VDU exposure, with the result was that viability was only 64.9 % and the number of cells observed per unit volume was also low (total cells counted 77). This near-significant difference supports the view that VDU screen exposure may have an activating effect on lymphocytes but the Harmoniser does not fully control this.

A third explanation is that the static magnet is having a temporarily depressive effect on lymphocyte function. This is in line with experiments conducted by the Barnothy family in Illinois during the 1950/60s, who reported falls in murine lymphocyte counts below baseline, subsequently recovered in subsequent days (Barnothy, 1956).

Another explanation is that the Harmoniser simply has no effect. However a small difference was observed between unenergised controls exposed to a VDU (samples 11 and 12) and the Harmoniser-energised cell samples:

Table 5: Samples exposed to VDUs:

	Viable	Non-viable	Totals	% viable
A Harmoniser-energised samples				
2.	71	27	98	72.4
5.	63	27	90	70.0
6.	99	40	139	71.2
Total	233	94	327	71.3
Mean	77.7	31.3	109.0	
Standard Deviation	18.9	7.5	26.3	
B Non-energised samples				
11.	113	35	148	76.3
12.	85	27	112	75.9
Total	198	62	260	76.2
Mean	99	31	130	
Standard Deviation	19.8	5.7	25.5	

Though this difference is non-significant it follows the trend and supports the hypothesis above that ambient EMFs activate lymphocytes and that the degree of protection may be seen in the relative lack of activation.



Inhibiting effects of mu-metal shielding

This was tested via comparison between cells protected within triple lined mu-metal shielding (sample 1) and those exposed to ambient fields and radiations, but unenergised (samples 2-4).

The results show quite clearly that the higher the level of EMFs the more activated are the cells. (The effect of a static magnet would be to reduce the relative electric component of the field):

Table 6: Effect of mu-metal shielding on lymphocyte counts

	Viable	Non-viable	Total	%viable
Mu-metal protected	64	41	105	60.9
2000 gauss protected	50	27	77	64.9
Ambient exposed	84	37	121	69.4
VDU exposed	85	27	112	75.9
VDU exposed	113	35	148	76.3

One begins to see here a pattern emerging consistent with the hypothesis that EMFs are activating agents.

Some support for Schauberger's contention that the electric component is damaging and the magnetic salutary comes from de Pomerai's recent study on nematode worms at Nottingham University (de Pomerai, Daniells et al., 2000), as well as this laboratory's study on ELF electric fields in the bedplaces of children diagnosed with leukaemia (Coghill, Steward et al., 1996). In de Pomerai's study heat shock responses to electric fields from 750MHz MW at 0.5 W were elicited from transgenic *Caenorhabditis elegans* worms without any temperature change, as indicated by expression of reporter products (b-galactosidase activity).

CONCLUSIONS

One is led to conclude that viability by itself in this kind of study is not a good metric to determine the effectiveness of devices claiming protective effects. Indeed there is some support for the view that EMFs act as activating agents and a better test of device effectiveness is whether they allow lymphocytes to remain in their unactivated resting state. If this test is applied to the Harmoniser in its various subtypes (copper, silver-plated, gold-plated) then this study, whose samples were admittedly low, shows a noticeable but non-significant protective effect, in that viability levels are lower for energised samples than for those unenergised.

On the other hand if lymphocyte competence is measured in the short term by viability then the Harmoniser, particularly the gold-plated version, appears to permit activation of lymphocytes by proliferation with concomitantly high viability, and that this effect is also seen when the Implosion was conducted around 12 months previously. There is no evidence that exposure to cellphone radiation over time reduces this effectiveness.



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About the Centre for Implosion Research

The Centre for Implosion Research was founded in December 1997 by Dolly Knight, MBBS, GCHM and Jonathan Stromberg, BSc, MSc, DIC, FGS.

The Centre's mission is to realise Viktor Schauberger's goals by developing a type of technology that is antithetical to the conventional polluting and exploitative technologies, in that it is pollution free and works in harmony with Nature.

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