

The Following Are Several And Varied Research Articles To Help You Understand Ozone Therapy, or Ozonated Autohemotherapy... Followed By More Relevant DATA on Ozone Therapy.

1. Ozone Therapy for Tumor Oxygenation: a Pilot Study

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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. This 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 autohemotransfusion 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, a significant decrease was observed in hypoxic values ≤ 10 and ≤ 5 mmHg of pO₂. 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 ($\rho = -0.725$; $P = 0.001$). Additionally, the effect of ozone therapy was found to be lower in patients with higher hemoglobin concentrations ($\rho = -0.531$; $P < 0.034$). Despite being administered over a very short period, **ozone therapy improved oxygenation in the most hypoxic tumors. Ozone therapy as adjuvant in chemo-radiotherapy warrants further research.**

Keywords: cancer – hypoxia – pO₂ measurement – polarographic probe

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2. In vitro synergistic activity of 5-fluorouracil with low-dose ozone against a chemoresistant tumor cell line and fresh human tumor cells

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Résumé / Abstract

We followed the concept that the chemical reactivity of ozone depends upon its oxidative properties. Activated oxygen species are causally involved in toxicity of certain chemotherapeutic drugs. We have tested this prediction in human cell cultures either to overcome chemoresistance and/or to increase chemical cytotoxicity. Our results indicate that **ozone in combination with 5-fluorouracil (5-FU) makes a 5-FU-resistant cell line susceptible for the combined treatment modality. Furthermore, ozone acts synergistically or at least additive to chemotherapy in different tumor cell suspensions, derived from the breast and the colon**

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3. Abstract

Background

Cellular events in cisplatin-mediated nephrotoxicity include apoptosis induction, decreased protein synthesis, changes in the subcellular redistribution of Bax mitochondrial dysfunction, DNA injury, increased lipid peroxidation, depletion of glutathione and decrease in enzymatic activity of renal antioxidant enzymes. In previous papers we have shown that intra-rectal (ir) ozone/oxygen mixture protected and induced a significant recovery in cisplatin-induced renal damage and was related to a significant increase in the antioxidant system in renal tissue.

Methods

This study was undertaken to examine the effect of the ir applications of ozone/oxygen mixture in the renal expression pattern of Bax proteins in rats treated with cisplatin. A group of male Sprague-Dawley rats was pretreated with 15 ir applications of ozone/oxygen (1.1 mg/kg) before intraperitoneal injection of cisplatin (6 mg/kg). Another group was treated with five ir applications of ozone/oxygen mixture after cisplatin administration. Serum creatinine was measured thereafter. Subcellular distribution of Bax in renal tissue was analyzed by immunohistochemistry.

Results

Ozone pretreatment prevented the increase in serum creatinine levels and completely inhibited the acute tubular necrosis induced by cisplatin in renal tissue, diminishing the expression of Bax. Ozone treatment after cisplatin

application reduced the increase in serum creatinine levels and the renal necrosis, inducing a lesser decrease of the Bax expression in cisplatin-treated kidneys.

Conclusions

Expression of Bax in renal tissue seems to play an **important role in the protection and recovery in cisplatin-nephrotoxicity achieved by ozone/oxygen mixture.**

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Articles

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articles

Ozone selectively inhibits growth of human cancer cells

F Sweet, MS Kao, SC Lee, WL Hagar, and WE Sweet

The growth of human cancer cells from lung, breast, and uterine tumors was selectively inhibited in a dose-dependent manner by ozone at 0.3 to 0.8 part per million of ozone in ambient air during 8 days of culture. Human lung diploid fibroblasts served as noncancerous control cells. **The presence of ozone at 0.3 to 0.5 part per million inhibited cancer cell growth 40 and 60 percent, respectively. The noncancerous lung cells were unaffected at these levels. Exposure to ozone at 0.8 part per million inhibited cancer cell growth more than 90 percent and control cell growth less than 50 percent.** Evidently, the mechanisms for defense against ozone damage are impaired in human cancer cells.

THIS ARTICLE HAS BEEN CITED BY OTHER ARTICLES:

Ozone Therapy for Tumor Oxygenation: a Pilot Study.

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5. Beneficial clinical effects of ozonated autohemotherapy in chronically dialysed patients with atherosclerotic ischemia of the lower limbs--pilot study.

Tylicki L, Niew głowski T, Biedunkiewicz B, Burakowski S, Rutkowski B.

Department of Nephrology, Medical University, Gdańsk, Poland.

Ozonated autohemotherapy is a controversial but successful method of treatment, used in particular in European countries. **There are many fields in which medical ozone could be of value: treating different infections, immunodeficiency syndromes, neoplasms. Encouraging results have also been achieved in the treatment of atherosclerotic ischemia of the lower limbs.** In this preliminary study, the influence of blood ozonation on the intensity of symptoms of ischemia of the lower extremities was analysed among dialysed patients with chronic renal failure. We examined 5 hemodialyzed patients and 7 patients treated with peritoneal dialysis immediately before and after 14 sessions of ozonated autohaemotherapy. Eleven patients (91.6%) reported a subjective decrease in perceived intensity of ischemic pains, or observed prolongation of intermittent claudication distance. During march tests

performed on a treadmill, we found significant prolongation of intermittent claudication distance in all examined patients - 65.6% (mean value, $p < 0.01$). Patients treated with peritoneal dialysis achieved much greater improvement than did hemodialyzed patients (165% vs. 42%). We concluded that autohemotherapy with ozone, in a concentration of 34.4 mcg/ml of blood, is safe, easily applied and may be useful in the therapy of atherosclerotic ischemia of lower extremities among dialyzed patients. It could also be a complement to current treatment, especially in cases where the latter has failed.

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6. Ozone Therapy on Cerebral Blood Flow: A Preliminary Report

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Ozone therapy is currently being used in the treatment of ischemic disorders, but the underlying mechanisms that result in successful treatment are not well known. This study assesses the effect of ozone therapy on the blood flow in the middle cerebral and common carotid arteries. Seven subjects were recruited for the therapy that was performed by transfusing ozone-enriched autologous blood on 3 alternate days over 1 week. Blood flow quantification in the common carotid artery ($n = 14$) was performed using color Doppler. Systolic and diastolic velocities in the middle cerebral artery ($n = 14$) were estimated using transcranial Doppler. Ultrasound assessments were conducted at the following three time points: 1) basal (before ozone therapy), 2) after session #3 and 3) 1 week after session #3. **The common carotid blood flow had increased by 75% in relation to the baseline after session #3 ($P < 0.001$) and by 29% 1 week later ($P = 0.039$).** In the middle cerebral artery, the systolic velocity had increased by 22% after session #3 ($P = 0.001$) and by 15% 1 week later ($P = 0.035$), whereas the diastolic velocity had increased by 33% after session #3 ($P < 0.001$) and by 18% 1 week later ($P = 0.023$). **This preliminary Doppler study supports the clinical experience of achieving improvement by using ozone therapy in peripheral ischemic syndromes. Its potential use as a complementary treatment in cerebral low perfusion syndromes merits further clinical evaluation.**

Keywords: color Doppler – ischemia – low perfusion – transcranial Doppler

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7. Adjuvant Ozonotherapy in Advanced Head and Neck Tumors: A Comparative Study

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Advanced head and neck (H&N) tumors have a poor prognosis, and this is worsened by the occurrence of hypoxia and ischemia in the tumors. Ozonotherapy has proved useful in the treatment of ischemic syndromes, and several studies have described a potential increase of oxygenation in tissues and tumors. The aim of this prospective study was to evaluate the clinical effect of ozonotherapy in patients with advanced H&N cancer in the course of their scheduled radiotherapy. Over a period of 3 years, 19 patients with advanced H&N tumors who were undergoing treatment in our department with non-standard fractionated radiotherapy plus oral tegafur. A group of 12 patients was additionally treated with intravenous chemotherapy before and/or during radiotherapy. In the other group of seven patients, systemic ozonotherapy was administered twice weekly during radiotherapy. The ozonotherapy group was older (64 versus 54 years old, $P = 0.006$), with a higher percentage of lymph node involvement (71% versus 8%, $P = 0.019$) and with a trend to more unfavorable tumor stage (57% versus 8% IVb + IVc stages, $P = 0.073$). However, there was no significant difference in overall survival between the chemotherapy (median 6 months) and ozonotherapy (8 months) groups. Although these results have to be viewed with caution because of the limited number of patients, **they suggest that ozonotherapy could have had some positive effect during the treatment of our patients with advanced H&N tumors.** The adjuvant administration of ozonotherapy during the chemo–radiotherapy for these tumors merits further research.

Keywords: altered fractionation – alternative medicine – cancer – chemotherapy – radiotherapy – tegafur

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8. The Journal of Alternative and Complementary Medicine

Restoration of Normoxia by Ozone Therapy May Control Neoplastic Growth: A Review and a Working Hypothesis

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In contrast to normal tissues, tumors thrive in hypoxic environments. This appears to be because they can metastasize and secrete angiopoietins for enhancing neoangiogenesis and further tumor spread. Thus, during chronic ischemia, normal tissues tend to die, while neoplasms tend to grow. During the past two decades, it has been shown in arteriopathic patients that ozonated autohemotherapy is therapeutically useful because it increases oxygen delivery in hypoxic tissues, leading to normoxia. Although several oxygenation approaches have been tested, none is able to restore normoxia permanently in patients with cancer. **We postulate that a prolonged cycle of ozonated autohemotherapy may correct tumor hypoxia, lead to less aggressive tumor behavior, and represent a valid adjuvant during or after chemo- or radiotherapy. Moreover, it may re-equilibrate the chronic oxidative stress and reduce fatigue.**

9. ORIGINAL ARTICLE Role of protein synthesis in the protection conferred by ozone-oxidative-preconditioning in hepatic ischaemia/reperfusion

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KEYWORDS

liver ischaemia/reperfusion • ozone • protein synthesis

Summary

The liver is damaged by sustained ischaemia during liver transplantation, and the reperfusion after ischaemia results in further functional impairment. **Ozone oxidative preconditioning (OzoneOP) protected the liver against ischaemia/reperfusion (I/R) injury through different mechanisms.** The aim of this study was to investigate the influence of the inhibition of protein synthesis on the protective actions conferred by OzoneOP in hepatic I/R. Rats were treated with cycloheximide (CHX) in order to

promote protein synthesis inhibition after OzoneOP treatment. Plasma transaminases, malondialdehyde and 4-hydroxyalkenals and morphological characteristics were measured as an index of hepatocellular damage; Cu/Zn-superoxide dismutase (SOD), Mn-SOD, catalase, total hydroperoxides and glutathione levels as markers of endogenous antioxidant system. OzoneOP increased Mn-SOD isoform and ameliorated mitochondrial damage. CHX abrogated the protection conferred by OzonoOP and decreased Mn-SOD activity. Cellular redox balance disappeared when CHX was introduced. Protein synthesis is involved in the protective mechanisms mediated by OzoneOP. **Ozone treatment preserved mitochondrial functions and cellular redox balance.**

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10.

Ozonized autohemotransfusion improves hemorheological parameters and oxygen delivery to tissues in patients with peripheral occlusive arterial disease

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Abstract

Twenty-seven subjects suffering from peripheral occlusive arterial disease (POAD, clinical stage II-III according to Fontaine) were enrolled in this study to evaluate the effect of oxygen-ozone therapy upon hemorheological parameters and hemoglobin-oxygen affinity in patients with POAD. All patients underwent a major ozonized autohemotransfusion consisting of the slow reinfusion of 100 ml of autologous blood, previously exposed to a O₂-O₃ mixture in a glass box for 10 min. Whole blood viscosity, erythrocyte filterability, hematocrit, and fibrinogen levels were assessed at the basal time and 30 min after the reinfusion of ozonized blood. At the same time p50 standard (p50std) values (an indicator of hemoglobin-oxygen affinity) and plasma values of malonyl dialdehyde (MDA, an indicator of lipid peroxidation) were evaluated. At the baseline, patients had significantly higher (p<0.05-p<0.001) whole blood viscosity, MDA, and p50std values and significantly lower blood filterability (p<0.01) as compared with 20 matched healthy volunteers (controls). Thirty minutes after the end of a major autohemotransfusion, whole blood viscosity significantly decreased (p<0.01). This was accompanied by a significant fall in plasma fibrinogen level (p<0.01) with no change in hematocrit. Blood filterability, MDA

plasma level, and p50std values increased significantly at the same time ($p < 0.01$ - $p < 0.005$). The 2,3-DPG value did not change significantly. No significant changes occurred when the same patients received a non-ozonized autohemotransfusion (control test). **In conclusion, ozonized autohemotransfusion may be useful to improve both the poor rheological properties of the blood and the oxygen delivery to tissues in patients suffering from POAD.**

11. Ozonated Autohemotherapy in Patients on Maintenance Hemodialysis: Influence on Lipid Profile and Endothelium,

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KEYWORDS

Ozone • Autohemo-therapy • Lipids • Endothelium • Hemodialysis • Renal failure

Abstract:

Abstract: Ozonated autohemotherapy (O3-AHT) is used in the treatment of atherosclerotic ischemia of lower limbs (AILL). The impact of ozone on serum lipids and endothelium injury is of particular interest since these factors are important in the development of atherosclerotic lesions. To evaluate this issue, a prospective, placebo-controlled study was designed. Twelve hemodialyzed subjects with AILL received autohemotherapy with oxygen as a control followed by O3-AHT with ozone concentration of 50 $\mu\text{g/ml}$. Serum lipids and plasma activity of von Willebrand factor (vWF) were measured. After O3-AHT, total cholesterol significantly decreased compared to the baseline (-8.34%) [$P < 0.01$]. LDL cholesterol was also significantly lower than the initial value (-17.71%) [$P < 0.001$]. No significant changes in the activity of vWF were found after the first session of O3-AHT and after all nine sessions of O3-AHT. The study demonstrated that O3-AHT did not affect deleteriously the endothelium in patients with chronic renal failure on maintenance hemodialysis. **It may stimulate beneficial changes in serum lipid profile manifesting as a decrease in the total- and LDL-cholesterol levels.**

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12. The Journal of Alternative and Complementary Medicine Major Ozonated Autohemotherapy in Chronic Limb Ischemia with Ulcerations

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Velio Bocci, M.D. Emeritus, Department of Physiology, University of Siena, Italy.
This paper reports the beneficial effects of ozone autohemotherapy (OHT) in 2 patients afflicted with painful, intractable leg ulcers. One patient had diabetes mellitus type II (DM), the other had vasculitis. Both patients had seen multiple specialists, including a dermatologist, an internist, and a vascular surgeon, but their clinical course continued to worsen. **Only after OHT treatments were performed for several months was satisfactory healing observed.**

13. Cardiovascular Surgical Research

Ozone Administration Reduces Reperfusion Injury in an Isolated Rat Heart Model
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ABSTRACT

Abstract Background: Accumulating clinical experience with ozone administration for conditions associated with ischemia has been encouraging. The aim of our study was to determine the effect of ozone on reperfusion injury in an isolated rat heart model.

Methods: Isolated rat hearts were perfused with modified Krebs-Henseleit buffer solution via ascending aorta cannulation. After 15 minutes, perfusion was stopped and global ischemia was maintained for 30 minutes, following which perfusion was restarted, and continued for 40 minutes. Baseline hemodynamic measurements (heart rate, left ventricular developed pressure (LVDP), dP/dt, and coronary flow) were taken prior to ischemia, and every 10 minutes after reperfusion was started. Eleven hearts were treated with ozone during reperfusion and eight hearts served as controls. In the treatment group, after 5 minutes of reperfusion, ozone was administered in distilled water via a side arm for 5 minutes. *Results:* Preischemic baseline hemodynamic measurements and coronary flow were similar in the two groups. **Hearts treated with ozone during reperfusion exhibited better recovery than did controls.** Mean (\pm SE) percent recovery for treatment and control groups, respectively, was: LVDP $69 \pm 2\%$ vs $51 \pm 6\%$ ($p = 0.04$); dP/dt $68.9 \pm 13.3\%$ vs $53.7 \pm 20.4\%$ ($p = 0.05$); and LVDPxHR $61.4 \pm 3.3\%$ vs $44.4 \pm 3.5\%$ ($p = 0.02$). **Conclusion: In the isolated rat heart model, treatment with ozone during reperfusion enables better recovery than in controls.** Although the mechanism by which ozone exerts its beneficial effect is not identified, it is possibly due to reduction in reperfusion injury.

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14. Ozone therapy in retinitis pigmentosa. Pérez L.J. (Cuba)

The aim of this study is to determine the efficacy of ozone therapy for patients with retinitis pigmentosa. A double blind, placebo controlled study was designed for three years, in which 186 patients, with ages from 15 to 65 years participated, suffering from typical forms of retinitis pigmentosa. After signing an informed consent, a complete general and ophthalmologic examination was performed, before and after the treatment and 6 months later. Snellen visual acuity was measured (less than 2.5 lines considered non significant changes) and Goldmann kinetic visual field with 31.5 asb. background and V-4e target. The sample was divided into 2 groups: ozone - 165 patients treated daily, with ozone by major autohemotherapy, during 15 sessions, using an ozone concentration of 40 mg/L and a volume of 100 mL, in 100 mL of blood; control - 21 patients, 100 mL of their blood were extracted, collected in a flask with anticoagulant and then immediately reinfused. The results demonstrated, 6 months after the treatment, that 21 % of patients treated with ozone maintained their visual acuity improvement, the 74.2% remained the same and 4.8 % worsen. According to visual field area, 46.7 % of patients maintained their improvement, 41.9 % remained the same and 11.35 % worsen. Significant differences were observed between both groups, with lower frequencies of improvements in control group and larger proportions of worsening. Conclusions: **Ozone therapy is a useful treatment for patients with RP, although its action is temporary. Repeated administration after 6 months is recommendable to maintain its action.**

15. Knee and ankle arthrosis treated with ozone therapy. Portela A. (Spain)

The aim of this work is to demonstrate the efficacy of intra-articular ozone therapy in different patients suffering of knee and ankle pathologies. The results and discussion of cases are presented in videos. It was used ozone by intra-articular administration, at a concentration between 20-30 mg/L and a volume between 7-10 mL, 3 times per week, during 1 or 2 months. Three patients suffering from knee arthrosis (patient of 65 years old suffering of genu varum, young patient with condylar degeneration and a patient with knee infection) and 3 suffering from ankle arthrosis (patient with peroneal tibialis astragalus arthrosis, young sportman patient with malleolar lesion and adult female with ankle arthrosis) were treated. Good results were achieved, demonstrated by X-ray and clinical evidences.

16. Paravertebral ozone therapy in sacrolumbar pain produced by disk hernias. Benítez P.P. and González Y. (Cuba)

The aim of this study was to evaluate the effectiveness of the paravertebral ozone therapy, as a method for low back pain treatment that take place by disk disruption. We study 300 patients, divided at random in five groups of 60 patients each:

Group A: Epidural Steroids (control group)

Group B: Epidural Ozone

Group C: Paravertebral Ozone

Group D: Outforaminal Ozone

Group E: Intradiscal Ozone

We show in this report that the patients treated with epidural steroids enjoyed only a transitory relief of the pain. However, 95 % of the patients treated with Ozonotherapy had a permanent relief of the pain during the time of evaluation (12 months) and 92 % remained incorporated to their habitual activities.

17. Oxygen ozone therapy in disk root compression: Experience in Puebla, Mexico.

Melgarejo A., Arroyo M.L., Moreno V. and Ríos A. (Mexico)

Root compression by an herniated disk is the most common cause of acute or subacute lumbar pain. The use of oxygen ozone therapy has been reported previously as a good alternative treatment. We report our experience in Puebla, Mexico. In this prospective study, we report our initial experience obtained in 32 patients, whom were resistant to conservative treatment for pain caused by herniated or protruded lumbar disks, central or foraminal, demonstrated by clinic, CT and/or MR imaging, electrophysiology and discogram. All patients received during a period of 3 weeks, 8 sessions of a bilateral paraspinal intramuscular injection of 10 mL of oxygen ozone at a concentration of 27 ng/mL at the sensitive level, as well as, 7 - 12 mL of oxygen ozone directly in the disk, this after performing a discogram, to verify the diagnosis and exclude a vascular or arachnoid communication or a major leak, 49 % of cases at the L4/5 level, 39.6 % at the L5/S1 level and 11.3 % at L3/4. All patients entered a lumbar muscular strengthening program and used an external support. The clinical benefits were immediate in 24 patients (75 %) with total or almost total resolution of symptoms, good results in 6 (18.7 %) and minimum or no benefit in 2 (6.2 %). Recurrence of symptoms presented in 2 patients at 6 months, and in 3 at 10 months, undergoing therefore a second trial, with good results. To this moment, our results are encouraging as to the effectiveness of the use of oxygen ozone therapy in patients resistant to conservative treatment for pain caused by lumbar root nerve compression.

Below Are DATA To Give You Further Beneficial and Enlightening Information On Ozone Therapy.

Legal disclaimer; NOTE: No health claims are being made for these products. The benefits listed below have been reported by many individuals using this therapy and are not, of course, intended to work the same for everyone.

100 Benefits of Ozone Therapy

Improved circulation, Cell energizer, Vitality booster, Immune enhancer, Skin purifier, Oxygenates hemoglobin, Neutralizes acid, Liver cleanser, Kills parasites, Combats chronic fatigue syndrome, Corrects dizziness, Blood purifier, Relieves muscle aches, Builds muscle, combats depression, Neutralizes stomach acid, Overcomes weakness, Corrects memory loss, Enhances immune system, Fights bronchial problems, Prevents tumors, Decomposes plague, Increases cellular vitality, Boosts energy, Fights flu, Releases tension, Burns fat, Protects against stroke, Kills virus, Blood booster, Speeds healing, Improves digestion, Clears out brain fog, Cleans mucus, Kills candida, Improves heart function, Fights infection, Prevents sudden heart attack, Kills bacteria, Relieves angina, Heightens alertness, Prevents colds, Stops cancer cells, Neutralizes chronic hostility, Calms nerves, Speeds recovery, Oxidizes poisons, Breaks up cholesterol, Eliminates lactic acid, Speeds athletic recovery, Improves mental quickness, Strengthens immune system, Improves vitamin uptake, Kills Candida, Improves mineral absorption, Destroys harmful microorganisms, Oxidizes morbidic material, Balances acid/alkaline, Decreases stress, Improves amino acid utilization, Improves brain function, Oxygenates pancreas, Kills bad colon bacteria, Ignites carbohydrates, Help supplements to work better, Burns off excess sugar, Enhances mood, Purifies liver, Oxygenates spleen, Improves mental stability, Speeds up faulty metabolism, Clears out dirty fluids, Detoxifies the lymph system, Prevents degenerate diseases, Prevents premature aging, Prevents irregular heartbeat, Prevents gangrene, Prevents peripheral vascular disease Fights herpes Kills worms Fights emphysema Prevents angina pain, Prevents shingles, Prevents fever blister, Prevents asthma, Prevents lymes disease, Fights parasitic infection, Fights fibermayalgia, Prevents Epstein-Barr virus, Prevents cluster headaches, Prevents cardiac arrhythmias, Disburses heavy metal toxicity, Prevents allergies, Neutralizes environmental toxicity, Prevents Alzheimer's, Prevents constipation, Prevents nerve related diseases, Prevents gastro intestinal disorders, Prevent ms, Detoxifies every cell in the body.

SOME MAJOR EFFECTS OF OZONE

1. Ozone stimulates the production of white blood cells. These cells protect the body from viruses, bacteria, fungi and cancer. If, deprived of oxygen, these cells malfunction. They fail to eliminate invaders and even turn against normal, healthy cells (allergic reactions). Ozone significantly raises the oxygen levels in the blood for long periods after ozone administration; as a result, allergies have a tendency to become desensitized.
2. Interferon levels are significantly increased. Interferons are globular proteins. Interferons orchestrate every aspect of the immune system, inhibit viral replication.

3. Ozone stimulates the production of Tumor Necrosis Factor. TNF is produced by the body when a tumor is growing. Ozone stimulates the secretion of IL-2. Interleukin-2 is one of the cornerstones of the immune system. It is secreted by T-helpers. T-helper causes it to produce more IL-2. Ozone's main duty is to induce Lymphocytes to differentiate and proliferate, yielding more T-helpers, T-suppressors, cytotoxic T's, T-delayed's and T-memory cells.
4. Ozone kills most bacteria at low concentrations. The metabolism of most bacteria is on average one-seventeenth as efficient as our own.
5. Ozone is effective against all types of fungi. This includes systemic candida albicans, athlete's foot, molds, mildews, yeasts, and even mushrooms.
6. Ozone fights viruses in a variety of ways. As discussed above, ozone also goes after the viral particles directly.
7. Ozone is antineoplastic. This means that ozone inhibits the growth of new tissue because rapidly dividing cells shift their priorities away from producing the enzymes needed to protect themselves from the ozone. Cancer cells are rapidly-dividing cells and are inhibited by ozone.
8. Ozone oxidizes arterial plaque. It breaks down the plaque involved in both Arteriosclerosis and Arthrosclerosis.
9. This means ozone has a tendency to clear blockages of large and even smaller vessels. This allows for better tissue oxygenation in deficient organs.
10. Ozone increases the flexibility and elasticity of red blood cells.
11. Ozone accelerates the Citric Acid Cycle. Also known as the Krebs Cycle or TCA Cycle, this is a very important step in the glycolysis of carbohydrates for energy.
12. Ozone makes the antioxidant enzyme system more efficient.
13. Ozone degrades petrochemicals. These chemicals have a potential to place a great burden on the immune system. (1)

(1) medical ozone therapy at Ozone University

Medical Ozone and Cancer

Medical ozone saves lives in Europe, but the FDA continues to prevent formal testing in the United States, By Ed McCabe

(Ed McCabe has a book, "Flood Your Body With Oxygen". It is a nice collection of information on ozone and oxygen therapies)

THERE ARE OVER 3,000 medical references in the German literature showing the effectiveness and safety of ozone in over 50 years of application to humans by way of millions of dosages. The International Ozone Association and the ozone machine manufacturers report over 7,000 M.D.'s in Europe using medical ozone safely and effectively, some for more than 40 years.

(Note: these figures are higher now as more and more doctors and practitioners around the world learn of the incredible healing benefits of ozone therapy.)

It's so simple it befuddles the great minds. Unlike healthy human cells that love oxygen, the disease-causing viruses, bacteria, fungi and parasites-including the HIV and cancer

virions, cancer cells, arthritis microbes, colds and flu, and West Nile virus carried by mosquitoes-like most primitive lower life forms, are almost all anaerobic.

Oxygen therapies, including medical ozone (not smog), which breaks down into oxygen, work because they flood the body with Nature's single oxygen atoms. Singlet oxygen and its by-products are very energetic oxidizers-they "burn up" waste products, pollution, microbes and weak (cancerous) cells. They can't protect themselves against oxygen, because they are either inert, lower life forms or diseased. Normal body cells protect themselves from the oxidizing effects of oxygen by naturally producing their own protective antioxidant coatings.

OZONE AND CANCER: HAND IN GLOVE FIT

Doctor Otto Warburg is a two-time Nobel prize winner, in 1931 and 1944. He got the Nobel Prize for discovering that the cause of cancer is no longer a mystery to us. We now know what the cause of cancer is. They were so astounded that he figured this out they awarded him the Nobel Prize for discovering these facts. Remember, because you do not have enough oxygen, your cells are constantly filling up with toxicity, in some people quicker than in others.

Cancer is a fermentative disease caused by a compromised robust oxidative mechanism, giving you fermentation and uncontrolled cellular growth.

Here are excerpts from an article based on a lecture delivered by Dr. Otto Warburg at Stuttgart on May 25, 1955, before the German Central Committee for Cancer Control. It was first published in German [Naturwissenschaften 42,401 (1955)]. This translation was prepared by Dean Burk, Jehu Hunter and W. H. Everhardy of the U.S. Department of Health, Education and Welfare, Public Health Service, National Institutes of Health, Bethesda, MD.

"The era in which the fermentation of the cancer cells or its importance could be disputed is over, and no one today can doubt that we understand the origin of cancer cells if we know how their large fermentation originates, or, to express it more fully, if we know how the damaged respiration and the excessive fermentation of the cancer cells originate.

"But, even for cancer, there is only one primary cause. Summarized in a few words, the main cause of cancer is the replacement of the respiration of oxygen in normal body cells by a fermentation of sugar."

"Because no cancer cell exists, the respiration of which is intact, it cannot be disputed that cancer could be prevented if the respiration of the body cells would be kept intact."

"But nobody today can say that one does not know what cancer and its prime cause [are]. On the contrary, there is no disease whose prime cause is better known, so that today ignorance is no longer an excuse that one cannot do more about prevention.

"That the prevention of cancer will come, there is no doubt, for man wishes to survive. But how long prevention will be avoided depends on how long the prophets of agnosticism will succeed in inhibiting the application of scientific knowledge in the cancer field. In the meantime, millions of men [and women] must die of cancer unnecessarily. "

Uses of Ozone Therapy

Quantity, concentration and frequency are the keys. The aim is to safely and comfortably flood the body with oxygen by slowly building it up as you detoxify.

Autohemotherapy: This involves withdrawing a small amount of blood and re-infusing it into the body after gently putting ozone into it. Fifty years of safe use on millions of patients has a lot of weight.

The German Medical Society has published that 384,775 patients were treated with ozone with a minimum of 5,579,238 applications and the side effect rate observed was only .000005 per application! The report also stated "The majority of adverse effects were caused by ignorance about ozone therapy (operator error)." The University of Innsbruck's Forensic Institute published Dr. Zacob's dissertation quoting this in The Empirical Medical Acts of Germany.

To make Ozone (O₃) the ozone generator needs to be fed with a pure oxygen (O₂) source such as an oxygen concentrator or tank. A pure fed ozone generator increases the concentration of ozone compared to an atmospheric feed ozone generator which will produce toxic and irritating by-products such as nitrous and sulfur oxides. Ozone is known to eliminate microorganisms such as fungus, viruses, bacteria, etc. and also helps oxidize toxins such as heavy metals, pesticides, hydrocarbons and other environmental pollutants. Ozone Therapy is considered the **most** effective method to treat nearly every condition and is used legally worldwide. Ozone Therapy also has little or no side effects. Remember, ozone is an oxygen compound and is non-toxic and life giving. Without ozone the planet earth would not exist.

Some people may experience elation from the high oxygen content after an ozone/oxygen treatment and others may experience tiredness from the die-off resulting from the oxygen/ozone eliminating or killing the microorganism and toxins.

IMPORTANT: Oxygen Fed ozone differs from atmospheric ozone in that it is pure and concentrated. This is an important distinction because atmospheric ozone, produced from ultraviolet radiation or from atmospheric fed ozone generators, is combined with different nitrous oxide and sulfur dioxide products and is harmful and very irritating. It is NOT used in medical practice. Carefree Health Path does NOT recommend using atmospheric ozone. It is recommended to use ozone produced from a pure Oxygen (O₂) source such as an Oxygen Concentrator / Separator or an Oxygen Tank.