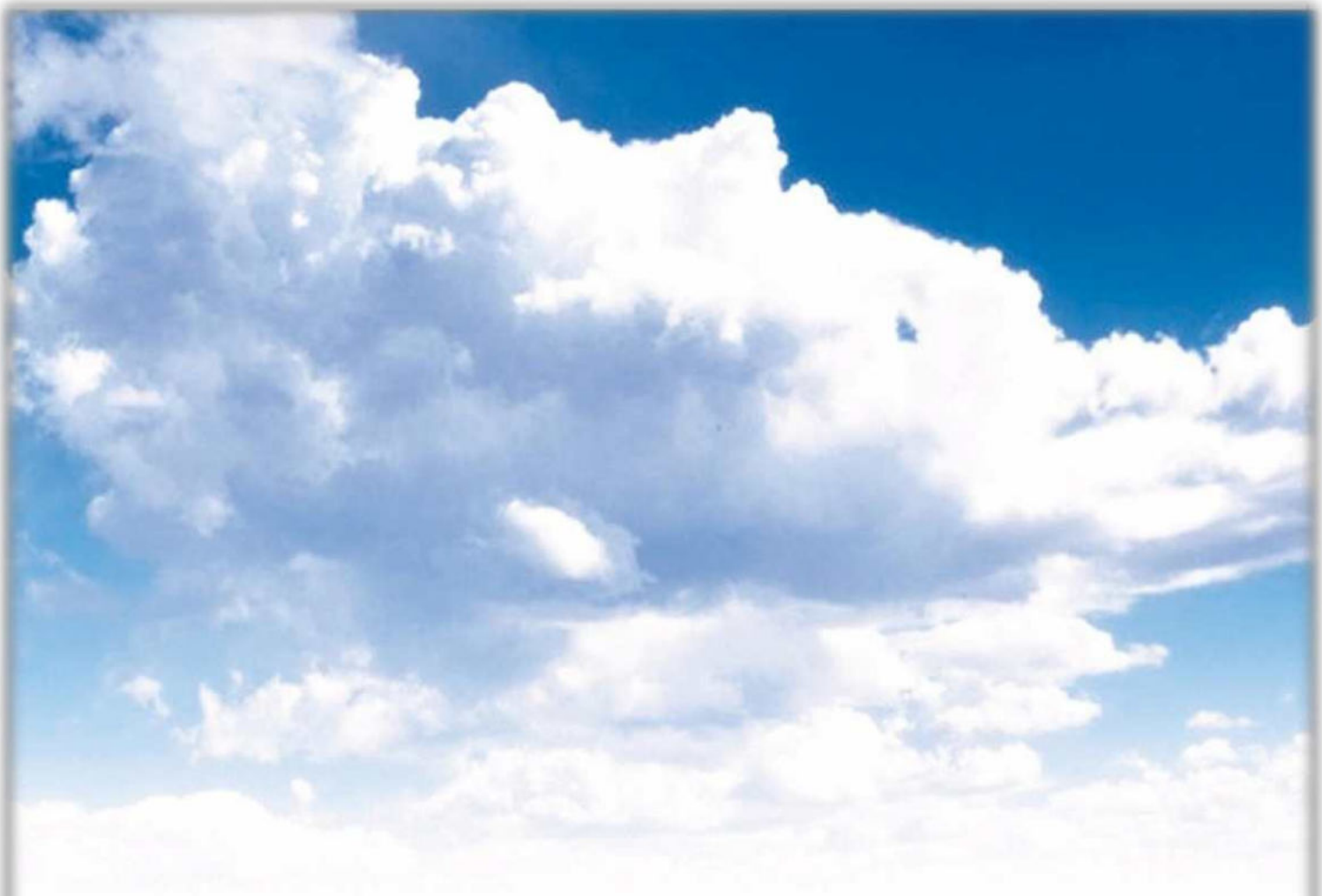


Medical Ozone Therapy, a Guide for a New Frontier in Healing

Professor Peter Jovanovic PhD (Hon.)

Acknowledgements

This book is dedicated to my beautiful wife and incredible children who truly give me motivation and inspiration in whatever I do!

Today's awareness of medical ozone is decidedly on an upward trajectory, finally loosening the chains of ozone's rigid association with toxicity. New openness sees Medical ozone in a greater and greener perspective, as one of nature's most fascinating and beneficial molecules.

Ozone Therapy

..."Medical Ozone works - this is a scientific fact. If we could only remove human ego from the equations we would leap ahead in removing unnecessary settings on a mass scene and be able to save millions of lives and undue suffering."

Professor Peter Jovanovic PhD (Hon.) 2005

..."The doctors and I embarked on a very aggressive course of Medical Ozone modalities in an attempt to save this man's life. It was touch and go, no two ways about it. The more we applied the protocols, one small improvement and then another surfaced. After a couple of weeks of ozone therapeutic applications by direct IV injections, Recirculatory Hemoperfusion® combined with ozone insufflations and hydrogen peroxide baths, Festus was able to move a little. His countenance was better and he started to have a confrontational attitude known to African men. Unsightly, peeled skin was being replaced with fresh, baby like skin. The color of his eyes returned, and one and all joked that this was not really Festus."...

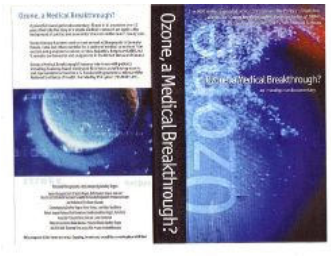
From A Story of Festus, an African man with full-blown AIDS

Foreword

It's called Recirculatory Hemoperfusion or RHP, and is similar but very different to a dialysis machine; it oxygenates your whole body's blood while cleaning it amongst many other differences.

This is the best form of ozone therapy without doubt and Ed McCabe ("Mr. Oxygen") agrees, along with many others in the field. In fact Mr. McCabe in his book calls it by far the best form of ozone therapy. This has also been mentioned in the best-selling documentary video on ozone therapy by Geoff Rodgers entitled, Ozone, A Medical Breakthrough?

However, putting it in medical application in this world will be nothing short of a battle like no other. So, onward we go in our quest for a better healing modality.



To purchase the video:
http://www.ozoneuniversity.com/ozoneamedicalbreakthrough.htm

Ozone, the Observer of Human Ego

There's no better way to describe the power of medical ozone than relating my experiences with Festus, an African man who was dying of full blown AIDS.

His wife Edith and her sister begged me to treat him at the ozone therapy clinic in Mombasa, Kenya where I was working as Head of International Affairs. Edith moaned and groaned, gestured wildly, beseeched Allah and threw herself upon our mercy as her husband was brought to the clinic on a stretcher. The man had been bedridden for some time. He was barely able to move or speak and as I pried his eyes open I noticed a cloudy, grey film. His body had the appearance of a man with one foot in the grave. I had never seen any person so close to death and I was convinced that this guy was never going to make it. Out of compassion for the family's hysteria I tried to placate their distress by assuring one and all that he was going to be just fine.

His condition was in fact extremely critical. Let's face it, AIDS is a hot potato and once it gets to its final stages there is little that anyone can do except make the patient as comfortable as possible. Seven days of nail biting and anguish engulfed me as watchful eyes monitored his vital signs and my handling of the case. Still, I was determined to allow this man to die with the dignity that should be accorded every man. Sure, I wanted to fix him up, and keep my word that he would be okay. By now I knew ozone was the crown jewel of medicine and capable of accomplishing miracles. I had seen so many sick bodies heal with its virucidal and bactericidal power, but this was beyond saving.

The doctors and I embarked on a very aggressive course of Medical Ozone modalities in an attempt to save this man's life. It was touch and go, no two ways about it. The more we applied the protocols, one small improvement and then another surfaced. After a couple of weeks of ozone applications by direct IV injections, Recirculatory Hemoperfusion (RHP) combined with ozone insufflations and hydrogen peroxide baths, Festus was able to move a little. His countenance was better and he started to have a confrontational attitude known to African men. Unsightly, peeled skin was being replaced with fresh, baby like skin. The color of his eyes returned, and one and all joked that this was not really Festus.

After three weeks of treatment Festus was up and about and eating normally. He started to argue with the staff and was merrily beating his wife at every given opportunity. The African staff tried to assure me this was just normal male African attitude, a good sign of virility and the regaining of his health. After four weeks he started to go a little stir crazy so I let him out to ride my Mountain Bike on the compound.

By the fifth and sixth weeks of treatment he was jogging, walking two kilometers, and swimming in the water. We chided him that he was not quite ready and he told us in no uncertain terms that he was now Superman and ready to climb mountains. I must admit he was looking good. In fact it was time for him to leave and for me to let go of my small miracle.
Life resumed to normal in the clinic as we compiled the data to this astounding case of AIDS by means of ozone therapies. In many regards it was par for the course. My 5 years of Medical Ozone research and treating people with its applications had assured me that if any medical substance could achieve greatness, ozone was definitely going to be it. As for Festus, we heard from the villagers that he had become so strong he built his wife a gas station (in between the beatings) in honor of her love and for saving him.

After it was built, the gas station was legally transferred to her name. She returned the favor by poisoning him. His death was a bitter pill to swallow. I had lost quite a character in my life as well as my flesh and blood evidence of a grateful AIDS victim. Despite continued successes with ozone at the clinic, it was a hard to stomach.

Kenya is a land of many contradictions. Love and hatred, breathtaking beauty and swollen-bellied children dying in the gutter. Extreme poverty for the masses and wealth for the privileged few. Morality,

immorality and an undercurrent of greed grips its population. That's the spell of Kenya; you fall hopelessly in and out of love with its tenderness and cruelty. It extends the kisses of a lover whilst holding a dagger to your back. And there was a big dagger poised at mine. It was time to get out of Mombasa and fast.

Circumstances were such that it was becoming impossible to work at the clinic. The reason for the clinics existence had been corrupted, and the Police, FBI, and CID were making investigations. The most creative sensationalism I ever witnessed was mustered up by journalists out to expose ozone therapy regardless of its innocence! It was time to leave the ghosts and go to the clinic in Malaysia. This was to be one of many countries that I was to introduce the applications of clinical ozone into, as well as the new Recirculatory Hemoperfusion technology and delivery system I had been perfecting. I had been in Kenya for 2 years and I needed new pastures. I was yet to realize that they were to bring me closer to death in more ways than one!

Airports are a wonderful place for drama. A huge entourage welcomed me to Kuala Lumpur with outstretched arms, excitable gestures, tears, blessings of good fortune, omens of plenty babies, and just for good measure luck one million-fold.

My task was to set-up the first ozone clinic in Malaysia and I immediately got to work on desperate AIDS patients. We applied Recirculatory Hemoperfusion like never before. It was reminiscent of my success with Festus and patients recovered to the astonishment of all concerned. My sponsors immediately instructed me to go to all the major areas of Malaysia and discuss my technology. The traveling circus had begun!

A series of Ministers, serious looking officials, and elite businessmen, waved contracts in the air and avowed that if they were broken, the maggots would eat out their very eyes.

For good measure, blessings to my loins for plenty more babies were thrown in with the deal. A successful technology lights up eyes fast and is perhaps a better description of what maggots can do when there is a lucrative proposition on the table! My two weeks in Kuala Lumpur came to a close. Knowing that this was now in full swing, I left Malaysia. I did gain a lot of experience in those two weeks and I was now ready to tackle an invitation to the French Colony of Benin.

I had boarded the plane with a letter from President Kerekou in my hand and my chest stuck out with pride as I landed. My relationships with airports were ever expanding. I had not expected an airport the size of a large house to greet me. My Serbian/Canadian background and ozone technology held me in good stead and I was ready to tackle the usual airport fanfare. As I looked around there was nobody in sight. My ego was deflated.

The silence was broken by a military looking gentleman who ushered me to a room with trained precision. His brown eyes looked right through me as I waved the Presidents letter of approval up and down. My passport was stamped with a thud. It was the type of thud you always wished you had the authority to do but what the heck, I was off to a new adventure.

I understood what a young school girl on her first prom felt like as I was led into President Mathieu Kerekou's building. It was huge, palatial, marbled, dazzling, and also deserted. I was impressed with

its cleanliness and mesmerized at the graciousness of the President. He was warm and his inviting manner settled my nerves. Time passed quickly as we talked about the ozone. He was engrossed with the subject of ozone and wanted to proceed for the sake of his people. The President is a genuinely nice, God-fearing man and his qualities stood out as he expressed the need to help his people. Out of all the dignitaries I had met, he was undoubtedly the most gracious and sincere.

After our discussion the mood lifted, and he asked if I had ever seen the area where the slaves were taken out of Africa. With barely a nod, he ordered I be taken in his personal SUV for a tour. With royal cane in hand he waved me goodbye and went back to his solitude. My tour of the countryside in the SUV escorted by an entourage of cops, screeching sirens, onlookers stopping in their tracks, and plenty of speed, completed my week in Benin and remains one of my fondest memories.

The successes of Medical Ozone and my technology were catching on in many different lands. An influential Malaysian businessman was in Nairobi and wanted to meet with me to discuss the RHP technology for India. His introduction was brief and to the point as he offered me a good business opportunity. His traditional medicine clinic had dissolved due to a disagreement with his partner, and he wanted to start over with ozone therapies. The premises and doctors were already in place. All that was needed was for me to join the team and turn it into a first class hospital.

For the privilege, I was being offered an astronomical amount of money. He massaged my ego by assuring me that India was now a superpower, the true Mecca and that I was being held back in Kenya. I could utilize my talents to the full in India and everything would be laid at my disposal. It was a very appealing proposition. Before the meeting concluded he cleared his throat and hurriedly requested I build him one of the RHP ozone delivery machines as he had some spare parts, but if that was not possible one on the cheap would suffice for now.
My loving wife Sylvia was in agreement with the move, so my sponsor and I met the next day to work out the terms and conditions. He impressed me as he outlined a solid business plan. I was to be sent to a place called Coimbatore. Once there, I would receive $800,000 and $10,000 a month plus expenses as the appointed head of the hospital. This was divine intervention because there was a trail of creditors, police, CID, businessmen, and ordinary people, out to lynch my former British partner and I wished to disassociate myself from him and their wrath as far as I possibly could.

My wife and I flew business class to India. Upon landing in Bombay, we were taken aback by the miles and miles of shanties on both sides of the landing strip. It was unnerving. Yet, the smells of rotten fish, dirt and garbage, and frantic crowds with elevated screams distracted us from our exhaustion. I reassured my wife for she looked suitably horrified. The hotel took away the edge and we forgot about flights, queues, smells, heat and the bumpy ride which roared with competition at every vehicle and person in the city. We slept soundly in preparation for our trip to Coimbatore the following day and it was welcome relief.

An array of friendly Indians greeted us with arms full of flowers. They were bobbing up and down as they surrounded us, smiling and laughing, and staring at us as though we were people of great importance. Thankfully, they held off from blessing my loins to produce one hundredfold, as the Kenyans had beaten them to it. Sylvia was now pregnant with our first child!
Initially Sylvia was unwell with the pregnancy. She remained in the hotel which became our home for 2 months. I attended the clinic each day to ensure that qualified doctors were thoroughly trained in ozone therapy and make sure the governmental authorities were fully informed on our project. This clinic was small and set-up to gauge the progress of ozone therapy. Its intent was to be used as a

show piece for government officials and interested parties so my sponsors could create clinics in other parts of India.

The doctors and I started to work on all types of cases, from CFS to cancer, from AIDS to skin conditions; leukemia, bone cancer; you name it. People came in droves. We routinely treated them with Direct IV ozone, RHP, ozone insufflations, ozonated saline drips, ozonated saunas, hydrogen peroxide baths, enemas and exercise. We appointed Ed McCabe as Senior Consultant and conferred with him almost daily on our methodology. A dietary protocol was created to ensure the correct nutritional foods were eaten. At last I had the resources and support to research deeper, adjust the protocols, and perfect the equipment which had become my baby. Better still, Coimbatore gave me the time to turn a basic and crude RHP machine into a truly superior technology that worked better than ever.

Without exception all of the patients improved. Some were so well that they never had to return to the clinic. This astounded the doctors and authorities to such a degree that they were in complete in awe of the healing power of ozone therapies. With proof before their eyes and success cases on their own territory it was decided a hospital be built in honor of Medical Ozone Therapy. One of the doctors at the clinic was a skilled ortho-surgeon and his father was a man that had a great deal of money. He practically owned the town and seemed very influential in the state of Tamil Nadu, which in local terms means he had passed quite a few palms with silver.

The family was insistent I create a hospital for them. A beautiful four-story building in the center of town that almost resembled the Starship Enterprise was chosen. Its high ceilings, rich decor, glass and chrome, spiral staircases extending to the top floor could be utilized for a hospital. There were no glitches in securing it as it was already owned by the surgeons family so we immediately went to work on creating the first ever Medical Ozone hospital in India. This was a time-consuming project. It was agreed we were to make good use of the technology to train the appointed doctors in India and surrounding countries while the building was being completed.

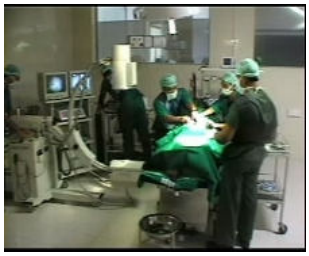
For this, I was offered 5 million dollars as the Senior Technical Director in charge of the hospital. In addition to my salary of $10,000 a month, a house and car was provided and all expenses met. I agreed, contracts were drawn up, and construction was underway.

Our budget was set at 2.5 million dollars. In India this is an extreme amount of money but they were so enthusiastic and glad to be in the deal it didn't matter. This was to be the most advanced hospital of its kind in South India, and they were going to have their masterpiece come what may. The executive offices were constructed first which enabled me to get on with technical matters while going back and forth to check on the patients at the old clinic.

As fast as the patients were recovering, more would arrive at the door. It was an incredible sight to behold as a daily line of Indian men, women, children, and babies nursing every type of ailment queued for hours. Our popularity created its own set of problems. As more crowds gathered, people started pushing and shoving one another to get treated. The cops were called and had to direct the traffic around the melee.

Our clinic was now packed. Heat, flies, hungry patients, and exhaustion led to a frenzied atmosphere and staff started to lose their composure. They were running around in vain and attempting to calm the agitation. It was apparent that the building was going to be stormed. Panic took over and I had to take immediate control of the situation. I ordered all doors be closed and people made to come in one at a time or there would be no treatment for anyone. I prayed that the hospital would soon be completed.

Our staff quickly grew to 150 and I was regularly training doctors, nurses, and support staff on the use of the Medical Ozone modalities. By now, the hospital had labs, ER, a maternity ward, two state of the art operating rooms, a live cell analysis area and anything money could buy. It became a spectacular hospital and our reputation spread. The media developed a consistent interest in the project. A flood of articles appeared in many newspapers and television stations in every language in India. They all featured our hospital.



Dignitaries and the elite competed to be publicly associated with our success. Two VIP treatment rooms had been reserved for people of importance on the top floor of the building. They were all inclusive with balconies, personal staff, and the best bed a hospital could provide. The design was such that it wasn't necessary for dignitaries to set foot in any other part of the building for treatment. Elevators were discreetly situated so as not to be seen, thus protecting their reputations. The building resembled a tier system; the floor beneath the VIP section had an executive ward, a gymnasium, dining hall, and auditorium. Below that, a general ward. The ER, Operating Rooms, RHP facilities and other rooms were all air conditioned.

All of the patients were treated with Medical Ozone protocols and modern medicine. Some were solely treated with modern medicine. Some were treated with Ayurvedic herbs or Siddah depending on their beliefs, income, and the doctor’s judgment. Nevertheless Ozone Therapy was instrumental in all of the healing. During meetings the doctors, superintendents and Medical directors continually commented as to the outstanding effects of the Medical Ozone. They concluded that it had the ability to stand on its own as a healing modality or compliment every other modality.

Bingo, the light went on. This is what we needed. I could see no reason why a combination of Medical Ozone and other modalities could not work synergistically. Meetings took place every day and I toured the wards with the head doctors twice a week to ensure that the therapies were being carried out as I had instructed. It was now easy to convince the pharmaceutical and oriental trained doctors of ozone’s efficacy. Once I got them past the point of disbelief they all seemed to inherit a sense of real hope, something they had never seen in their professional lives. It was moving. As a result, the doctors started bringing in people with the most obscure diseases and we used methods that were very unique to treat them.

One of the most notable events was our research in the operating rooms. We would use an instant X-ray to lead our ozone-filled syringes to an area of the body that needed to be healed. It was a fascinating experiment and this was true progress. As far as I am aware something like this had never done before or at least had never been talked about.

We kept up communications with the Russians as a lesser form of ozone therapy is commonly used as a treatment in their hospitals. I had taken a break from the clinic to visit Professor Petrygin, in Nhitsy Novograd. He was a real figurehead in the Russian ozone world and was willing to discuss their experiences. The Professor was very knowledgeable, answered every question and was very gracious in allowing me to look around his hospital. India had good political relations with Russia so it was advantageous to work with them. It was a good move. On my return passage to India I attended the Institute of Biology in Italy to meet another ozone expert Professor Bocci. He was amusing, extremely informative, and I learned a great deal as we discussed the theory and application of ozone.

I went away from the meeting assured and ready to tackle anything that I would be thrown at in India. I had two good professional ozone allies and the third, the American, renowned author and journalist Ed McCabe (Mr. Oxygen), completed the team as our appointed Ozone Consultant to the Aakassh Hospital. It was an exciting time.

The ceremonial opening for the hospital had arrived. Half the town was closed for this special occasion, and the head Saint of Tamil Nadu had been invited to bless the hospital. A chartered plane was booked for him to travel in as it was regarded impure for a Saint to travel with commoners. I yelled blue murder at this costly arrangement. They quickly shut me up and I had no choice but to concede. After all, he was a Saint, and they needed his professional blessing on the place.

The throngs were gathered as he arrived like the Dalai Lama and Pope all rolled into one. A huge following hung on his every move and he would periodically tease the crowds by turning to face them, gesture, as though they were receiving his blessing and continue on. Every move he made was met with a large group of hired people scurrying around and frantically clearing things out of the way so his saintly body would not be harmed. Others were working themselves into an ecstatic frenzy as they believed his appearance and blessing of the hospital was a direct sign from God. The crowd needed hope.

The head Saint of Tamil Nadu's piety took on a new level as he reached the hospital. With clasped hand he gave the nod of approval that the hospital organizers were banking on. How could he not. He was onto a good bet when his earthly mission was up. He could approach his heavenly sainthood surrounded in a luxurious hospital and go off with the bang that ozone provides. There was however one slight hiccup to his heavenly entrance.

My sponsor had invited him to come to his private office. It was made very clear that this privilege was for a select few. We commoners were not entirely left out. Behind closed doors, we heard the clinking of glasses, raucous laughter, and swear words being bandied around. It was reminiscent of a midnight poker game in Vegas! The staff made more than their routine visits past the office and when the party was over this saintly figure disappeared discreetly.

It was a good day for us all. The hospital had been blessed and the ex-Minister of Health a very influential man in the Indian government also made an appearance. He heaped praise at the directors for this eighth wonder of the world and it was splashed in every newspaper and on every TV station.

Things progressed very well for six months and my personal and secular life were rewarding. However, two of the partners started to argue on the fundamentals of running of the hospital. To make matters worse, the Chairman of the hospital started to become abusive. We all knew he was loud, crude, stubborn, and devoid of the social graces, but his abuse was unacceptable. It started with demands and raised voices that turned into tantrums. The noise got louder until he got his way. His level of abuse was becoming unbearable to the staff and I was most concerned for their welfare. I was beginning to live in fear as his wrath was directed at me but decided the wisest course was to knuckle under in the hopes that it would eventually pass.

The hospitals reputation had preceded itself and everyone was glowing with pride. There were plans to build two more hospitals. But, as always, when greed gets to run the show, money becomes an issue. The maggots had returned. A strict control as to how things were to be run was implemented. Staff cutbacks ensued and salaries were denied. As a rule, business owners in Southern India are not tolerant with staff. If they complained they are immediately terminated. The staffs that was responsible for running the hospital was no longer available and the remaining staff could not possibly handle the treatments. A masterpiece had been created and torn down with investor incompetence and greed. The partner that had introduced me to the Indian project and made all the financial promises disappeared. He had cashed everything out including my share and was in hiding in Bangalore.

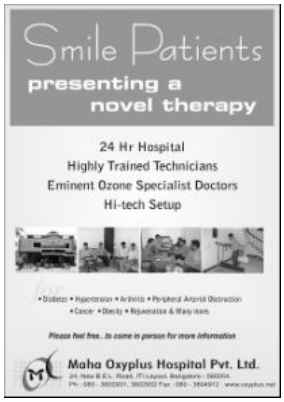
The promise of the big come by my sponsors partner had been based on his father’s other businesses. However, the global after effects of 9/11 and a heavy Monsoon year seriously affected his export import profits. When the time came to pay me, they backtracked. Hellfire and torment replaced the routine blessings and they made it clear that they wanted out of the deal and right now! This became a drain on my reserves. The atmosphere was unbearable, and I found it too difficult to remain

with such deeply ingrained ignorance. The threats to my life were not idle talk. I packed my bags and escaped to Bangalore. They were infuriated at this move and retaliated by taking all my personal goods and files containing my work from the shipped containers. I had lost everything. But my wife, son, and I were fortunate to escape unharmed.

My original sponsor and I opened a second Hospital with one of the Ministers in the State in Karnataka. It was smaller in scale and promising enough. It had a dedicated staff and was all that was needed to continue with my research. I was out of funds and not in a position to negotiate and had no choice but to continue my research there.

The knowledge that I had gained was now quite substantial. With no restrictions on the work and protocols I was happier. My original deal was still in progress, and I learned to like Bangalore. It was a bit more progressive, if that is possible in India. We moved into a house close to the clinic on the outskirts of Bangalore, and my wife and I were allowed to fill it with furnishings of our choice and it felt like home. My dog Oshi who had been my constant traveling companion had been rescued from the thieves who took her in Coimbatore and I was given two bodyguards and a driver. I went to work on establishing another Medical Ozone clinic in India. All patients were transferred to Bangalore as the hospital in Coimbatore continued to deteriorate. The ozone protocols had being altered and therefore the results were poor.

The clinic in Bangalore became so busy that the staff doubled in size in a matter of weeks. It was off to a great start. We started processing clients with cancer, AIDS, Hep C and a host of other diseases. Experimenting with chemotherapy and radiation and then combining it with ozone therapy proved to be fortuitous. However, it was necessary to hide the new approach of not giving the full course of chemotherapy or radiation to our cancer patients and their doctors. In fact we only used 25%. I had been introduced to this protocol when I was in Russia. Routine protocols were making people too sick so I figured I should cut the dose and use ozone to take away the side effects. It was magical. There was a complete reversal of cancer. The traces of cancer dissipated and signs of the sickness created by these poisons died too. We celebrated and were quick to adopt this routine with every cancer patient.



A new doctor, fresh out of medical school was hired. I spent 2 months training Dr. G with the ozone therapies. After such a short training period he decided he was now the God of ozone and was determined to take my job. As well he could, for by now he knew the basics of the therapy, if not all the subtleties, so non-medical superiors could be swayed into errors. Tensions arose. We would butt heads at every angle and attack each other with numerous letters. His clout as a qualified doctor was used to belittle my qualifications and he waved the M.D. certificates around to prove it.

He then took it upon himself to change the protocols that I had instructed him to use. It spelled disaster. The patients started to get sicker and some died as a result. His belligerence escalated and my pleas fell on deaf ears. My partner refused to heed the warnings. It was time for me to cut my losses, leave India and go back to Canada. Being an expert in drug therapy training and with credentials behind you does not mean you know ozone. In fact, you must re-learn most of the way you think to understand it. And this doctor was not good in the thinking department.

I had been beaten by a continual stream of corruption, and I was completely worn out with the stress. Trying to go after the people in Coimbatore was fruitless. I was sure to win in court but which cop in his right mind would serve the papers? When I found one to help me he was paid off so fast that it would make your head spin. Besides, I was continually harassed by the authorities and the parties in

Coimbatore and they would bombard the government and police with complaints that had to be verified. It was a lost cause. This was not my country. It was the Wild West, all over again, where anything goes and influence and money rule.

I resigned my post. It was better to come out with nothing than to stay and face ridicule, lies and harassment. I had decided that I would bring my knowledge to my adopted country Canada and share my research with the people using ozone therapy.

I formed a plan. A gentleman from the United States was suffering from HIV and I proceeded to work on his condition. I had three weeks to treat him before I was to leave. Could it be done? A little tricky, but possible. We attacked this poor guy with everything we had. He was on RHP ozone about three times a week and other treatments for most of the day. He was exhausted after the three weeks but went back to the States negative and in good shape.
It was quite the exodus out of India as we had to get clearance to leave and this was a big problem in itself. I had made friends in high places and they worked it so clearance was given, but we were not out of the woods yet. We had to go through Bombay!

Luckily I made friends with a Police Chief in Bangalore and he escorted us to the airport and handed us to the security chief who took us through the security checks without any interference.

While in Bombay I was greeted by an influential business man in India that owned the largest water company in that country as well as a biscuit company that is very much international. Once again I was cohered into disclosing all my knowledge on the basis that this man would help me to do what I wanted to do but in the end it was just another rouse, things never change. Consequently, he is now the most powerful man in India regarding ozone therapy with no mention of my association with him or what I had taught him.

In Bombay we were met by two intelligence officers and escorted to the plane right through security again. The plane lifted of the tarmac and so did the ton of weight on my shoulders. We landed in Dubai, I called my Police Chief friend and he told me the people were looking for me at the airport in Bombay two hours after my departure. I thanked God that my wife, son, and I were out of the Third World.

Since my departure, the clinic in Bangalore has also closed due to mismanagement. It would seem that all those years were a waste for me in financial and emotional terms. However, a wealth of experience and research came out of it all. The experience I gained in setting up new clinics and hospitals has been is invaluable. I still hold the contracts, bounced checks, certificates, reports and a few studies from my life abroad. Phone calls and promises from former partners still try to woo me into better business deals.

After my 2 years of intense training of doctors in India and the surrounding countries, experimentation and research with the ozone modalities, I am proud to say I accomplished many miracles in the clinics and hospital.

The man with the HIV that left India the same time as me has been tested twice. The US hospital thought they had made a mistake when the tests proved he was negative. As of this date he is still seroconverted.

Many things have transpired since that time and there have been many changes in both ozone therapies and my own education, needless to say that none of this has had any effect on my love of ozone and its powerful healing properties. I will to my dying day promote the safe and effective use of ozone wherever I am.

I am at this time situated and working in a clinic in Kuala Lumpur, Malaysia wit during my previous visit. He is a highly skilled doctor in formal medicine and herbal medicine as well as ozone therapy. Together we have created what I believe to be the most advanced form of ozone therapy in the world as well as the most advanced ozone therapy units that have ever been produced.

Since this form of therapy is highly specialized and there are many that have tried to reproduce it, I urge you, the reader to do your homework and ask if the unit they are using is certified as a true ozone RHP unit and as well, most importantly if they have been trained and recognized as an RHP ozone therapist. If this is not the case, please note that you will be potentially putting your life in the hands of an unskilled professional not familiar with the intricacies of this therapy and that it could be detrimental to your health and well-being. We at Ozoneuniversity, Ozonehospital, Ozone Research Group and our many affiliations will not be responsible for anything that occurs by the use of our registered therapy unless it is done with accordance of our terms and teachings. It is in the public's best interest to seek out a licensed, registered and educated RHP therapist before having this therapy done.

Medical Ozone Therapy works - this is a scientific fact. If we could only remove human ego from the equations we would leap ahead in removing unnecessary settings on a mass scene and be able to save millions of lives.

If you or your practitioner is interested in learning more about the RHP technology or the advanced use of ozone therapies, please contact me at: peter@ozoneuniversity.com I look forward to your inquiries.

Peter Jovanovic Ph.D. (Hon.), "Professor Ozone"

Introductions

Mark Dargan Smith

To know Professor Peter is to know a man who has dedicated his life to the betterment of humanity and the art and science of ozone therapy. For over 15 years Professor Peter has been involved and committed to the scientific research and advancements of ozone therapy for health and disease alleviation. He has investigated and explored most if not all approaches and applications for both treatment and devices to discover the true essence and science behind the efficacy of ozone in medical and health applications.
Professor Peter's book, Medical Ozone Therapy, A Guide for A new Frontier in Healing is an extensive and in depth wealth of information. He elucidates all aspects of ozone therapy including conception, history, research, years of success and benefits to current day applications with the most high-tech, scientifically advanced approaches to ozone therapy today.

Medical Ozone Therapy, A Guide for A new Frontier in Healing will help change the paradigm of medicine for all who read and practice its knowledge and expertise. With degenerative disease spiraling out of control and modern medicine's inadequacy to reverse these debilitating, life threatening metabolic and pathogenic conditions, we see this revolutionary, yet time-tested and true approach to healing is essential for the enhancement of health and well-being. Medical Ozone Therapy, A Guide for A new Frontier in Healing demonstrates how suffering can be alleviated and vast sums of money could be saved with timely and professionally administered treatments using ozone therapy. Medical ozone has come of age and it is time for us to incorporate this cure for many diseases.

Mark Dargan Smith, ND, PhD, MD(MA)
Chairman of the Board, Chancellor and Dean

University of Natural Medicine, San Dimas, California and Santa Fe, New Mexico, USA,
www.universitynaturalmedicine.org

Chris Gupta

Prof. Peter Jovanovic, "Professor Ozone", through his long standing experience in dealing with near terminal patients, mostly in the third world, has refined ozone therapies to a fine art. His very success has taken a toll on him and his family.

Oxidative therapies are extremely effective when they are used with proven protocols. This is amply demonstrated both in the excerpts above and later in the book. Peter is more than capable of moving these highly efficacious, cost-effective and much-needed technologies forward. His refinement of Recirculatory Hemoperfusion technology and advanced use of oxidative knowledge should be an asset to anyone or any practitioner wanting to learn and use this technology and protocols.

Those interested in using his services or helping in any way can get in touch with him via email at: peter@ozoneuniversity.com or phone at: +1-604-501-6051.

More exposure to his work will really help as the mainstream media surely will not promote such effective technologies - so it is up to us. Please distribute this information far and wide....

Many Many Thanks,

Chris Gupta
Writer, Electrical Engineer and Researcher of Exercise with Oxygen Therapy
http://www.newmediaexplorer.org/chris/about.htm

Donna Crow

I wish this book had been available ten years ago. My daughter-in-law was diagnosed with colon cancer and after doing chemo and radiation, she greatly regretted what she had done. She feared that those treatments had done far more damage to her biology than the colon cancer had or would. She ended up with bone cancer from the radiation, which penetrated her hip bone. In the process of trying to recover from the toxicity and damage done by chemo and radiation, she learned about Ozone treatments. Unfortunately, there were no books available on Medical Ozone treatments at that time. Because of that, she spent many thousands of dollars on an Ozone treatment that we now know was useless. Had she had the information in this book her chances of recovery would have been greatly enhanced and she would probably still be alive today.

To know Ozone is to love Ozone. Peter knows Ozone and he loves Ozone and has dedicated himself to educating others. Patients, who are afraid and suffering, deserve the best possible chance for survival. With the information in this book, both patients and practitioners will be able to make educated choices regarding the use of Medical Ozone, and insure that treatment is done properly. Everyone should know about Medical Ozone Therapy. Though it is more than 100 years old, it is the Medicine of the future.

Donna Crow
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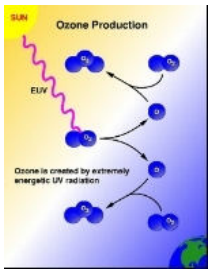
Contents

Chapter 1: What is Ozone?



Ozone (O3) is triatomic oxygen, which is a pale blue-colored gas, slightly soluble in water and much more soluble in inert non-polar solvents such as carbon tetrachloride or fluorocarbons, where it forms a blue solution. It is a form of energized oxygen produced by ultraviolet radiation or electric discharge.

Ozone is a gas which is highly reactive, having “unanimity” as to its destructive action on microorganisms. This means it acts blindly, as no limits to its antiseptic properties have been found. It is antibacterial, antifungal, antiviral and destroys protozoa.

Physicochemical Properties

The oxygen atom may be found as various physical forms (allotropes):

- As a free atomic particle (O), however this is rare as it is highly unstable and reacts with other gases in air
- Oxygen (O2) is the most common. As a gas, it is colorless, while the liquid form is pale blue
- Ozone (O3), Ozone has density is one and a half times that of oxygen (02). Its molecule contains a large excess of energy. Its gas form is bright blue while the solid is a darker blue
- O4 is a non-magnetic pale blue gas which is rare, as it rapidly breaks down into two molecules of O2

Ozone is an oxidant more powerful than any other gas apart from fluorine. It was discovered in 1855

by Shonbein, who also noted that it reacts with ethylene. When ozone is mixed wit h organic (carbon-containing) compounds with double or triple bonds, many complex products result. These include zwitterions, molozonides and cyclic ozonides. These products may then be hydrolyzed, oxidized, reduced or thermally decomposed to a variety of useful substances such as aldehydes, ketones, acids or alcohols.

However, it is ozone's interaction with tissue constituents, especially blood, which is relevant to living creatures. The most studied reaction so far has been **lipid peroxidation.** Further research is being conducted into reactions with complex carbohydrates, proteins, glycoproteins and sphingolipids (components of cell membranes).

These interactions are important to medical applications, as some of the most common methods of ozone therapy involve mixing of a small volume of whole blood with a pure oxygen ozone mixture, and subsequently returning it to the patient. This allows ozone to perform its therapy without disrupting blood flow.

In whole blood there are a variety of lipid components. These include free radicals, singlet oxygen (O), hydrogen peroxide, hydroperoxide, ozonides, carbonyls, alkanes and alkenes.

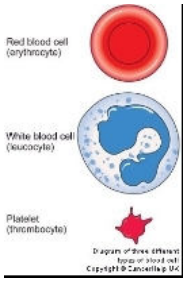
Given this huge variety, it is clear there are almost endless possibilities and possible end products of ozonation which could be used in health therapies.

Physiological Properties

With a molecular weight of 48, the ozone molecule contains a large excess of energy. It has a bond angle of 127° and can resonate among several forms.

At room temperature, ozone has a half -life of about one hour before reverting to oxygen. A powerful oxidant, ozone has unique biological properties which are being investigated for applications in various medical fields.

Basic research on ozone's biological dynamics have centered upon its effects on blood cells (erythrocytes, leucocytes, and platelets), and to its serum components (proteins, lipoproteins, lipids, carbohydrates, electrolytes).



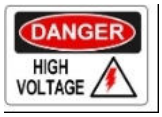
Administrating increasing dosages of ozone to whole blood shows that beyond a certain threshold there is a rise in the rate of hemolysis (cell breakdown). This threshold, depending upon various parameters, begins to be reached at 30 to 100 micrograms per milliliter, and becomes significant when higher levels are attained. Precise ozone dosing capacity is therefore essential in clinical practice and research.

Leucocytes (white blood cells) show good resistance to ozone because they have enzymes which protect them from oxidative stress. These enzymes include superoxide dismutase, glutathione, and catalase. Research has shown that platelets also maintain their integrity after ozone administration.

In ozone therapy, the doses applied to blood are gauged to avoid disruption of its cellular elements. Serum components remain viable during ozone therapy. Lipid and protein peroxides, produced in small amounts by ozonation, have demonstrable antiviral properties.

In fact, ozone tends to stimulate leucocyte function and the production of cytokines (components of the immune system). It increases the oxygen saturation (p02) in erythrocytes (red blood cells) and enhances their pliability so that capillary circulation is facilitated.

Method of Manufacture and Precautions



Ozone is produced according to strict technical regulations and guidelines.

It is mixed with medical-standard oxygen in clinical ozone generators. These regulate oxygen flow through tubes with voltages from 4000 V to 14000 V.

Generally, generators can produce variable mixtures of ozone and oxygen with ranges up to 7% ozone. This depends on three conditions:

(1) Voltage applied

(2) Oxygen flow rate

(3) Electrode separation distance

The purity of the oxygen source is extremely important, as nitrogen in the air can form toxic nitric oxides when exposed to high-energy fields.

Since the half-life of ozone is just 25 minutes at 20◦C (68◦F), it must be freshly generated for use at treatment sites.

Fortunately, the maximum dose generated, (7% ozone: 93% oxygen), is well below the explosive limit (15 to 20% ozone). Caution is needed not to mix ether and ozone, which is particularly reactive.

Contraindications to ozone treatment include: acute alcohol intoxication, recent myocardial infarction (heart attack), hemorrhage from any organ, pregnancy, hyperthyroidism, thrombocytopenia (low platelet count) and ozone allergy.

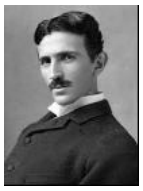
Importance of ozone for our health

Ozone plays an important role in increasing stability of normal good healthy cells. It also ruins the immature and sick cells, which are deformed and seen as foreign to the body,

including viruses, bacteria, fungi etc. We know that singlet oxygen (O1) acts as a highly reactive free radical, which acts as a scavenger of other free radicals. But it is considered that ozone also damages mucus and respiratory tissues in animals, and also in plants, when concentrations exceed about 100 parts per billion.

Ozone is suggested as a preventive and more use in dentistry, though some evidence disagrees with that. It is one of the safest forms of medical therapy because it eliminates pathogens, and cleanses the blood stream, which in turn cleans the liver, kidneys and other organs. By traveling everywhere in the blood stream, even to the brain, it can and does destroy cancer and AIDS on contact **.**

Ozone therapy history



Nikola Tesla, a fellow Serb is the father of ozone therapy and the originato r of the term “Ozone.” Being the most powerful cleansing modality, medical ozone therapy powerfully promotes the welfare of human health by oxygenating every cell in our body. The application of medical ozone activates immune systems in patients with low immune function by instructing other white cells to stimulate the resistance of disease. As stated in the introduction of ozone, the more oxygen we have in our system, the more the production of energy will rise.

For this reason, medical ozone therapy is used in medicine, dentistry, veterinary medicine, and in the treatment of cancer and AIDS. It has become routine practice for hundreds of physicians worldwide, seeking more effective means of treatment without chemical toxicity and side effects. Studies have showed that ozone therapy, when properly administered, inactivates viruses, bacteria, fungi, protozoa, and in some cases, carcinomas (cancer).

Today's awareness of medical ozone is decidedly on an upward trajectory, finally loosening the chains of ozone's rigid association with toxicity. New openness sees ozone with a greater and greener perspective, as one of nature's most fascinating and beneficial molecules. Among the most powerful oxidants, ozone reigns supreme.

Doctors, nurses, and receptionists are exposed to millions of airborne viruses and bacteria through droplet sneezing, human dander, excretions, etc. Studies show that ozone purified air reduces the incidence of colds, sore throats, and allergy attacks, especially during the flu season. In this light, an ozone generator becomes an office companion - far more essential than a water cooler.

In view of the fact that no safe and effective anti-viral treatment by chemicals is known, excepting some plant extracts with variable specificity, ozone and its peroxides acquire special importance, particularly as they are atoxic in effect and free of undesirable side-effects. Due to ozone's inactivation process, it plays an active part in the viral infection cycle and also increases phagocytosis by the host immune system. In addition to this, a protective effect on healthy cells and an increased elimination of virally damaged cells is observed.

According to researchers, direct intravascular injection of pure oxygen/ozone mixtures results in the following responses:

1) Activation of enzymes involved in peroxide or oxygen radical scavenging, including glutathione, catalase and superoxide dismutase.

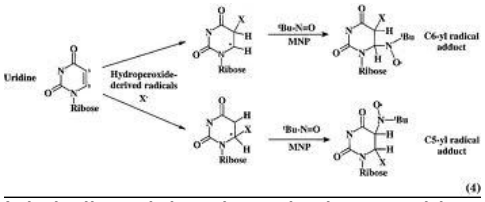
2) An acceleration of glycolysis (sugar breakdown and utilization) in erythrocytes.

3) Citric acid cycle activation (see later).

4) An increase in blood p02, fluidity, and pliability.

5) Bactericidal, virucidal, and fungicidal properties.

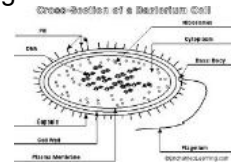
Laboratory studies have shown that when ozone is introduced into the blood in microgram doses, it is immediately converted into hydroperoxides, which are free radical scavengers (glutathione, catalase, super oxide dismutase, etc.). They have shown remarkable antibacterial and antifungal effects. Through reaction of ozone with the phospholipid chains in the cell membrane, lipoperoxides are introduced into the cell and influence its metabolism.



It is believed that these hydroperoxides actually seek out and destroy diseased cells and account for ozone's anti-tumor properties. Also, infected cells have lower levels of enzyme activity and are less stable. The hydroperoxides readily react with the cell membrane lipids. In vivo, studies have shown that hydroalkylperoxide has a 90% growth inhibitory effect on mouse ascites carcinoma (Erhlich).

In particular, the peroxides of polyunsaturated fatty acids (PUFAs) have a selective cytotoxic effect and have growth-inhibiting effects in human lung, breast, and prostate. Based on ozone's established properties, some forward-looking views on ozone's medical future are offered, for the near and longer term. As ozone exerts its chemical force for biological missions, all of the body's energies need to be properly harnessed and used.

The human body possesses an essential feature for ozone therapy, and this is the discrepancy of higher versus lower life forms for processing oxidative challenges. While viruses or bacterial organisms



have few anti-oxidative defenses, human cells, because they mainly depend on oxygen, have many. When ozone interacts with water in tissues, it generates hydrogen peroxides, hydroxyl and superoxide radicals, and dihydrogen trioxide. These are considered as members of the same extended oxygen family.

Now in this case a question may arise: can the temporary creation of these free radicals in the body maintain therapeutic value? Can the activated molecules stimulate body systems?

According to one study, when ozone therapy is applied in the living body, ozone penetrates through cell membranes of E. coli and reacts with cytoplasmic contents, causing impaired bacterial procreation. Moreover, in case of higher organisms, DNA and RNA can be protected and repaired when they are disrupted. This can provide us with a partial explanation as to why ozone therapy should be prescribed to patients.

Mechanisms of Bactericidal, Virucidal and Fungicidal Action

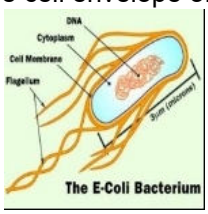
The inhibitory and toxic effects of ozone on pathogenic organisms were first observed in the latter part of the 19th century. However, the mechanisms of this are still unclear.

It is worth noting that in clinical treatment, ozone appears to inactivate microorganisms but does not harm the patient. This may be due to the possession of enzymes by higher organisms that can re-stabilize disrupted genetic material

Bactericidal effects

Ozone is a strong germicide and only requires concentrations of a few micrograms per liter in order to work effectively. Bacteria affected include E. coli, Staphylococcus Aureus and Aeromonas Hydrophilia.

The cell envelope of Gram-negative microorganisms such as E. coli is a complex multilayer system composed of an inner cytoplasmic membrane made of phospholipids and proteins invaginating into the cytoplasm, a peptidoglycan layer, and an outer membrane of polymers such as polysaccharides. Gram positive cells have a less complex, three layer envelope with a thick peptidoglycan middle layer.



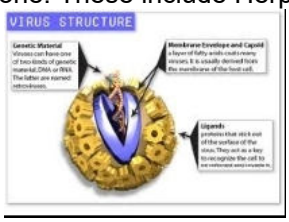
Most commonly, the bactericidal effects of ozone are explained by the disruption of the outer envelope integrity. This occurs as viaphospholipid and lipoprotein peroxidation. It may also interact with proteins.

In one study, ozone was found to penetrate the cell membrane of E.coli. It reacted with substances in the E.coli cytoplasm and converted the closed circular plasmid DNA to open circular DNA. This is thought to reduce efficiency of bacterial spread.

Virucidal effects

Genetically, viruses are parasites due to their physical structure. , They are separated into families based on their envelope and other constituents, the type of nucleic acid they use (DNA or RNA) and their reproductive methods. Many virions (a virus particle) contain a phospholipid envelope with glycoprotein spikes, and a nucleocapsid, which contains nucleic acids and proteins including enzymes.

Virus containing lipid envelopes are sensitive to treatment with ether, assorted organic solvents, and ozone. These include Herpes viruses (including Herpes Simplex and Varicella-Zoster),



Cytomegaloviruses and Epstein-Barr viruses. Others are the Paramyxoviridae (mumps, measles), Orthonyxoviridae (influenza), Rhabdoviridae (rabies) and Retroviridae (HIV). Many of the above viruses have complex life cycles and replication methods, progressing from attachment to the host cell, to penetration and envelope uncoating. Finally, molecular components are synthesized and new virions released to the surrounding medium, destroying the host cell. Many chronic viruses have eclipse phases, with low viral levels, alternating with phases of viremia in the blood.

In view of the above, what role does ozone have as an antiviral? In a study of ozone, polio virus type 1 was exposed to 0.21 mg/liter of ozone at pH 7.2. After 30 seconds, 99% of the viruses were inactivated and lost their ability to replicate, although they maintained their structural integrity.

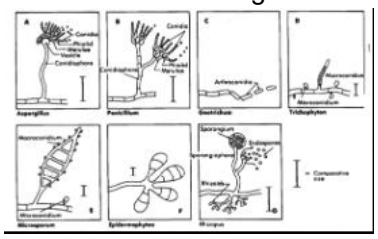
Other researchers have noted that with ozone therapy, it is the viral capsid containing nucleic acids which sustains the most damage. This ties in with the fact that polioviridae do not contain lipids, suggesting a mechanism other than lipid peroxidation is at play.

Individual viruses and families differ in their sensitivity to ozone destruction. For instance, the resistance of poliovirus type 2 is 40 times that of coxsackie virus type A5. In one experiment using a continuous flow mixed reactor , relative resistance (from highest to lowest) was found to be: polio virus type 2, echovirus type 1, poliovirus type 1, coxsackie virus type B5, echovirus type 5,and coxsackie virus type A9.

The time taken to inactivate viruses also varies. For example, in pure water at room temperature and maximal solubility of ozone, echovirus type 29 is inactivated in one minute, poliovirus type 1 in two minutes, poliovirus type 3 in three minutes and poliovirus type 2 in seven minutes.

Fungicidal effects

The mechanisms of fungal destruction and inactivation by ozone are poorly understood. In one study,



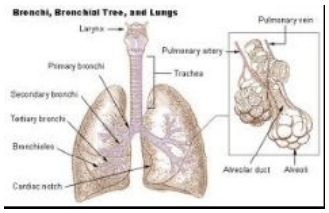
inhibition of Candida utilis cell growth was greatly dependent on growth phases. Budding cells were particularly susceptible to ozone treatment .Surprisingly, in another study; low doses of ozone stimulated the growth and development of two fungi, Monilia fructagen and Phytophtora infestans. Higher doses were inhibitory.

In clinical applications that make use of external (body cavity) application of ozone, inactivation of micro-organisms may proceed by a variety of different mechanisms. This has been applied in the treatment of superficial fungal infections, pressure ulcers, burns and abscesses.

Metabolic and Physiological Effects

It is well known that ozone can be toxic to the lungs and contributes to atmospheric pollution. The synergistic actions of industrial gases, oxygen and ultraviolet rays, can compromise pulmonary function. However, the effects of pure ozone should be differentiated from those of atmospheric ozone.

The majority of studies to date have been performed on animals. These show great interspecies variability in their response to inhaled ozone. Extrapolation to humans is difficult due to differences in lung anatomy and physiology. Mice seem to be the most sensitive (LD50, 22 ppm for 3 hrs) and birds the least (turkeys survived 417 ppm ozone for 3 hrs). Ozone overdose may lead to pulmonary edema (fluid) and hemorrhage.



In comparison, long term low-level exposure produces sometimes contradictory findings. Reported effects include enhanced enzyme activity, increased glucose utilization and formation of lactate, an inflammatory marker, and carbon dioxide.

Humans exposed to ozone (0.24 ppm in room air for two hours) typically develop slightly faster breathing with symptoms such as tracheal or laryngeal irritation and chest tightness. Large inter-subject differences are worth noting.

During ozone treatment, care is given to avoid its escape into the treatment area. Modern machines are also equipped to catalytically convert excess ozone to oxygen.

As with immunity, the pulmonary effects of low–dose ozone appear to include metabolic activation of lung pneumocyte cells. Higher doses, on the other hand, produce evidence of cellular metabolic compromise.

Interestingly, other studies also point to the possible beneficial effects of low-dose ozone. The phenomenon of ozone tolerance (where the response to ozone exposure decreases with time) occurs in both humans and animals.

The probability of ozone traversing the respiratory epithelium and entering the systemic circulation below 0.30ppm is very low. However, in the technique of Major Autohemotherapy (AHT), and others that involve the direct introduction of ozone into the circulation, this question is of special relevance.

Studies of human blood in young adult males exposed to 0.50 ppm ozone for 2-3/4 hours show significant changes in red blood cells. Membrane fragility, glucose-6-phosphate dehydrogenase and lactate dehydrogenase enzyme activities were increased. In contrast, acetyl cholinesterase and reduced glutathione reductase were not significantly changed. Serum vitamin E and lipid peroxidation levels were significantly increased. These findings indicate that ozone increases metabolic activation markers in red blood cells.

According to other researchers, injecting pure ozone-oxygen directly into veins results in the following responses:

(1) Activation of enzymes involved in peroxidation of red blood cells (RBC)

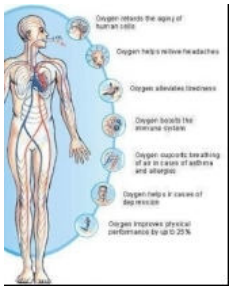
(2) Stimulation of the bisphosphoglycerate cycle. This shifts the oxyhemoglobin dissociation curve to the right, releasing oxygen to the tissues.

(3) Enhanced decarboxylation of pyruvate, formation of Acetyl-CoA, and subsequent citric acid cycle activation

(4) Direct influence on the transport system of mitochondria, with reduction of NADH and oxidation of cytochromes

(5) Increase in RBC pliability, blood fluidity, and arterial O2 partial pressures.

Maximum Benefits of Enhanced Oxygen



Enhanced oxygen such as ozone has the ability to:

1. Systemically saturate the host.

2. Purify all the cells and body system of patients.

3. Activate the regenerative mechanisms by stimulating our whole cellular (especially the cells of the body organ that are related to major life support) immunity.

4. Prevent tumors and cancers or highly topically infected areas. In this case, highly concentrated enhanced oxygen is injected into the affected area, tumor or body.
5. To eradicate chronic and severe medical diseases and conditions, such as HIV/AIDS and various cancers.

Major effects of Ozone on Immunity:

1. Ozone therapy stimulates the whole production of white cells, as we have seen before. Thus our body is protected from viruses, bacteria, fungi and cancer. Without oxygen, white cells cannot maintain their regular cellular activities and thus the cells fail to eliminate invaders, and even they turn abnormal and disrupt even healthy cells (allergic reactions). Since Ozone provides oxygen to cells, the tendencies of allergies are desensitized.

2. Globular proteins like interferon, which positively influence the immune system, are increased by ozone therapy, thus viral replication is inhibited.

3. Stimulating the secretion of IL-2. Interleukin-2 is one of the cornerstones of the immune system. T-helper cells cause the system to produce more IL-2. On the other hand, lymphocytes are differentiated and proliferate by being introduced to ozone therapy. Ozone can also create more T-helpers, T-suppressors, cytotoxic T's, and T- memory cells.

4. Ozone therapy kills quite a number of bacteria and thus reduces their metabolic function in our body.

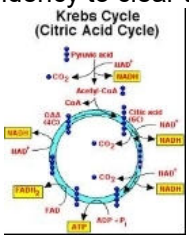
5. Ozone plays an important role in reducing fungi. This includes systemic Candida Albicans, athlete's foot, molds, mildews, yeasts, and even mushrooms.

6. Medical ozone fights viruses in various ways as discussed above.

7. Medical ozone works as an antineoplastic. This indicates that ozone inhibits the growth of new foreign tissue because the cells, which are divided, will rapidly transfer their activities away from producing the enzymes needed to protect themselves from the ozone. The rapidly dividing cells are treated as cancer cells which are then eliminated by ozone.

8. Ozone can oxidize arterial plaque. Thus Arteriosclerosis and Atherosclerosis can be prevented through ozone therapy.

9. Oxygenation in deficient organs can be accomplished through medical ozone as ozone has a tendency to clear the blockages of all vessels giving nutrients to the capillaries.



10. Ozone therapy increases the flexibility and elasticity of red blood cells. As a result ozone is known to prevent Spherocytosis.

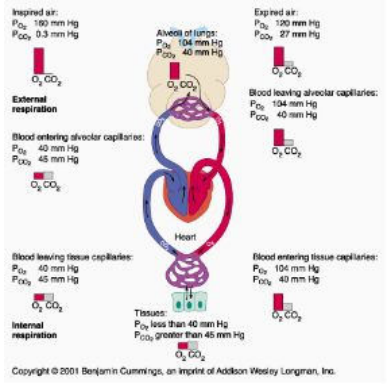
11. Medical ozone can accelerate the Citric Acid Cycle (Krebs Cycle or TCA cycle), thus it maintains the balance of glycolysis for energy.

12. Petrochemicals and toxic heavy metals that disrupt the immune system of our body can be oxidized and eliminated by ozone therapy.

Effect of intracellular PO2 (Partial Pressure of Oxygen)

Only minimal pressure of oxygen is required in the cells for normal intracellular chemical reactions to take place. The respiratory enzyme systems of the cell are geared so that when the cellular PO2 is more than 1 mm Hg, oxygen availability is no longer a limiting factor in the rates of chemical reactions. The main limiting factor is the concentration of adenosine diphosphate (ADP) in the cells.

When adenosine triphosphate (ATP) is used in the cells to provide energy, it is converted into ADP. The increasing concentration of ADP increases the metabolic usage of oxygen as it combines with the various cell nutrients, releasing energy that reconverts the ADP back to ATP. Under normal operating conditions, the rate of oxy gen usage by the cells is controlled ultimately by the rate of energy expenditure within the cells-that is, by the rate at which ADP is formed from ATP.



This effect is demonstrated by the relationship between intracellular PO2 and the rate of oxygen usage at different concentrations of ADP. It should be noted that whenever the intracellular PO2 is above 1 mm Hg, the rate of oxygen usage becomes constant for any given concentration of ADP in the cell. Conversely, when the ADP concentration is altered, the rate of oxygen usage is in proportion to the changes in ADP concentration.

Chapter 2: Techniques

External Ozone Gas Application: Methods of Administration, Dosage, and Clinical Applications

Ozone was first administered by application to external body surfaces to determine its effects on a variety of conditions. In 1915 A. Wolff used local ozone treatments for wounds, fistulas, decubitus ulcers and osteomyelitis.

Early materials used in conjunction with ozone caused “bagging” around skin surfaces. For instance, natural rubber cracks and fritters when exposed to oxygen-ozone mixtures. For a while, this led to disuse of oxidative therapies. .

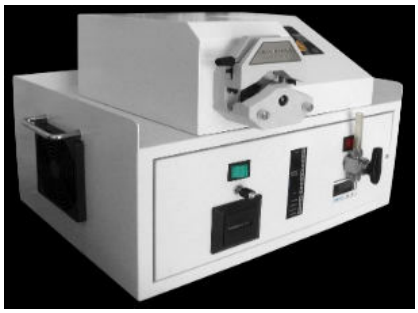
Today, specially designed plastics (Teflon) enclose extremities and parts of the head or torso. A pre-determined dosage ratio of oxygen to ozone is then administered. In this way, the walls of the transparent bags do not touch the patient, which is an important consideration in burn treatment.

Indications for external ozone include poorly healing wounds, burns, staphylococcal skin infections, fungal and radiation lesions, herpes simplex and zoster infection and gangrene. Dosage is adjusted to the condition treated.

Gas perfusions may last from 3 to 20 minutes. Ozone concentrations vary from 10 to 80 ug/ml, using a maximum of 7 parts of ozone to 93 parts of oxygen.

High ozone concentrations are commonly used for disinfection and cleaning (or sometimes wound debridement), whilst low concentrations promote epithelialization of skin and healing.

The new portable RHP Medical Ozone Unit



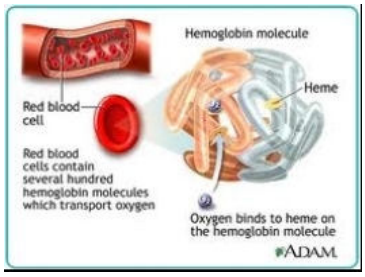
What is medical ozone RHP?

RHP stands for Recirculatory Haemoperfusion. In this technique the entire blood stream is treated with ozone. First the patient's blood is drawn from a large caliber vein by using a medical pump. The blood is fully mixed with ozone, at the same time unwanted components in the blood are separated from the blood through micro-filtration and then the ozonated blood is re-perfused into the body.

For this process a minimum of 1 – 1 ½ hours are needed, Within this time, almost the entire volume of blood in the body is not only filtered, but also purified and enriched with ozone before being returned to the body.

Some mistakenly picture us removing all the blood from the body, ozonating it and then returning it to body. This is incorrect. Only a small amount of blood is drawn from one arm, which travels to the filter/ozonator, and then flows directly back into a vein in the other arm. Only about 300 ml or so of blood is ever outside the body, during the whole process.

Scientific basis of RHP



The scientific basis of RHP is rooted in highly specialized and sophisticated molecular oxygen technologies. RHP is a type of dialysis where an extracorporeal loop is used before re-infusion to the patient over repeated 'cycles' in the same treatment session and thus almost the entire patient's blood is completely treated.

During this process, enhanced oxygen is injected into the blood stream in a precisely measured dosage and flow rate, timed to body weight and other medical therapy treatment parameters. For transporting enhanced oxygen throughout the blood stream, a highly negatively charged molecule is used, which neutrally attaches to the patient's hemoglobin. The hemoglobin molecule and the enhanced oxygen react immediately as they encounter diseased cellular structures.

As the infected areas are saturated with enhanced oxygen, ionization, oxidation and the protein restructuring of the diseased cells occurs. Infected, diseased cells sometimes mimic healthy cells protein coating. This is how they protect themselves from the attack. However, they have no protection from enhanced oxygen, and when exposed to this treatment they are easily destroyed and filtered out of the blood.
RHP technology is an effective ozone therapy treatment system which must be administered and managed in a professional manner. Guidelines regarding specific treatment application must be adhered to. Used properly, RHP eradicates diseased cells at a rate compatible with the patient's elimination systems – without overloading their detox systems, while, at the same time, allowing their regenerative systems to replace and compensate for lost cells.

RHP is a massive improvement over previous methods of Ozone application for medical use. RHP is the nemesis of all anaerobic forms of infection.

Several studies have already been initiated, internationally, to establish the efficacy and of this new field of Medical Science. RHP technology is both a curative and palliative medical therapy – unprecedented in its effectiveness. At the same time, it is free of the common trauma, risk, complications and harmful side effects, like infectious contamination and death, commonly associated with modern/conventional surgical or pharmaceutical treatments.

It cannot be considered as the only ultimate panacea to all infection and the sufferings of mankind. However it is a highly advanced and viable medical therapy and health care option which patients, worldwide, are eager to choose, when they have an option.

RHP has demonstrated a level of effectiveness that no other form of medicine has yet been able to achieve with respect to HIV/AIDS, cancer, Ebola, cardiovascular disease, CMV, EB, Hepatitis A, B, C.

RHP therapy and its inter-related technologies have become highly competitive supplementary and complimentary therapies which are effective and compassionate alternatives for resolving medical conditions. It can dramatically assist in reversing disease and suffering in mankind and is certainly one of the greatest opportunities in medical science today.

Direct Intra-arterial or Intravenous Administration

This method was first used by Iacoste in 1951 for circulatory compromise and its possible effects including gangrene. It involves injecting up to 10 ml of pure ozone-oxygen directly into an artery

(usually in the groin), or a vein. The risk of clots is slow since both gases are soluble in blood. Indications for direct administration include intermittent claudication, leg ulcers, and cerebral vascular insufficiency. However, this technique is now rarely used due to accidents produced by over-rapid introduction of the gas into the circulation. However, those that are very proficient and trained in the use of ozone still do use it as it is a very effective means of ozone therapy.

Major Autohemotherapy (AHT)

In the technique of major autohemotherapy, 50 to 100 ml of blood is drawn from the patient. This is then mixed with a dose of ozone-oxygen of a predetermined concentration, and then returned to the circulation. In the patient, the ozonated blood is rapidly distributed throughout the body.

Therefore, with one treatment aliquot, the dose of ozone will not only have therapeutic actions locally (including bactericidal, fungucidal and virucidal activity, oxygenation and increased red cell fluidity), but also systemically.

The duration of time that ozone remains in blood solution, and its effects on the endocrine, and neurological systems are as yet not known. Some patients, report a faint background taste of ozone, which may indicate that it survives in solution for at least a few seconds.

Also interesting are the reports of some patients, who experience feelings of well-being lasting for a few minutes to several hours after receiving this treatment. It is thought this may represent a placebo effect, a metabolic alteration, or possibly a neuro-psychiatric mechanism. It is also postulated that ozone affects uptake of serotonin.

Major AHT has been applied to the treatment of several conditions, including acute and chronic viral liver infections (hepatitis), some cancers, circulatory disease (including diabetes and arteriosclerosis), hyperlipidemia and postmenopausal osteoporosis in combination with pharmacological therapy.

Major AHT in viral treatment

In this treatment, an ozone-treated aliquot of blood is reintroduced into the circulation. This has been rendered viral-free through direct contact with ozone and ozone peroxide. At this point, very little free ozone remains in solution due to its high reactivity. Particles known as virions are inactivated by its breakdown products, predominantly lipid compounds.

Within the dosage ranges prescribed (up to 10 mg O3/100 ml of blood), the antiviral capacity can be measured. Although ozone has not been proven to be outright curative for any viral illness, it can lessen the severity or duration.

Benefits have been also noted in hepatitis (both acute and chronic) and herpes virus infections. In chronic viral infections such as cytomegalovirus, Epstein - Barr virus and Retroviridae including AIDS, blood ozonation may induce quiescence. This happens through direct action, production of cofactors inhibitory to viral replication or modification of immune function.

In view of these possibilities, new generations of machines may be developed to test the therapeutic potential of extra-corporeal treatment of circulating blood.

Miscellaneous Applications

Although the above techniques of ozone administration represent the majority of clinical -based procedures, some others deserve a mention.

Minor Autohemotherapy

In this technique, 10 ml of venous blood is drawn from the patient, mixed with ozone-oxygen, and then injected into muscles. Indications for this technique include asthma, acne, some allergic conditions, and some carcinomas.

Intramuscular Injection

Up to 10 ml of pure ozone-oxygen mixture is injected into the gluteus maximus muscle in the buttocks or the deltoid in the shoulder. This treatment, along with major AHT, is used as an adjunct to cancer therapy.

Ozone Insufflation

Payr and Aubourg, in 1935 and 1936 respectively, were the first to use ozone-oxygen rectal insufflation to treat ulcerative colitis and fistulae. This list of indications has now expanded to include proctitis (rectal inflammation) and hemorrhoids.

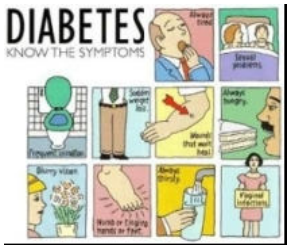
It is reported that ozone can promote healing and restore the natural balance of micro-organisms in inflammatory diseases.

In a typical treatment regime for ulcerative colitis, daily insufflations are applied. In severe cases, this starts with 50ml and increases as tolerated in increments up to 500 ml.

This technique may also have some promise in the treatment of bowel infections associated with AIDS. Microsporidia is a tiny, rarely detected parasite and may be responsible for many cases of AIDS-wasting illness. Studies are awaited to determine its susceptibility to ozone treatment.

Chapter 3: Specific Medical Conditions

Ozone Therapy for Diabetes



Among many dangerous diseases, Diabetes can be also treated by ozone therapy, and in many countries, ozone therapy is being used successfully.

Ozone therapy is beneficial for preventing diabetic complications, including amputations, and diabetic retinopathy. It also promotes healing of diabetic ulcers.

Ozone therapy benefits diabetes:

1. By improving the blood circulation
2. By stimulating the antioxidant defense systems
3. By activating the cells for assessing the immune system.
4. By modulating the immune system.
5. By activating red blood cells.
6. By disinfecting and cleaning wounds.

Prof. Silvia Mendez, the Head of Medical Applications in Ozone in Cuba considers Ozone therapy more effective than any other treatment. Ozone therapy helps keep glucose parameters within normal range, which speeds healing of diabetic ulcers and prevents a multitude of complications, associated with unstable glucose levels.

In Germany, the president of the German Ozone Society, Hartmut Dorstewitz says that the mode of application for medical ozone is to use a Teflon bag, which is resistant to ozone gas. In the case of diabetic foot, a suction cup is used around the ozone-insufflated area. Each session is 20 minutes and the personal evolution of the patient determines the number of session.

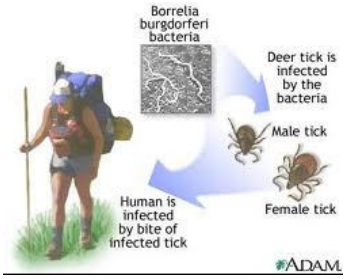
In pathology, there are other methods of ozone application. Dorstewitz highlighted the parental application role. Major autohemotherapy is mostly used in these types of applications. The patient's blood is extracted, ozone is bubbled in and then the blood is returned to the patient. This kind of treatment is an extracorporeal one and works as an application of intravascular gas.

In Russia, during treatment for diabetes, thirty eight patients were asked to give their opinions on ozone therapy. Twenty patients had Type 1 diabetes and the remaining eighteen had Type 2 diabetes, all with different degrees of severity. Many of them were at the later stages and 22 had serious complexities. They were all treated with an intravenous drip of an ozonated physiological solution. Then they were given rectal insufflation of ozone.

In this study, there were a total of 7 to 10 treatments. Patients found considerable improvement in all aspects of their issues. They no longer complained about thirst, frequent urination, skin itching, dry mouth, tingling sensation etc. The glucose levels lowered to 50 percent of their original level during the test within 1 hour. After this successful study, the glucose level lowered and leveled to almost 30 percent. All of the patients in this study returned home with an improved health condition.

Ozone Therapy for Lyme Disease

Ozone therapy plays an important role in treating Lyme disease as well. A large amount of antibiotics are used in this therapy, which range from protein synthesis inhibitors (macrolide and tetracycline class, eg high dose doxycycline) to high dose cell-wall agents (cefuroxime, cefixime, amoxicillin, with or without probenecid). Pathogens are often effectively killed by these agents in chronic Lyme disease treatment. Thus, due to the activity of these agents our immune systems become modified.



Ozone reduces immune system overload and gives relief to all detox pathways, including the liver and kidneys. Once the immune system is relieved of its burden it can effectively once again start to work on the job it was meant to do with the help of ozone.

We once believed that vaccines prevent the occurrence of certain diseases by inducing an immune response and exposing a patient to the same infectious agent, antigen-antibody reactions occur and in turn respond to the infection. This would tend to make the infection milder or not at all due to the antigen-antibody cycle created.

Although it may be considered (and I say that very lightly) that vaccines are effective and curative during illness, vaccines present infectious "antigens" in a form that is not similar to natural infection. By activating different immune sites with ozone, other Lyme antigens from the blood are introduced into foreign sites thereby creating the same reaction. Of course as well ozone improves and enhances the immune system.

As an oxidizing agent, medical ozone changes the Lyme structures by flooding oxygen/ozone into the body thus destroying and eliminating the Lyme structures on contact.

Through testing of CD57, (a subset of NK cells, Natural Killer Cell) we can establish how serious the infection is. The average level is 40-60, and the amount can go to below 20 with very sick patients. Antibiotic treatment will not be prescribed when the quantity is around 20. The only viable choice then would be ozone therapy.

Chronic Lyme disease symptoms such as: poor circulation, brain fog, fatigue, and joint pain rapidly respond to ozone therapy. With 4-6 treatments over 2-3 weeks, most patients feel vast improvements in their quality of life.

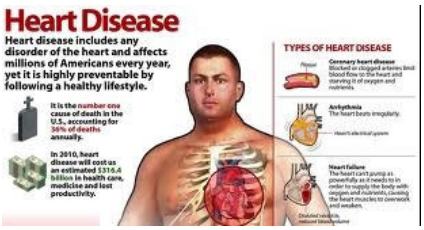
Ozone therapy helps alleviate inflammation in the blood due to chronic infection, and also helps prevent Herxheimer reactions (antibacterial-associated sepsis).

When the system is infected by Lyme and being treated, the Lyme pathogens create cysts to shelter themselves from attack. These cysts are immune to any course of treatment other than ozone therapy. With ozone therapy the cysts are found and destroyed effectively.

With the formation of biofilm, Lyme patients suffer from poor circulation. When ozone is infused in the veins, it easily breaks down the biofilm. Glutathione increase from the mild stress on red blood cells helps them to transport oxygen to the tissues more effectively, eliminating Lyme wherever it tries to hide.

Ozone Therapy for Heart Diseases

For treatment of severe heart diseases, cardiovascular complexities and fatigue, ozone therapy is very effective. It takes less time to clear the arteries than by-pass surgery or angioplasty, and is profoundly less traumatizing for the patient. Any kind of blockage in the blood vessels due to fat and cholesterol like atherosclerosis can be reduced and eliminated through this process. In addition, the viscosity of the blood is improved, yielding better circulation. Ozone therapy helps facilitate oxygen supply and circulation to the entire body, including the heart tissues.



How does ozone therapy work in heart disease therapy?

Ozone can supply oxygen to all the heart tissues and helps in proper oxygen generation. The heart muscles and the whole cells can use the full term of energy with the supply and contribution of oxygen. The cells can produce appropriate amount of energy and as a result pain and fatigue will not occur.

The Procedure

For this procedure RHP ozone is most effective and recommended, however other methods can be used but will take much longer to produce the expected results. One of them would be to use a sterile container. A standard amount of blood (about 250ml) is taken into the container. The blood is infused with medical ozone then the blood with ozone is injected back into the body with a safe IV injection.

Time

Each procedure requires 30-45 minutes to complete or in the use of RHP ozone, this would be 1-11/2 hours.

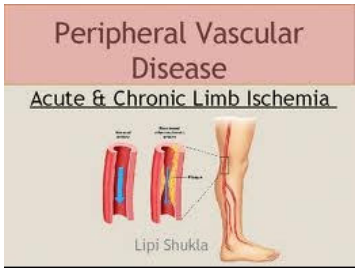
Duration of treatment

Therapy generally consists of 6-10 treatments. These treatments are given 2 times a week, 1 time a week for RHP ozone. Some patients don't need to take the whole course. As nutritional factors are replaced and toxic factors are removed, many feel better after receiving the 2 nd and 3 rd treatment. Without a chronic condition, this therapy isn't required to be given to the patients repeatedly. In the case of chronic heart diseases, single touch up treatments need to be given to the patient every 4-8 weeks.

The Patient Experience

Positive recommendations have come from heart disease patients who took both therapies. Patients are pleased that it takes less time for treatment and is less expensive than other forms of treatment. Because oxygen can generate energy in the cells, the patients feel better during physical movement and activities. They can walk, exercise and do their regular activities comfortably as treatment progresses and live normally after treatment.

Ozone Therapy for Limb Ischemia



Ozone therapy has also been shown to be beneficial to patients with ischemic disorders, particularly of the lower limbs. In our previous studies we had found that ozone therapy increases oxygenation in the most poorly-oxygenated tissues of the anterior tibialis muscles and that oxygenation in these muscles might be related to tumor oxygenation.

Ozone Therapy for Chronic Hepatitis C

Hepatitis C (HCV) is a retrovirus first recognized in the 1970s and is of massive public health importance. Today, due to human population growth, migration, and global travel, the hepatitis C virus has expanded its territories, geographically, and demographically. There is every indication that the evolution of this virus, in all its forms, is currently manifesting an accelerated phase.

When in 1989 the complete genome sequence of HCV was deciphered, it was found to have a novel, distinct serological feature among the Hepatitis virus family, using unique strategies to infect its host. This makes it a formidable enemy.

Properties of HCV

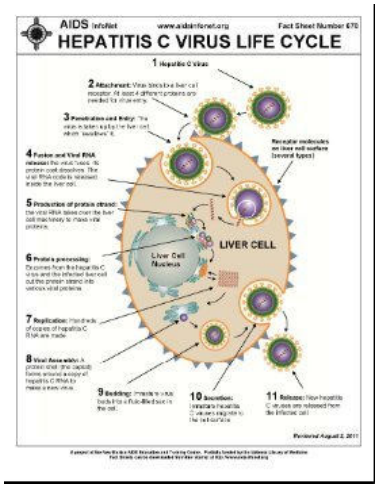
The Hepatitis C genome is formed from single stranded RNA contained by a nucleocapsid layer surrounds the viral particle. This nucleocapsid layer is further surrounded by an envelope, which helps it to attach and penetrate into the host cell. The entire particle is known as a virion.

The nucleocapsid envelope possesses projections called peplomers which facilitate attachment to host cells. One protein on peplomers of the HCV particle which is thought to be instrumental in the attachment process is designated CD-81.

The virion genome encodes structural proteins designated as core (C), envelope 1 (E1), envelope 2 (E2), and P7 (unknown function). These providing for virion architecture, and nonstructural proteins, mainly enzymes essential to the virion's life cycle, which are designated as NS2, NS3, NS4A, NS4B, NS5A, and NS5B. These enzymes include proteases, which release structural and nonstructural protein, helicases, which unwind viral nucleic acid, and polymerase, which replicate RNA.

The sequence of nucleotides within the HCV genome shows significant variations. Strains obtained from different parts of the world, for example, may differ substantially in their structural and nonstructural protein compositions. This has led to a system of classification of the HCV family into 6 genotypes (1 to 6), and approximately 100 subtypes (designated a, b, c, etc.). Genotypes vary from each other by a factor of 30% over the entire genome. Subtypes vary by about 20%. Genotypes 1 to 3 have global distribution, while genotype 4 and 5 are found mainly in Africa, and 6 is distributed in Asia. Importantly, genotype and subtype differences have shown varying susceptibility to antiviral therapy.

Within any one afflicted individual, HCV particles do not show a homogeneous population. Instead, they function as a pool of genetically variant strains known as quasispecies. This is due to the high replication error inherent in the function of the polymerase enzymes. Herein lays one of the important armaments of HCV.
Continuously generated genetic diversity gives it great advantage in negotiating and conquering immune defense and therapeutic strategies. Furthermore, the antigenic differences between genotypes may have implications regarding the proper evaluation and the therapeutic regimen of patients.



HCV life cycle

A freely circulating virion enters a host cell by binding to a cell surface receptor. In the case of HCV the host cell is a hepatocyte (liver cell). However, bone marrow, kidney cells, macrophages, lymphocytes, and granulocytes may also be trespassed.

Once cell entry is achieved, the virion sheds its envelope to commence its replication. It binds to cellular ribosomes and released viral polymerase begins the RNA replication cycle. Newly formed nucleocapsids continue their assembly with the acquisition of new envelopes by means of budding through membranes of the cell's endoplamic reticulum. Newly formed virions may number in the range of 10 billion daily. The average life span of virions is in the order of a few hours.

Virions are then released into the general blood and lymphatic circulation, ready to infect new cells, re-infect already diseased cells, or a new host, mainly through bodily fluid transmission pathways. HCV RNA, as measured by polymerase chain reaction (PCR) may show 10 million or more virions per ml.

As little as 0.0001 ml of blood may be sufficient to impart infection. The evolution of hepatitis C is characterized by phases of accentuated viremia punctuated by periods of relative quiescence. The presence and timely detection of these viremic waves may offer novel therapeutic considerations.

Clinical and laboratory manifestations of HCV

Hepatitis C distinguishes itself by the low incidence of acute phases and by the high incidence of progression to the chronic state. Acute hepatitis C progresses from exposure, to incubation, to pre-icteric, icteric, and convalescent phases. With an incubation period of about 6 weeks, the first and sometimes only symptoms include weakness, fatigue, indolence, headache, nausea, poor appetite, and vague abdominal pain. The *pre-icteric period* extends from the onset of symptoms to the appearance of jaundice, ranging usually from 2 to 12 days. The *icteric* phase corresponds to the declaration of jaundice and darkened urine. The convalescent phase is marked by the gradual disappearance of symptoms.

Chronic hepatitis C is characterized by the presence of HCV RNA and the elevation of liver enzymes for 6 months or longer. Patients may be asymptomatic, or at times suffer an acute exacerbation with a return of symptoms. Approximately 75% of acutely ill patients continue into a chronic phase evidenced by parameters of viral presence.

Hepatitis C can only be distinguished from other viral hepatic conditions by serological and virological testing. Liver enzymes characteristically affected by HCV infection include serum alanine transfesferase (ALT), aspartate aminotransferase (AST), gamma- glutamyl transpeptidase (GGTP), and alkaline phosphatase; in addition, there may be abnormalities in bilirubin, serum albumin, prothrombin time, and platelet density.

Cirrhosis, a diffuse disruption of liver tissue architecture with regenerative nodules surrounded by fibrosis, is an important sequel to hepatitis C. Within 20 years post-HCV infection 20 to 25% of patients will develop cirrhosis. Hepatic failure ensues with ascites as the salient marker.

Hepatocellular carcinoma, another notable outcome of HCV infection is present in approximately 5% of patients post infection. The presence of cirrhosis is central to its genesis. Although the mechanisms by which cirrhosis ushers carcinoma are unknown, it is likely that chronic inflammation and the sustained pressure of cellular regeneration play important roles.

Up to 10% of patients appear to have fully conquered the disease. HCV antibodies are undetectable, as is HCV RNA. Liver enzymes are fully normalized, but liver biopsy may show lingering areas of stagnant inflammation and spotty necrosis. It is thus possible for the host to vanquish HCV infection and therapeutic strategies aim to assist the host immune system to achieve this goal.

Immunological response to the virus HCV particles are detected early in the infection, usually 1 to 2 weeks following exposure. Antibodies to HCV core, nonstructural, and envelope elements appear about 6 weeks after exposure. A broad range of cytokines are mobilized. Cellular immunity is activated with broad recruitment of neutrophils, natural killer (NK), macrophages, and CD4 and CD8 T helper cells.

Clinical methodology

In the technique of ozone major autohemotherapy for hepatitis C, an aliquot of blood is withdrawn from a virally-afflicted patient, anticoagulated, interfaced with an ozone/oxygen mixture, and then re-infused. This process is repeated serially until viral load reduction is documented. This can of course also be done by RHP ozone in much higher amounts and concentrations.

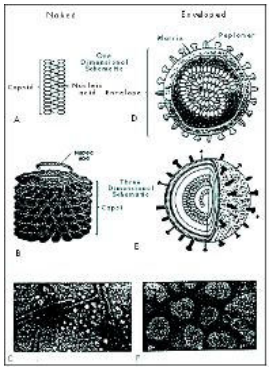
The aliquots of blood range from 50 ml. to 300 ml. This would be much different with RHP ozone as the blood is continually ozonized during therapy. Ozone dosages and treatment frequency vary according to treatment protocols. The reason aliquots of blood are treated and not, as one would propose, the entire blood volume is that in the latter case the total ozone dosage administered would exceed toxic limits; however this would not be the case when using RHP ozone.

In the case of autohemotherapy, the average adult has 4 to 6 liters of blood, accounting for about 7% of body weight. How can the viral load reduction observed via ozone therapy be explained in the face of a technique that treats relatively small amount of blood, albeit serially?

Ozone: Antiviral Properties

Recently, there has surged renewed interest in the potential of ozone for viral inactivation. It has long been established that ozone neutralizes bacteria, viruses, and fungi in aqueous media. This has prompted the creation of water purification processing plants in many major municipalities worldwide.

Some viruses are much more susceptible to ozone's action than others. It has been found that lipid-enveloped viruses are the most sensitive. The viral culling effects of ozone in infected blood may recruit the following mechanisms:



- Denaturation of virions through direct contact with ozone. Ozone, via this mechanism, disrupts viral envelope proteins, lipoproteins, lipids, and glycoproteins. The presence of numerous double bonds in these unsaturated molecules makes them vulnerable to the oxidizing effects of ozone which readily donates its oxygen atom and accepts electrons in these redox reactions. Double bonds are thus reconfigured, molecular architecture is disrupted and widespread breakage of the envelope ensues. Deprived of an envelope, virions cannot sustain nor replicate themselves.

- Ozone proper, and the peroxide compounds it creates, may directly alter structures on the viral envelope which are necessary for attachment to host cells. Peplomers, the viral glycoprotein protuberances which connect to host cell receptors, are likely sites of ozone action. Alteration in peplomer integrity impairs attachment to host cellular membranes foiling viral attachment and penetration.

- Introduction of ozone into the serum portion of whole blood induces the formation of lipid and protein peroxides. While these peroxides are not toxic to the host in quantities produced by ozone therapy, they nevertheless possess oxidizing properties of their own which persist in the bloodstream for several hours. Peroxides created by ozone administration show long-term antiviral effects which serve to further reduce viral load. This factor may explain in part the reason for the fact that ozonated blood in the amount processed in usual treatment protocols is able to reduce viral load values in the total blood volume.

Currently, immunological mechanisms may be invoked through several pathways. In minor autohemotherapy, a small amount of blood is treated with ozone maintaining without regard to preserving cellular elements. By injecting intramuscularly, the treated blood is made to find its way into general circulation and to the immune network, along with fragments of viral envelope and nucleic acids. Then, to counter the evolution of the infection, it manufactures the appropriate antibodies. Since they are derived from their own viral stock, the interesting feature is that manufactured antibodies are individualized to the particular patient receiving the treatment.

Minor autohemotherapy can be conceptualized as a method of auto-vaccination in view of the high mutability of retroviruses and provides a high degree of antibody specificity.

The personal Medical Ozone Unit

Current and experimental treatment strategies as of this date the main treatment strategies for hepatitis C include interferon and ribavirin. Interferons are natural cellular products which activate macrophages, neutrophils and natural killer cells. There is controversy as to interferon's biological effects, be they mostly immunoregulatory or directly antiviral. Ribavirin is a guanosine analog that represses messenger RNA formation thus inhibiting the replication of many DNA and RNA viruses. It is, however, mutagenic to mammalian cells. Ribavirin and interferon have significant medical and psychiatric side effects.

Treatment response is defined as undetectable viral load 6 months following therapy. Contemporary detection methods of quantitative HCV RNA determinations are capable of detecting approximately 1000 viral copies per serum ml.

Viral load reduction by means of ozone blood treatment alleviates immune system fatigue. Ozone-mediated viral culling may be achieved by anyone of a number of possible mechanisms. Direct virion denaturation, peplomer alteration, lipid and protein peroxide formation, cytokine induction, host pan-humoral activation, and host-specific auto vaccine creation are suggested mechanisms. Due to the excess energy contained within the ozone molecule, it is theoretically likely that ozone, unlike antiviral options available today, will show effectiveness across the entire genotype and subtype spectrum.

Resistance to antiviral therapies is a particularly vexing problem in anti HCV treatment. Novel and experimental antiviral compounds include inhibitors of protease, polymerase and helicase.

The creation of dysfunctional viruses by ozone offers unique therapeutic possibilities. In view of the fact that so many mutational variants exist in any one afflicted individual, the creation of an antigenic spectrum of crippled virions could provide for a unique host-specific stimulation of the immune system, thus designing what may be called a host-specific auto vaccine.

In the future, vaccine development needs to take into account HCV's antigenic rainbow and its high mutability. High mutation rates in this condition imply a dauntingly diverse and variable array of viral antigenic components. It is estimated, for example, that HCV mutates significantly in its own host approximately a thousand times a year. This implies that within any one afflicted individual there exists an awesomely large array of viral quasispecies, which in turn creates commensurate difficulties in the creation of effective vaccines.

Ozone Treatment in Cancer

The use of oxygen-ozone application in treatment of carcinomas is based on the strategy of capitalizing on disturbed cancer cell metabolism. The first biochemical hypothesis of cancer was

proposed by Warburg in 1925. This states that all tumors have higher rates of glycolysis (sugar breakdown) under aerobic conditions than non-tumor cells.

Some tumors have high rates of glucose utilization and lactic acid production in the presence of oxygen. This may be due to a number of possible mechanisms, including membrane transport differences and variations in ATP regulation. Cancer cell mitochondrial ribosomes also have altered J structure and function which could diminish their oxidative energy producing abilities.

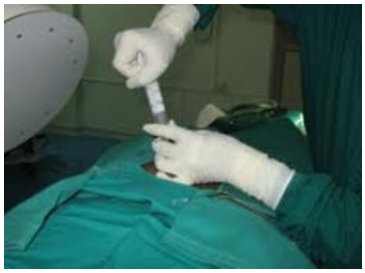
Some authors report a peroxide intolerance in tumor cells. This is because they possess insufficient catalase and peroxidase enzymes to inactivate peroxide. Such cells, when exposed to ozone, are said to show a significant decrease in lactate content; this indicates that ozone may induce metabolic inhibition in some carcinomas.

In one study, cells of different carcinoma types were compared with non-cancerous human lung cells and exposed to ozonated air (0.3, 0.5, and 0.8 ppm of O3) for eight days. Lung alveolar carcinoma, breast adenocarcinoma, carcinosarcoma of the uterus and carcinoma of the endometrium all showed 40% cell growth inhibition at 0.3 ppm and 60% at 0.5 ppm. In comparison, the non-cancerous lung cells were unaffected at these levels. At 0.8 ppm exposure, cancer cell growth inhibition was 90%.

Interestingly, it was at this level that the control cell group started to show a slowdown of anabolic breakdown mechanisms (50%). It is possible that cancer cells are less able to compensate for the oxidative challenge of ozone than normal cells, possibly due to a less functional glutathione system.

Ozone Therapy for Tumor Oxygenation

Tumor hypoxia is an adverse factor for chemotherapy and radiotherapy. Ozone therapy is a non-conventional form of medicine that has been used successfully in the treatment of ischemic disorders.



One prospective study was designed to assess the effect of ozone therapy on tumor oxygenation. Eighteen subjects were recruited for the study. Systemic ozone therapy was administered by auto hemotransfusion on three alternate days over one week. Tumor oxygenation levels were measured using polarographic needle probes before and after the first and the third ozone therapy session. Overall, no statistically significant change was observed in the tumor oxygenation in the 18 patients.

However, when individually assessed, a significant and inverse non-linear correlation was observed between increase in oxygenation and the initial tumor pO2 values at each measuring time-point, thus indicating that the more poorly-oxygenated tumors benefited most.

Additionally, the effect of ozone therapy was found to be lower in patients with higher hemoglobin concentrations. In summary, despite being administered over a very short period, ozone therapy improved oxygenation in the most hypoxic tumors. We suggest that ozone therapy as adjuvant in chemo-radiotherapy warrants further research.

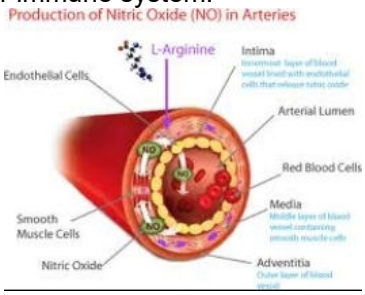
Tumor hypoxia, when assessed by polarographic probes, is an independent prognostic factor for response to treatment and /or survival of head and neck tumors and uterine cervical tumors as well as sarcomas. The polarographic probe technique was designated as ‘gold standard’ for tumor PO2 measurement in a special workshop sponsored by the National Cancer Institute, at which the importance of developing methods to overcome tumor hypoxia was emphasized. Since then, meta-analyses have demonstrated that hypoxia modification during radiotherapy can improve treatment outcomes.

The objective of the present preliminary (and prospective) study is to evaluate the effect of ozone therapy on tumor oxygenation, using the polarographic probe measurement technique. Let it be known that the author does not advocate the use of ozone therapy in severe or later stages of cancer due to ozone’s ability of vasodilation and angiogenesis which could help and not hinder cancer.

Ozone therapy for Nitric Oxide Stimulation

In recent years, some studies have shown us that a gas (Nitric Oxide) under atmospheric conditions is traditionally associated with toxicity. In fact, it exerts essential biological functions. Structurally, it has a free radical structure. It is an eager electron contributor and is short-lived. Macrophages become activated by several mechanisms and the essential component of these mechanisms is **Nitric Oxide.**

The scavenger components of the immune network, Macrophages become activated by minuscule amounts of nitric oxide using arginine and the enzyme nitric oxide synthase. Without nitric oxide, macrophages remain inactive. As a result we can find that **Nitric Oxide** is very important in enhancing our immune system.



"Disease is due to a deficiency in the oxidation process of the body, leading to an accumulation of toxins. These toxins ordinarily are burned in normal metabolic functioning." (Dr.Albert Wahl, Journal of Experimental Medicine, 1953). It has also been found that nitric oxide is directly toxic to tumor cells.

What is the role of ozone on **Nitric Oxide?** The answer is that ozone helps to promote the scavenging missions by facilitating the elaboration of nitric oxide in macrophages because ozone is involved with the mobilization of its own free radical structure. Biological systems and pathogen inactivation activities with ozone therapy are complex and varied. As a result it is still largely unknown to a large extent. The therapeutic properties of ozone are under investigation and various crucial functions in regulating metabolic and physiological health may give rise to new research in ozone therapy.

But now a question may arise: why it is necessary to stimulate nitric oxide? The answer lies in the fact that nitric oxide is an important molecule produced in our body from the amino acid L- arginine, whose function is to cause smooth muscle relaxation.

Blood vessels are surrounded by smooth muscle. When the smooth muscle of any blood vessel contracts, these vessels close off and the blood flow decreases. When they relax, the vessels open up and blood flow improves. As long as there is enough nitric oxide available, blood vessels will stay open, and there will be maximum circulation.

Nitric oxide and glutathione enhanced by RHP ozone are both needed to correct arterial tears in the endothelium, and in fact are the only method in the restoration of the endothelium layer of all blood vessels.

Does Ozone alleviate AIDS-Associated Diarrhea?

Five patients with acquired immune deficiency syndrome (AIDS) or AIDS-related complex (ARC) and intractable diarrhea were treated with daily colonic insufflations of medical ozone (oxygen/ozone mixture) for 21-28 days. The daily dose of ozone (O3) ranged from 2.7 to 30 mg.

Three of the four patients whose diarrhea was of unknown etiology experienced complete resolution, and one patient had marked improvement. The fifth patient, whose diarrhea was due to Cryptosporidium, experienced no change.

No consistent change in the absolute number of helper (CD4) or suppressor (CD8) lymphocytes was detected, and no obvious changes were seen in the PO2 or the results of routine hematologic and blood chemistry studies.

Patients had mild to moderate local discomfort during ozone administration early in the course of treatment, but no adverse systemic effects were observed. The results of this series suggest that medical ozone administered by rectal insufflation is simple, safe, and effective.

Chapter 4: Application and the Future

How can Ozone Therapy Be Applied?

For providing Ozone Therapy, Ozone Therapy institutions and professional Ozone Therapists normally use an ozone generator. There are numerous machine options for the application of Medical Ozone. The following factors need to be considered when purchasing an ozone generator for the application of true Medical Ozone Therapy.

4 major aspects for applying ozone therapy :

For receiving successful ozone applications, there are four factors to consider. Before receiving ozone therapy, patients should familiarize themselves with these factors, and ask questions to see whether you are fully convinced with the answers or not.

1. First, what is the ozone weight to be used? It is best to leave that decision to the manufacturer; it is common to face difficulties with this question.

2. Another important aspect is concentration of ozone that is going to be used. Mass transfer method will also be counted along with this question, although the concentration and transfer are also dependent on the type of therapy, disease, patient, etc. Both of these should be under the manufacturer's suggestion.

3. The selection of generator is very important. By selecting a good generator, we can get the full advantage of any ozone application. There are far too many cheap and dangerous ozone generators in the market place and one must be very careful when choosing one, especially when working on the human body with all of its intricacies.

4. The safety aspect should never be neglected. Caution is required for malfunction and reliability in an ozone generator. It is well known that if ozone is handled well, it is regarded as a safe gas.

Selection of ozone therapy equipment can be difficult for clients/practitioners/therapists. The following information should help to clarify the differences in equipment and make choosing the best machine a much easier endeavor.

The three most popular methods for use in ozone therapy:

1) UV method.
2) Corona ozone production (plate type).
3) Corona ozone production (tube type).

1) UV method

Ozone gas is generated by ultraviolet light where oxygen passes by a UV tube. In this way, ozone is created in nature also when UV rays of the sun pass through the oxygen in the atmosphere. Some disadvantages are found in this method. The maximum ozone production rate is two grams/hr per related to the size of the UV bulb used. This way would give out approximately 10% of the average concentration available by corona discharge.

Moreover, a lot more energy is required to create the amount of ozone than with corona discharge. Lastly, these bulbs that are used for UV degrade over a short time and need to be replaced, but more importantly so does the concentration and volume of ozone produced making them truly ineffective for any medical ozone uses.

2) Corona ozone production (plate type)

The Russians first developed this technology, although it is now considered out of date. In this process, high voltage electrical discharge is generated and then blowing oxygen into it. The oxygen molecules are temporarily separated into individual oxygen atoms when the air passes through the corona. And when clear of the corona they start to recombine back into oxygen (O2) and ozone (O3).

Almost all over the world, this technology has been superseded by the tube technology for the following reasons:

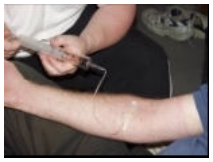
The plates are normally connected to the wires through an alloy solder. This system gives rise to a very high temperature due to a very high energy state when corona discharge formation occurs. This high energy and high heat creates weakness in the solder and as a result, the joints of this solder would break up within a very short amount of time. As a result the generator fails.

There are many other reasons, like as dust, humidity and so on. These types of generators therefore would not be best suited for therapeutic considerations and would be treated as ineffective in sustaining a working generator for use in medical ozone technology.

3) Tube method

In all professional-type generators, this is the most common of methods and is widely used. Nowadays, this is so far the most reliable technology of them all. A dielectric belongs to this technology, which could be a combination of stainless steel and glass or ceramic. Pure oxygen is passed through the small gap between the dielectric and the applied high voltage in a tube. Within this gap oxygen ionization takes place and the ozone is formed.

For any type of medical ozone therapy, this should be the only method of ozone production. Although this is much more expensive than the two methods previously mentioned, it is much safer and much cleaner. The amount of ozone and concentration is normally based on the amount of oxygen fed into the tube so this, all in all is the best, safest and cleanest way to produce ozone for any medical application.



It should be noted that heat and humidity mainly contribute as factors for degradation of ozone rather quickly. The longer the system is running the more heat it produces. For this reason the system should have in place some form of cooling, whether it is air cooled or water cooled. This is the issue with most professional ozone units as they can only sustain this concentration of ozone for anywhere from five minutes to thirty minutes. When the unit is turned on, most units tested behave in this manner.

It does initially work according to the claim the manufacturers make but as they run, the concentration values plummet and this would make them an inefficient product to use in most professional settings where ozone needs to be consistently created at the right concentration, hour after hour, day after day.

For ensuring efficient ozone production, most of these variables need to be addressed by the industry. But they have not been addressed as it is a costly proposal due to lack of safeguards yet in medicinal ozone production. One must ensure that the generator which will be used for applying ozone therapy is stable in its concentration because the concentration is the paramount consideration in successful ozone therapies of any kind.

All of the protocols established in ozone therapy have been based on time and concentration. Without knowing those or not being certain of them, patients may fall at risk by the failing of the therapy and worse. Please always remember, “First, do no harm”.

Conclusions

Ozone is a gas with unique properties which has many benefits in clinical practice. As well as its bactericidal, virucidal and fungicidal action, it also has effects on blood cells and tumor growth. This may make it a treatment of choice in some conditions, and an adjunct to treatment in others.

A large body of literature now exists on a wide range of therapeutic indications. Of these, the most promising appear to be ozone application for superficial infection, burns, disk, dental and intestinal conditions, and possibly circulatory problems. For more details, see the **References** section.

Further research is now indicated to determine the extent of ozone’s effectiveness, particularly in regard to:

- The array of compounds with metabolic, immunological, endocrine and possibly neurological effects
- Purification of blood or blood components for transfusion purposes
- Inhibition of carcinomas, susceptible types, and use as an adjunct to radiation or chemotherapy
- Inactivation or repression of viral diseases , particularly Herpes and Retroviridae (HIV)

Ozone research group Inc. has known all of the above as an ultimate consideration in all forms of Medical Ozone therapy and as such have ensured that any unit certified and built by us meets and surpasses these criteria. We would be more than happy to analyze anyone's ozone unit and report our findings to you, the consumer. Should you wish to send it to us for analysis so as to ensure that you do not use sub-standard equipment in your protocol, please feel free to contact us at:

info@ozoneresearchgroup.com or peter@ozoneuniversity.com

Please feel free to use these emails for any questions and queries you may have on the use of Medical Ozone Therapies.

Professor Peter Jovanovic PhD (Hon.)

Certified RHP Medical Unit

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Epilogue:

This is by far not the end of the story, it is only the beginning. In the next book I intend to write a no-holds-barred story on the main characters in ozone therapy that I have had the pleasure of meeting throughout the years as well as the many patients and their problems. It should be amusing, informative and sometimes sad but well worth reading as there have been many episodes worth noting. You will understand how and why I started my love for ozone and you might even understand why ozone is not as prominent in medical science as it should be. In any case, I am truly grateful that you have read the first book and look forward to you reading the next one. Please be safe, be wise and most of all do your research before attempting to do anything with ozone therapy or any other healing modality. Take it upon yourself to learn what you can about your body and how it works; do not listen to me or anyone else where your health is concerned. You own your body and it is your responsibility and right to do with it what you will. Your body is individual and as such needs specific actions only known and understood by you; learn as much as you can, and you will be grateful that you did.

Until next time:

Professor Peter Jovanovic PhD (Hon.)