



Signature health

HOCATT TECHNICAL BROCHURE

HOCATT – Tech Brochure

Introducing the revolutionary HOCATT™ Total Health System.

HOCATT™ stands for “Hyperthermic Ozone and Carbonic Acid Transdermal Therapy”. The proven therapies that this unique system delivers will successfully address and improve the levels of physical health and well being for all users, irrespective of whether they are world class athletes, or people who are battling to address even the most challenging of health issues. Here are just a few examples of what the HOCATT™ Total Health System can achieve includes:

- * Complete body detoxification to remove harmful toxins that cause many health issues.
- * Boost the Immune System to greatly increase resistance to disease and illness.
- * Greatly improve recovery rates following vigorous exercise.
- * Improve skin appearance and elasticity, slowing down the “aging clock”.
- * Helps to combat disease and illness, whatever their stage of progression.

Ozone therapies have been studied throughout the world at leading medical and scientific institutions as the potential benefits of safely harnessing its power has long been known and the search has been to identify and thoroughly develop a proven and safe delivery system.

Here's some background to why Ozone Therapy works and how it has been developed by Signature Health into the state of the art in available Ozone Therapy.

Ozone Therapies have been studied for many years around the world by top medical institutions that have recognized that Ozone Therapy can deliver highly impressive results in a wide range of people; from top athletes to people with severe and highly challenging health issues.

Ozone In Oxygen. This will act on normal cells by stimulation of the liberation of antioxidant enzymes (Glutathione, Catalase, and Dismutase) so more cell protection and free radical scavenging effect. However the abnormal cells (bacteria, fungi, protozoa) do not contain antioxidant enzymes and so are vulnerable for oxidation and destruction.

Antitoxic Effect. Hydrogen peroxide (liberated from ozone) oxidizes the biological waste products and toxins into inert substances making them easy to be excreted by the skin, liver and kidneys.

Enhancement of Circulation. Ozone reduces clumping of red cells and restores its flexibility and oxygen carrying ability. The arterial oxygen partial pressure increases and viscosity decreases leading to better tissue oxygenation. In addition ozone oxidizes plaques in arteries allowing removal of the "breakdown" products.

Stimulation Of Oxygen Metabolism. Ozone increases red blood cell glycolysis rate leading to stimulation of 2, 3-diphosphoglycerate (2, 3-DPG) and accordingly increase of oxygen released to tissues. In addition, ozone activates Krebs cycle by enhancing oxidative carboxylation of pyruvate leading to stimulation of production of adenosine tri-phosphate (ATP) and accordingly more energy on the cellular level.

These are just a few of the many examples of just what can be achieved by using Ozone Therapy. One challenge that had to be met was identifying a safe, proven and reliable system for delivering all of these benefits. Furthermore, it was essential that the clients using the system found the whole experience to be effective, stress-free and comfortable. This is where the research and development programme began with Professor Nabil Mawsouf.

Development of the HOCATT™ System with Professor Nabil Mawsouf

Professor Nabil Mawsouf, Vice President of the International Scientific Committee for Ozone therapy is probably the one Ozone Scientist who has done the most extensive work with Ozone CO2 Hyperthermic Chambers in the world. He is also a Professor at the Department of Anaesthetics, ICU and Pain Management at the National Cancer Institute at Cairo University, Egypt. He was instrumental in establishing the first government approved Ozone Hospital in Oman and a key challenge that he had to meet was to identify the best Ozone Hyperthermic system available for this world leading facility. As a world renowned speaker at conferences across the globe, he had a detailed knowledge of what systems were available and how they performed. After extensive tests and trials, the Signature Health system was chosen as it represented the state of the art in Ozone Hyperthermic systems.

After using the Signature Health Ozone Hyperthermic System, he agreed to be the Scientific Consultant to Signature Health and following further development, the HOCATT™ System was born.

Co-operating Scientist and Therapists using and researching Signature Health's HOCATT™ modality

- * Prof Velio Bocci. President Scientific Committee for Ozone Therapy
- * Prof Nabil Mawsouf. Vice President International Scientific Committee for Ozone Therapy
- * Dr Frank Shallenberger. President of The USA Ozone Academy
- * Dr Stefan Tiron. President of the Romanian Ozone Association
- * Dr Hilda Landman. President SA Scientific Committee for Ozone Therapy
- * Dr Melissa Brown. Vice President SA Scientific Committee for Ozone Therapy
- * Michelle Nicolopoulos President SA Ozone Association
- * Dr Tarek Tanboul .Kuwait Medical Center
- * Delano Di Visconti. The Hydro SA

Toxicity - the problem that affects Everyone.

As the world has developed, so has the increasing exposure to toxins and the countless problems that they cause for individuals and their families and friends. So, it's reasonable to ask "why not just avoid them"? This is a perfectly understandable question as everyone is aware of the harmful effects of smoking (so, just don't smoke), drug abuse (so, just don't take recreational drugs), pollution (so, if you can afford it, just move to a rural location) and other "avoidables". Unfortunately, the potential "avoidance" solution is beyond the reach of everyone as toxicity and its harmful outcomes affects everyone.

What toxicity does to people.

The debilitating effects of toxicity are both far reaching and alarming. The effects manifest themselves in many ways including: reduced life-span, increased risk of developing cancer, reduced quality of life, depression, susceptibility to infection and disease and reduced sex drive. The issues are compounded when you consider the effects that these have on family members who have to deal with these issues in loved ones. The issues can unfortunately cast a very long shadow over families as sufferers become less able to cope with both work and family demands with a result that relationships often breakdown irrevocably. It would be wrong to think of these issues as only affecting people in later life, recent tests and studies identified that that only 54% of health conscious individuals between the age of 20 - 40 have sufficient mitochondrial function.

Toxicity and Mitochondrial Theory & Mitochondrial Dysfunction.

There are well established links and studies that have been carried out by institutions across the world that have identified the link between toxicity and reduced mitochondrial function. Reduced mitochondrial function is a key element in poor physical and mental health. For an organ to function at a proper level it need the right amount of active enzymes to be present. An enzyme's function is to accelerate digestive and energy related metabolic processes and there are some 2000 different enzyme types; each having specific functions for different organs. In simple terms, toxins can "block" the enzyme and prevent it delivering its essential performance. This is known as "Mitochondrial Dysfunction".

Mitochondria - Turning on the Powerhouse.

Mitochondria are usually referred to by biologists as the "Powerhouses of the Cell". They are organelles that act like a digestive system that takes in nutrients, breaks them down, and creates energy for the cell. This process of creating cell energy is known as cellular respiration. The chemical reactions involved in cellular respiration happen in the mitochondria. A mitochondrion is shaped perfectly to maximize its efforts. Mitochondria are very small organelles. Cells often contain several thousand mitochondria with the number dependent on what the cell needs to do. If the purpose of the cell is to transmit nerve impulses, there will be fewer mitochondria than in a muscle cell that needs loads of energy. An amazing fact is that If the cell feels it is not getting enough energy to survive, more mitochondria can be created. Sometimes they can even grow, move, and combine with other mitochondria, depending on the cell's needs.

What this means is that a healthy mitochondrial function is absolutely essential to allow people to enjoy the very best physical and mental health. It also means that reduced mitochondrial function exposes people to all of the damaging effects that were outlined previously.

Mitochondrial Theory and the link to Aging.

There have been many studies that link mitochondrial performance to aging and linking the damage that toxicity does to mitochondria. In the past 30 years of MTA research, a vast amount of evidence has accumulated that tends to validate the Mitochondrial Theory of Aging. This prompted MTA researcher Bruce Ames and colleagues to state in 2002: "It is generally accepted that oxidative mitochondrial decay is a major contributor to aging."

Free Radicals - The main enemy of effective Mitochondrial Function

A free radical is any atom or molecule that has a single unpaired electron in an outer shell and these prove to be both highly reactive and damaging to mitochondria. Free radicals can be produced by a variety of circumstances that can be both within and outside of the individuals control. For example, poor diet and smoking are linked to their production but so is exposure to toxins and physical and mental exhaustion. The liberation of excessive free radicals has been closely linked to oxidative damage and clinical studies have proven that reducing oxidative damage can increase lifespan. So, by any measure, a system that can address these challenges successfully can't fail to have an extremely positive effect on an individual's overall physical and mental well being and their quality of life.

How HOCATT™ can attack the damaging effects of Free Radicals

The HOCATT™ systems delivers two major therapies that prove to be highly effective in successfully addressing the effects of excessive liberation of free radicals.

The HOCATT™ Ozone Therapy stimulates the production of anti-oxidant enzymes and these are recognised as extremely effective in scavenging and destroying free radicals.

The HOCATT™ Carbonic Acid Therapy deals with the issues of stress as stress is recognised as a major cause in the excessive liberation of free radicals. This proven therapy helps to naturally sedate the Central Nervous System in an entirely effective and drug free manner. The result of this is that blood circulation is increased, another key requirement for tackling excessive liberation of free radicals.

What else can HOCATT™ actually do to improve Health, Fitness and Wellbeing?

This therapeutic multimodality Ozone and CO2 steam cabinet has been designed and developed to safely and effectively deliver a range of proven therapies in an environment that is completely safe, comfortable and enjoyable to use; irrespective of the age, weight or physical condition of the user. The unit is fully programmable and has an integral user monitoring system to ensure completely safe operation, along with an entertainments system to enhance the sensation of relaxation and well being.

The HOCATT™ Chamber delivers the following therapeutic modalities:

Ozone in Oxygen

* Administration with two separate flow adjusted ozone generators. One for the steam bath and the other for systemic or topical applications. Ozone dissolves in water-sebum film overlying the outer layer of the stratum corneum and reacts immediately with poly unsaturated fatty acids (PUFAs) generating hydrogen peroxides "H₂O₂" and lipid oxidation products "LOPs". These compounds can be partly absorbed and pass through the trans-coetaneous barrier, facilitated by the intense vasodilatation induced by heat, humidity and carbonic acid. Both lymphatic and venous capillaries can rapidly transfer H₂O₂ & LOPs into the general circulation. This leads to controlled oxidation process stimulating antioxidant enzymes. This controlled oxidation will act on normal cells by stimulation of the liberation of antioxidant enzymes (Glutathione, Catalase, and Dismutase) so more cell protection and free radical scavenging effect. However the abnormal cells (bacteria, fungi, protozoa) do not contain antioxidant enzymes and so are vulnerable for oxidation and destruction.

Antitoxic Effect

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Enhancement of Circulation

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Stimulation of Oxygen the Metabolism

* Ozone increases red blood cell glycolysis rate leading to stimulation of 2, 3-diphosphoglycerate (2, 3-DPG) and accordingly increase of oxygen released to tissues. In addition ozone activates Krebs cycle by enhancing oxidative carboxylation of pyruvate leading to stimulation of production of adenosine tri-phosphate (ATP) and accordingly more energy on the cellular level. According to Kunzmann treatment of the whole body for 30 minutes in an ozone cabin increases the oxygen partial pressure of the peripheral venous blood up to 25%.

Immuno-Stimulant and Immuno-Modulator

* These are effected by its action on the interleukins and interferons as well as stimulation of phagocytosis

Carbonic Acid

When CO₂ dissolves in H₂O, it forms carbonic acid "H₂CO₃"

This has two main effects:

- * Vasodilatation of skin and body blood vessels leading to stimulation of circulation, decreasing the peripheral vascular resistance and after load on the heart.
- * CNS sedating effect relieving mental and physical stress.

Ultraviolet Irradiation

* When the unstable oxygen compound O₃ is dissociated, ultraviolet radiation is emitted. This radiation acts on the epidermis and on the deeper layers of the skin, where it contributes to the production of protective agents, hormones and vitamins, in addition to its ability to kill bacteria.

Heat / Humidity

* It was found that heat and humidity of ozone steam bath increase the nuclear body temperature by 2 °C on an average due to cessation of heat output (hyperthermia). This causes perspiration with excretion of organic acids and end products of metabolism i.e. an increased output of waste products. In addition to this external effect, the internal effect of perspiration increases metabolism with functional stimulation of all organs. This results in a lasting relaxation of the muscles.

Photodynamic therapy and aromatherapy

* This treatment works to increase the vitality of body organs and improve immunity.

Oxygen Inhalation

* Increases body oxygenation leading to better mental and physical performance.

The following notes show how the system delivers tremendous benefits into these specific areas.

Medical Conditions

For users with health issues, the HOCATT™ Total Health System has proven to be extremely effective in dramatically reducing the effects of many diseases, ailments and conditions, including:

Musculo-skeletal system disorders:

- * Rheumatic diseases,
- * Degenerative diseases of the skeleton and musculature e.g. arthritis, myositis, tendinitis, muscle spasm prolapsed disc.

Cardiovascular system disorders:

- * Angio-neuropathy
- * Coronary vascular insufficiency
- * Migraine
- * Hypertension
- * Peripheral vascular diseases (Raynauds, Burgers)
- * Reflex sympathetic dystrophy
- * Disorders of peripheral blood flow due to arterial occlusive diseases angiopathy
- * Peripheral vascular diseases (Raynauds, Burgers)

Skin

- * Skin diseases including bacterial, fungal, viral infections
- * Bed sores and bad healing ulcers e.g.
- * Diabetic foot
- * Minor or extensive recent burns

Others:

- * Helps in some auto immune disorders
- * rheumatoid arthritis
- * psoriasis
- * Assists in the treatment of diabetes
- * Bronchial asthma

Health and Beauty

The HOCATT System will enable you to make those permanent and lasting changes and it requires zero-effort from you! Forget the "pills and potions" nonsense and don't even consider a gruelling exercise regime that you know that you will drop as soon as you think of a good excuse (and you'll be able to think of dozens of reasons to quit, everyone can). Stop wasting money on those exercise machines that are cluttering up your house or garage; just stop, think, and consider what The HOCATT™ System can do for you.

- * Do you want to make permanent and lasting changes to your weight?
- * Do you want to make permanent and lasting changes to your shape?
- * Do you want to find a proven method to banish the effects of cellulite?
- * Do you want skin that is free of stretch marks?
- * Do you want to "slow down" the "aging clock" and restore skin tone and elasticity?

And most of all, do you want to do this by using a method that is safe, proven, pain and effort free?

If you have answered "yes" to just one of those questions then The HOCATT™ System is what you have been waiting for. The reality is that if you have answered "yes", then there is a high probability that it was to more than one question as weight-issues drive a multitude of hard to address problems.

The HOCATT™ System works by:

- Removing excess fat permanently.
- Targeting and eliminating cellulite.
- Restoring skin elasticity to combat the effects of stretch marks following pregnancy or weight loss.
- Slowing down the aging effect on skin smoothness and elasticity.

Maybe you just want to feel calmer, more relaxed and healthier. Or is it that you are locked into a cycle of suffering from aches, pains and being continually attacked by viruses and illness. The HOCATT™ System can help to reduce or eliminate all of these problems.

Athletes

Exercise is both aerobic and anaerobic activities in which fatigue occurs by consuming much of the available ATP and forming lactic acid in muscles. ATP (Adenosine-5'-Triphosphate) is a multifunctional nucleoside triphosphate used in cells as a coenzyme. ATP transports chemical energy within cells

for metabolism. The effects of lactic acid are well studied and well known with debilitating effects such as fatigue, soreness, muscle stiffness and long recovery periods before any further intensive exercise can be commenced. This has traditionally meant that medium to intensive levels of exercise have had to be interrupted by extensive rest periods whilst lactic acid and its effects slowly dissipate.

The HOCATT™ System for Athletes and Sports Professionals is a "Hyperthermic Ozone and Carbonic Acid Transdermal Therapy" - hence HOCATT™.

Now you can really "kick-on" with your training and fitness regime; whatever your present level is, a whole new level of fitness, health and wellbeing awaits you. You will now be able to enjoy all of the "upside" and completely avoid the traditional "downside" that dedicated health, fitness and training programmes have.

The HOCATT™ System for Athletes and Sports Professionals.....

- * Increases tissue oxygenation.
- * Increases production of ATP resulting in more energy and faster recovery.
- * Delays the onset of anaerobic fermentation of sugar in the cell reducing lactic acid build-up.
- * Oxidizes lactic acid, helping prevent sore muscles.
- * Reduces swelling, bruising and pain from injuries and speed healing.
- * Prevents and treat colds and flu and enhances immunity.
- * Eliminates need for antibiotics, protecting intestinal flora.
- * Increases hormone production to optimum levels, eliminating need for artificial steroids.

Clinical test results for the effects of ozone benefits for athletes.

The study was carried out using two groups of athletes aged 20-21 in their final year at The Faculty of Physical Education at Helwan University.

Stage One.

Lactic Acid measurements were taken following 10 minutes of exercise using an ergometric cycle used at 60 cycles per minute until the pulse rate reached the theoretical "maximum oxygen utilisation rate" of 160/min, following 20 minutes of rest.

The second day saw the same regime repeated but this time the athletes were exposed to the Ozone Steam Bath (using the Ionozone Bath Cabinet).

measurements for the study group were repeated following six sessions of Ozone Steam Bath during a two month period.

and the evaluation was carried out by three professors from the university. Evaluations were carried out twice for both groups, at the start of the programme and then after two months.

Ozone Therapy when compared to the "control" group that merely rested and recovered without Ozone Therapy assistance. (See following tables for comparisons).

II.

is widely known for controlling free radicals. The majority of glutathione in the body is present in its reduced form because this is the only way it can perform its critical role.

joined by a thiol bridge. The oxidized form of glutathione results from the oxidation of the reduced form of glutathione (GSH) by intracellular peroxides. As such, GSH is a highly effective peroxide scavenger.



