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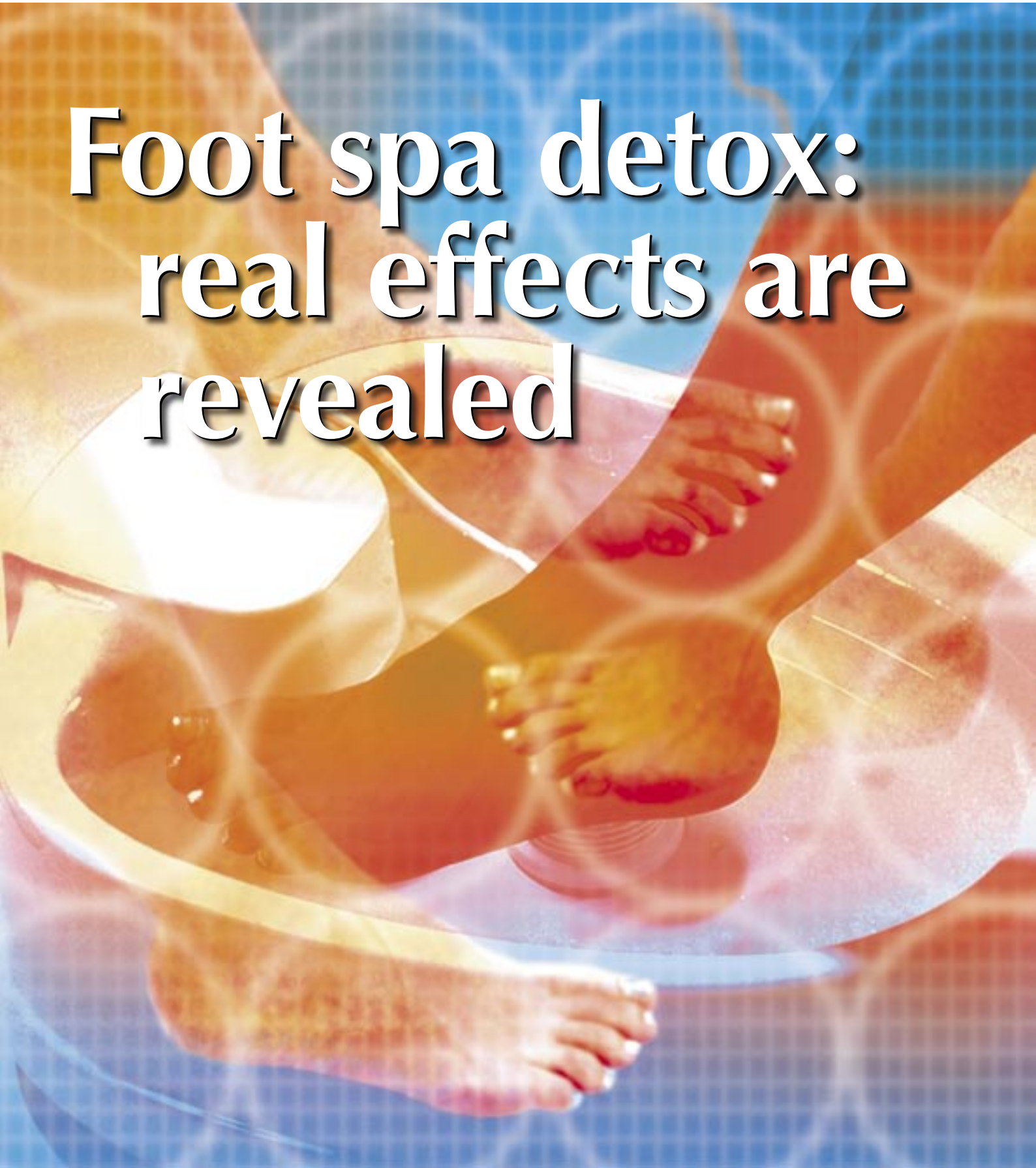
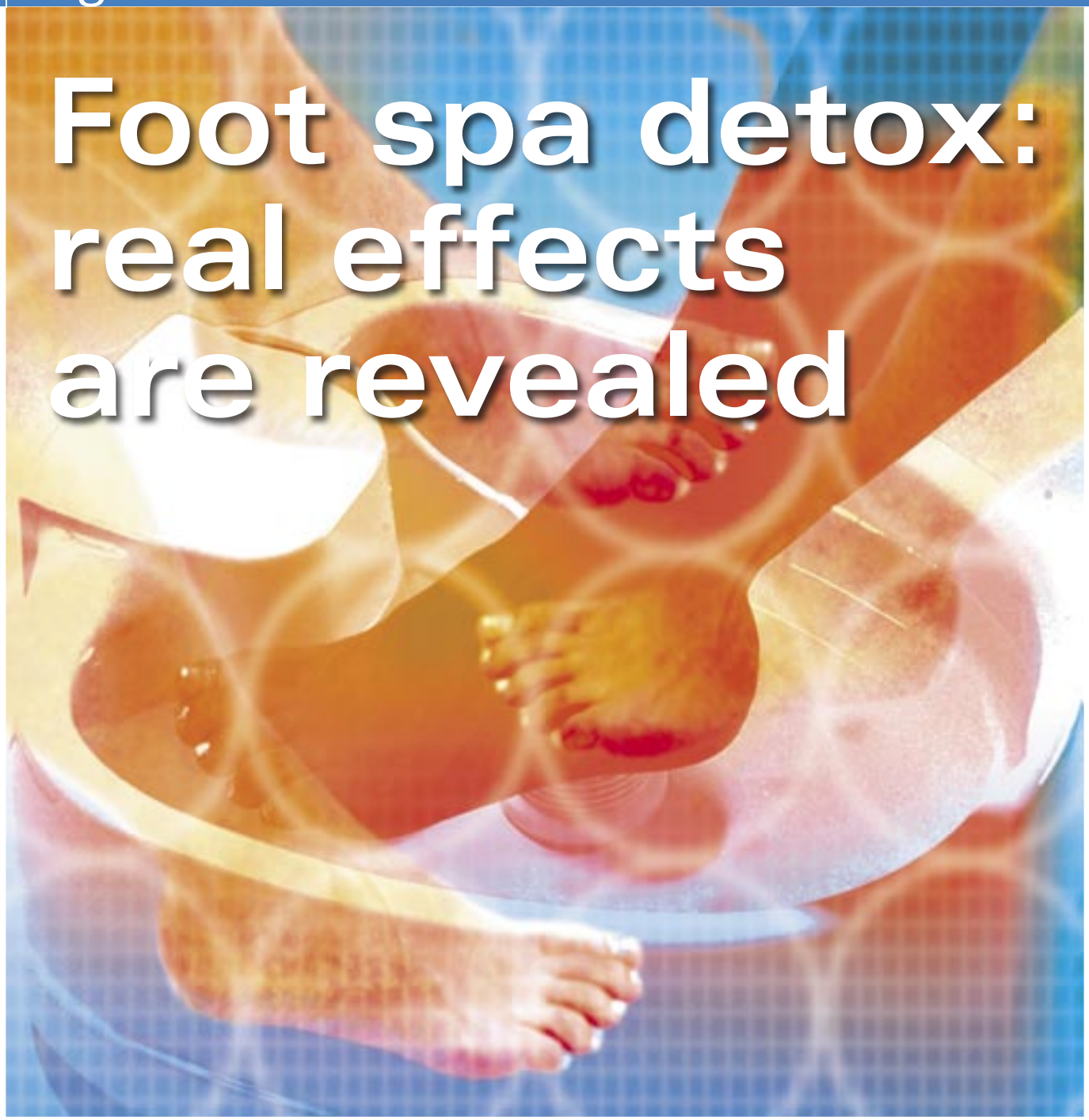
Foot spa detox: real effects are revealed



Foot spa detox: real effects are revealed



Anecdotes and personal testimonials have triggered a boom in the sale of 'foot spa' units. CAM has encouraged suppliers of the units to sponsor basic research. In this second report, independent researcher **Dr Sanjay Chaudhuri, MB,BS, BSc**, employed a range of scientific equipment to assess the efficacy of the Aqua Detox medical unit.

There is a mounting body of anecdotal evidence to suggest that many individuals experience a beneficial response to "foot spa" treatments, and that some respond more strongly than others. These anecdotal reports often mention improvements in energy levels, relaxation and a general feeling of well-being. Some practitioners also report cases of clients receiving significant health improvements, such as reduced symptoms of chronic illness.

There are several foot spa devices available on the market. The Aqua Detox was chosen as a subject for this study because it is the original model produced in the UK and continues to be the most popular among therapists.The Aqua Detox unit has a class 2a medical certification and Neil Bevan, the managing director of Aqua Detox, states that he is "committed to scientific research and ongoing improvements in the fields of bioenergy and detoxification".

The challenge was to design and implement a pilot study which would accurately assess its effect upon human physiology.

The purpose of the pilot study was to:

1. Ascertain whether the Aqua Detox has a scientifically measurable and reproducible effect;
2. Answer the perennial questions:

- What does the foot spa do?
- How does it work?
- What proof is there?

3. To learn lessons in order to create a fuller trial – eg to create a dummy machine set-up that would reliably test a control group with the purpose of measuring and correcting for placebo effects.

The charge created by the medical array being tested is minimal (– 1.7 – 2.1A) – less than a fairy light. Therefore the scientific equipment we chose to utilise in our pilot study needed to be sensitive enough to measure the subtle physiological changes which occur immediately after a treatment.

Methodology

6 test subjects aged between 18 and 70, consisting of 4 females and 2 males, undertook the following measurements before and after a 30-minute session.

- Heart Rate Variability using the Health Express algorithm adaptability scale.
- Arterial Stiffness Indicator using Cardiotrack (proven in clinical trials at a leading London hospital).
- Blood Pressure and Pulse using an electronic meter which averaged 3 readings.
- Meridian stress testing using the Avatar electro-dermal screening device employing the Energetix CMP 48 Point Probe Protocol.
- Live Blood Microscopy phase contrast visual qualitative assessment using the Detox Doctor visual medicine protocol.

We also used a pH and redox meter to ascertain changes in the treatment water and asked our test subjects to describe how they felt during and after the treatment.

3 placebo subjects were told they were to have an detox treatment. The foot bath was prepared with saline to increase conductivity to 2.1 amps and the array was surreptitiously disconnected from the power unit for the same duration as the test subjects. No comments were made during the subsequent testing phase. The purpose of the placebo group was to assess the reproducibility and validity of our test protocol, particularly the elctro-dermal testing.

In order to standardise the study we limited participants' water intake to just one glass during the treatment and ensured that no food, tea or coffee was consumed two hours before testing.

Results

Results are reported in three phases

- The Machine
- The Testing Protocol feedback
- The Test subject subjective response feedback

Easy to use: practitioners are adding foot spa units to their clinics.

PHASE 1 Testing – The Effect on the Treatment Water

Water before

pH	mV
7.3	15mV

Water after (all subjects)

pH	mV
8.2 – 8.4	-380 to -420 mV

The Hanna Ph probe.

Excess body acidity and poor redox have been implicated in the pathology of numerous diseases such as cancer, heart disease, arthritis, diabetes and osteoporosis in both complementary and conventional medical circles. It is postulated that foot spa treatments normalise body pH and body redox (albeit temporarily) by donating spare electrons from the alkaline medium in which the feet are immersed. This was demonstrated in the meridian stress testing and the Live Blood Microscopy discussed below.

PHASE 2 Testing – measurable effects on the test subjects

Meridian stress testing, or electro-dermal assessment, is a development of the bioelectronic assessment using a type of electrical conductivity meter. It was created by a German medical doctor, Dr Reinhard Voll, in the 1930s and is also known as EAV, or "electro-acupuncture according to Voll". Although not a standard medical diagnostic tool, it accurately measures the voltage on meridian points. It is part of the emerging science of the "body electric".

There are 21 basic EAV meridians (doctors of Traditional Chinese Medicine typically use 12). These are measured using 48 points on the hands and feet, each corresponding to the major organs and glands. The meridian is stressed with a small amount of electricity -- less than 1.5 Volts and less than 10 MicroAmps. A meridian point is measured using a point probe with a standardised probing technique. Any change in the electrical output of a meridian is taken as a reflection of the electrical status of an associated organ.

A balanced reading for a meridian is 50mV on a reference scale. An irritation or inflammation reading is above 50. Meridian readings above 75 represent acute inflammation (swelling creates greater electrical conductivity). Readings significantly below 50 represent chronic degenerative patterns as organs lose hydration after a chronic inflammatory process subsides.

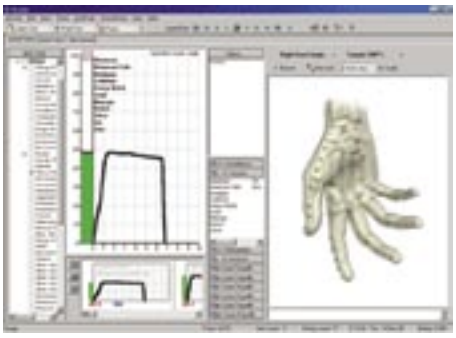
The ability of an organ to hold charge is known as an "indicator drop". Larger indicator drops occur when organ meridians are impaired functionally and so lose their bioelectric capacitance.

For the pilot study, we limited the test subjects to 5 plus a placebo, due to time constraints. The results for the placebo subject showed no real difference before and after a half hour gap. This gave us confidence in the readings when assessing the test subjects.

The electro-dermal testing showed that people reacted differently to the foot spa treatment, but the overall trend was the same. Generally there was a tendency towards:

1. Lowered meridian voltages. Typically reflecting degenerative patterns, these rose to inflammation levels after the treatment. This was a healing type pattern for chronic lowered energy states.

2. An increase in indicator drops. This means the system is rebalancing itself and represents a temporary situation where ▶



▶ the electrical system is under a greater load. We found that this was a temporary phenomenon until the body had detoxified itself. This took several hours, and will be the subject of later studies.

From the point of view of EAV practice, we interpret these signs as "Regressive Vicariation" – the creation of inflammation, movement and elimination of micro-toxins. We believe this could be further substantiated by 24-hour urine tests, which we are planning for later trials (see Figures 1 and 2).

Compared to placebo measurements, post detox, the test subject readings showed greater variance. Overall, the meridians tended to be more balanced around the 50mV level, and lowered readings before the detox tended to rise above 75 (indicating temporary "meridian inflammation"). The graph below shows the test results for test subject 3, which is a typical response (see Figure 3).

However, not everyone responded in this way. Test subject 5 responded in a similar manner to the placebo subject, ie with hardly any change in indicator drop or balance. This particular test subject had very good readings before the detox treatment.

We interpreted the variation between test subjects to mean that some individuals respond more quickly than others.

Heart Rate Variability results

Heart Rate Variability is a scientific measurement of the degree of variation in the interval between heartbeats. HRV is a recognised medical parameter and indicator for over-vigilance of the sympathetic (fight or flight) arm of the nervous system. It is acknowledged as an independent predictor of mortality, more important than smoking or high cholesterol in assessment of heart disease risk.

In an optimised state the heart rate varies from moment to moment like the tide. When stressed the heart rate varies less – it becomes fixed like a metronome or drum machine ie heart rate variability falls and stress levels as measured by health express rise (see Figure 4).

The HRV test was primarily to assess how the foot spa treatment affected adaptation energy in the human body. This was to ascertain whether the anecdotal reports of a lowering of stress had any substance.

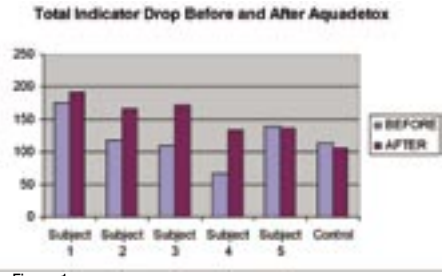


Figure 1.

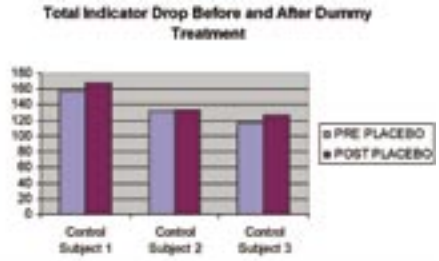


Figure 2.

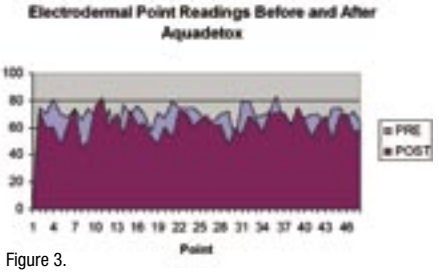


Figure 3.

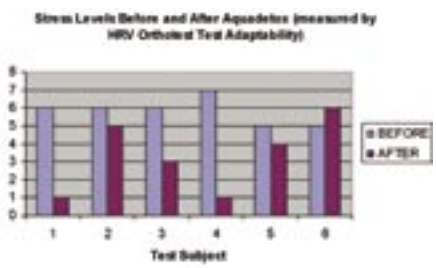


Figure 4.

There was a consistent improvement in orthostatic adaptatability with the exception of test subject 6. On detailed history taking, we discovered test subject 6 was severely anaemic (his haemoglobin was around 10) and he had recently received a blood transfusion, as a result of a major chronic haemorrhage. This would explain the inconsistency in his results.

Arterial Stiffness Index

Arterial Stiffness determines the condition of the main arteries by measuring their elasticity, a key indicator for identifying cardiovascular disease (CVD). This new technology tests for endothelial dysfunction and large artery stiffness, both recognised as significant risk factors for predicting major cardiovascular events (see Figure 5 overleaf).

CardioTrack is described as "a portable device that allows non-invasive measurement of arterial stiffness and vascular tone, these now being established markers for cardiovascular disease risk. The device uses an infra-red beam to measure in a finger, the changes in blood volume caused by the pulse, and then compares features of the main pulse with the reflected pulse, which occurs as a result of narrowing of the arteries in the lower body. The measuring device is called a photoplethysmograph and attaches simply

to any finger via a non-invasive clip-on finger cuff. Readings are taken over a short period, normally 10 or 15 seconds, and two statistics are calculated via algorithms within the hand-held recording device, which in turn can be linked to a computer for downloading data" (www.cardiocheck.co.uk) – see Figures 6 and 7 overleaf.

We noted that arterial stiffness initially rose and then fell lower than the baseline, showing the need to calibrate all our tests for a far longer period of time. We discovered this response pattern later on in our testing procedure so continued to focus on just three test subjects to record the

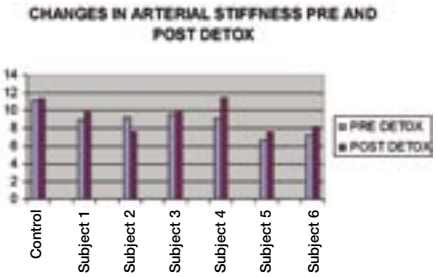


Figure 5.

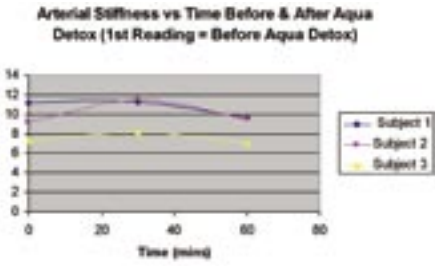


Figure 6.

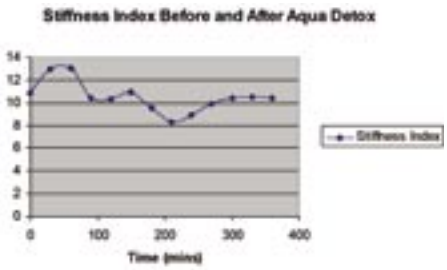


Figure 7.

curve of changes in arterial stiffness over time. There was no significant difference in the control group pre and post the placebo treatment. After the main test day we repeated the experiment over a longer time period to demonstrate the characteristic rise then subsequent fall in stiffness index after a treatment.

Blood Pressure and Pulse rates

Both Diastolic and Systolic BPs as well as pulse rates fell after a treatment session. One could argue that sitting still for half an hour with feet in warm water would lower BP. However, the degree of fall in Diastolic blood pressure was not evident in the control group, and we also noted that pulses seemed to rise initially among the test subjects. Then they fell a few beats per minute below the baseline over a period of roughly an hour across all subjects.

The immediate response to the treatment certainly lasted for an hour. After this time the arterial system of test subjects seemed to enter into a more physiologically relaxed state.

Live Blood Microscopy

Live Blood Microscopy is a qualitative visual assessment of biological terrain. We used LBM before and after the treatment in order to assess the negative charge distribution on red blood cells. In optimal plasma conditions, red cells stay well separated and free flowing under the cover slip of the microscope slide, because cells repel one another due to the negative charge on the surface of cell membranes. This negative cell charge is diminished by stress, poor digestion, inflammation, an over-acidic diet, smoking etc.

It was noted that the separation of blood and general flow was much improved in all test subjects after treatment, with the exception of test subject 5, whose blood was already well separated. We propose that the foot spa treatment adds to red cell surface charge and this heightens the body's ability to maintain free flowing blood cells. We postulate that this is one of the main ways that the device distributes charge throughout the body.

PHASE 3 – Patient response

All of the test subjects commented on a pleasant experience whilst using the foot spa, although not everyone noted physiological changes at the time. Several test subjects noted feelings of relaxation and calmness. One subject reported that her energy levels improved significantly the next day following the session. She could walk farther and was (unusually) not out of breath on her daily walk. Another subject said he felt "terrific and energised". Yet other subjects noted that their urine smelt more strongly than usual, and this would probably denote increased detoxification through the kidneys.

Conclusion

The results suggest that the Aqua Detox adds additional resources to the "body electric" which then enhances the body's innate ability to detoxify and rebalance itself.

Overall, we saw that the body goes into a natural reaction where the energy given to it is distributed in a rebalancing manner. Some test subjects actually become temporarily imbalanced in some meridians and arterial stiffness measurements and then improved to better than baseline over a period of minutes to hours.

The pH and redox metered readings on the water provide us with evidence that the machine creates an alkaline electron rich medium for the body – a "reservoir of energy" which then distributes itself throughout the body. This is demonstrated visually by the live blood microscopy and the electro-dermal meridian stress testing, and numerically by the HRV readings.

The changes in the meridians in conjunction with the other changes strongly suggest an electronic input to the body. From our results it appears that the device tested is able to donate spare electrons from the alkaline medium in which the feet were immersed.

The results we produced were surprisingly consistent. We were able to demonstrate that the device had a scientifically measurable and reproducible ▶

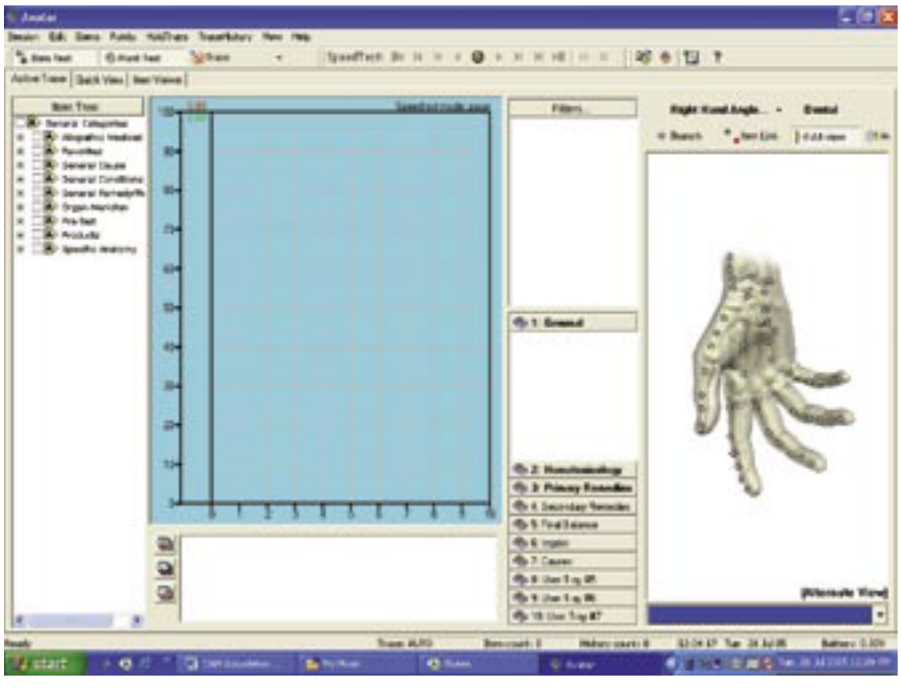

Fizzing: the Aqua Detox micro array in action.

effect across the test group, in contrast to the control subjects, who did not noticeably alter from baseline readings.

A treatment session affects the electronic functions of the body through a reservoir of alkaline electron rich water, giving it adaptation energy in a way that allows the body to detoxify.

This was demonstrated using meridian stress testing and heart rate variability assessment. Live Blood Microscopy demonstrated better flowing blood cells due to an improved charge distribution, while blood pressures fell, suggesting a reduction of peripheral resistance. The reduction in pulse, diastolic BP as well as improvement in arterial stiffness and HRV suggest a reduction in sympathetic nervous system activity.

It is interesting to note that large artery stiffness rose temporarily before falling below the original readings. It was apparent that the test subjects responded to the treatment in an individual manner, as well as demonstrating varying degrees of response depending on their initial conditions, ie stress, exercise, diet and toxic load. These factors, of course, are changeable over time within the same individual.



We observed no obvious differences between the pre and post results for the control (placebo) group as compared to the test group. The control subjects all commented on the lack of visible change with live blood while scanning the sample on the screen after the dummy detox. The pre and post traces with EAV were nearly identical for the control subjects. We did not observe the increase in indicator drops in the placebo group we observed with the test group who actually received the treatment. There was also negligible change in Diastolic Blood Pressure after the dummy treatment as compared to the reduction in the test group.

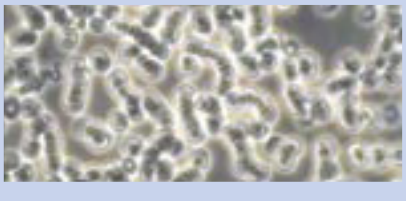
Our results show the need for a properly controlled scientific study, tighter standardisation and a larger test group over a longer period of time. Ongoing studies are now being planned to include biochemical assays and we will report our findings on completion of a more in-depth clinical study.

Overall, from a scientific viewpoint the results we recorded in this pilot study were impressive.

Test Subject 1

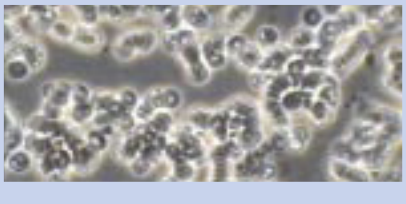
Before

After

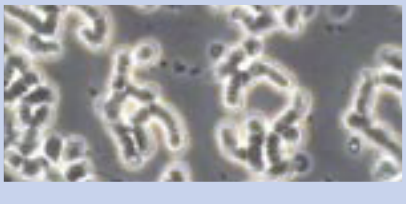


Test Subject 6

Before

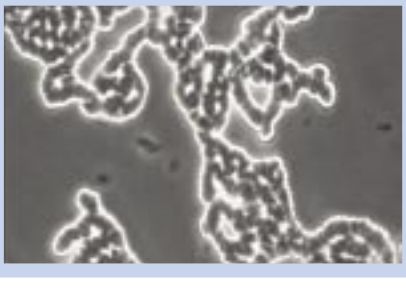


After

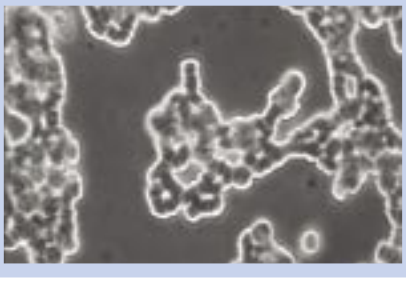


Control Subject 1

Before



After Placebo Test



About the author

Dr Sanjay Chaudhuri has a BSc in Radiological Sciences and is a UK trained medical doctor qualified from Guys hospital. Sanjay has trained in various complementary therapies which he integrates within his practice, and in particular is a passionate advocate of Live Blood Microscopy, which he teaches to practitioners.
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