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NATURE'S ANSWER:

*Secrets Your Doctor Will
Never Reveal*

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Introduction

Why should you read this book?

When was the last time your doctor recommended you oxygen therapy for your illness? Maybe you're not even aware of such a treatment. It's no coincidence that you're completely oblivious to this miraculous, life-saving treatment for a number of diseases today.

What if you found out that the cure for some of the most commonly occurring debilitating diseases was already proposed a century ago?

What if you were to realize that the highest occurring diseases today could not only be cured but also prevented by using cheap oxygen supplements?

These are just two of a myriad of surprises that await you in this book, dedicated to the most well researched oxygen therapy with Activated Stabilized Oxygen or ASO.

We perceive the word 'disease' as a threat, something against which we should spend our best efforts so that its detrimental effects on humanity can be minimized. However, this is not how the health sector views the scenario.

Surprised? You shouldn't be.

The truth of the matter is that the cure for the most dreadful diseases that were revealed as long as a century ago has been kept under wraps by the multibillion dollar healthcare industry and "Big Pharma" - global pharmaceutical companies. It's a bitter truth: such multi-billion dollar businesses actually rely on people getting sick. While they enjoy maximizing their profits from high incidences of diseases such as cancers, diabetes, and cardiovascular conditions, humanity continues to pay the price.

A research article published in the New England Journal of Medicine highlights the long-term importance of oxygen therapy. The introduction of the concept of oxygen therapy dates back to 1920s. This study shows how the realization of hypoxia or low

oxygen levels, as the direct cause of major medical conditions, has led to the use of oxygen supplementation and enhanced the treatment for patients.

This book throws light on the use of activated stabilized oxygen most effectively in a myriad of medical diseases, its mechanisms and working principles, the indications for its use and how it is now slowly being considered as the miraculous therapeutic resource. This book is not just another attempt to publicize a new treatment method, instead; it aims to help you realize that it may not just be a temporary source of relief, but may very well save your life!

Chapter 1: Oxygen - The Pathogen Killer

We cannot imagine life without oxygen. It begins the chain of events that keeps us alive. We breathe in oxygen; it is absorbed by the blood and transported to every single cell of the body. This is where adenosine triphosphate (ATP) is produced; providing the energy that every living organism needs to survive. The question remains; how can pathogens survive in our oxygen dependent body but yet be destroyed by this life-supporting element at the same time?

The Chemistry Of Oxygen - Threat To Pathogens

Oxygen is the third most abundant element in the universe and makes up 21% of the Earth's atmosphere. However, it is also very reactive owing to its electronic configuration. Oxygen consists of six electrons in its shells. The first shell fills up with two electrons, leaving six electrons in the outermost shell. This allows oxygen to be a great oxidizing agent and readily react with other elements to gain two electrons and fill its outermost shell. This process is also known as oxidation and leaves oxygen in continuous search of receiving or attracting electrons from surrounding atoms and molecules.



This mechanism of transfer of electrons makes oxygen a dangerous element for specific microorganisms - a pathogen killer:

- ✦ The oxidizing nature of oxygen allows it to be readily reduced to oxygen ions and hydrogen peroxide within the cells of the human body. These products of oxidation are hazardous to microorganisms because they cannot handle the oxidative stress that denatures their proteins and harms their life cycle. According to the classification of organisms in terms of aerobic and anaerobic discussed further in this chapter, some organisms contain certain enzymes to detoxify these harmful products. However, owing to oxygen's high reactivity due to its electronic configuration, some pathogens are instantly killed.

- ↗ Enzymes are an essential requirement for life processes in any living organism. Most of the enzymes contain sulfides in their chemical configuration, which can be readily oxidized by oxygen molecules; owing to their highly reactive electronic configuration. The redox reaction that follows may permanently deactivate these enzymes and hamper their ability to grow and survive.

Anerobic Pathogens

Pathogens are organisms that interfere with our cellular processes and can be a source of multiple diseases. Pathogens can be classified into two categories: Aerobic and Anaerobic.

Anaerobic pathogens; also known as anaerobes do not require oxygen for their growth. Furthermore, they may react adversely or their survival may even be jeopardized in the presence of oxygen. Anaerobic pathogens are further classified into three categories on the basis of how they react in the presence of oxygen.

1. Strict Anaerobes
2. Aerotolerant Anaerobes
3. Facultative Anaerobes

Strict Anaerobes

Strict Anaerobes are also known as obligate anaerobes. These anaerobes cannot sustain life in the presence of normal atmospheric concentrations of oxygen. An important characteristic of strict anaerobes is that they are not only damaged by atmospheric concentration of oxygen but are also unable to metabolize energy aerobically. Therefore, they are given the name 'strict' anaerobes and do not need even the slightest trace of oxygen for survival.

It is widely known that oxygen is a necessity for breathing and respiration by most organisms. However, strict anaerobes do not follow this rule and metabolize their energy through anaerobic respiration. The difference in the process of anaerobic respiration as compared to aerobic respiration is in the use of a different electron acceptor in the electron transport chain apart from oxygen. The down side of

anaerobic respiration remains that the generated number of energy producing molecules; ATP, is far less than respiration that occurs in the presence of oxygen.

Strict anaerobes can easily replicate at sites in the body where the oxidation-reduction potential is quite low for example necrotic tissue. However, some strict anaerobes known for causing common infections can survive up to a maximum of 8 hours in atmospheric oxygen. These anaerobes most commonly reside in the mucous membranes of the body especially in the gastrointestinal tract, reproductive organs and mouth. When the mucosal barrier is broken down due to certain pathological condition, these thriving anaerobes can cause diseases.

Aerotolerant Anaerobes

Aerotolerant anaerobes are completely anaerobic in nature in terms of their metabolic activities and life processes. They do not make use of oxygen in any biochemical behavior to survive; this is because aerotolerant anaerobes are strictly fermentative. Therefore, their energy production strictly does not use oxygen for the production of energy. However, these anaerobes can easily tolerate the presence of oxygen.

Facultative Anaerobes

Facultative anaerobes' first preference is to generate ATP in the presence of oxygen using aerobic respiration. However, they have the flexibility to switch to anaerobic respiration whenever it is required in the absence of oxygen. Although, facultative anaerobes are able to live in the presence of oxygen, they grow most rapidly under anaerobic conditions where they carry out the process of fermentation.

Most Destructive Pathogens In History – Can It Happen Again?

The most destructive of all pathogens known today, causing fatal diseases, fall under the category of strict anaerobes. However, there are many historical evidences that illustrate how anaerobic pathogens causing epidemics, have become a challenge for the health care industry in the past. The pathological effects of these pathogens have been mild to severe, in every case springing up without any warning signs. Most of these pathogens have now also developed resistant to antimicrobial agents. This

poses a serious global concern on the health industry: If an emergency such as that of the past were to happen again, are we prepared to handle the catastrophic effects it may incur?

The following example throws light on the gravity of the situation and the need for the most modern treatment options to counteract an imminent outbreak of epidemic yet again.

Staphylococcus Aureus

The staphylococcus aureus bacterium appears on the microscope in pairs and short chains or clusters. They are gram-positive and are capable of producing very highly stable proteins or toxins that has been reported to be disastrous for humans. One of the most common conditions is the staphylococcal food poisoning, caused by the enterotoxins produced by strains of staphylococcus aureus.

The severity of the situation that can prevail due to this bacterium can be highlighted by the most recent outbreak of the food poisoning due to the staphylococcus aureus.

The incident was reported in 2008, amongst 150 people gathered for wedding celebrations in Germany. Just three hours after ingestion of food products including pancakes, and chicken, most of the people exhibited symptoms of acute gastroenteritis such as diarrhea, fever, and vomiting. After thorough medical investigation of their stool and other tests, strains of enterotoxins by staphylococcus aureus were revealed. This is just one of the more serious outbreaks by this bacterium, which raises a question of what are we doing for precaution against such an incident if it were to happen yet again?

How Does Oxygen Affect Pathogens?

Most pathogens consist of membranes that are made up of proteins, lipids and their derivatives called lipoproteins. This lipid bilayer is a matrix that consists of globular proteins and unsaturated fatty acids. Oxygen readily reacts with these structures of the cellular membranes, producing hydrogen peroxides and ozone, which further harms the integrity of the pathogenic cell. Therefore, oxygen kills the pathogens by

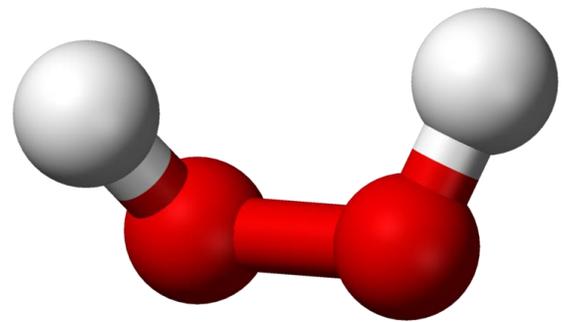
disorganizing their cellular membrane and leaking out the vital components such as ions and nucleic acid that maintain a healthy cell cycle.

Ozone

Ozone is a clear gas that is made up of three atoms of oxygen. It is abundantly found in the stratosphere where oxygen reacts with ultraviolet light. When oxygen rises to the upper atmosphere towards the ozone layer, the sun converts the two atoms in an oxygen molecule to three, resulting in the formation of ozone. In this process, the UV rays are used up and prevented from reaching the surface of the earth. Ozone is heavier in weight as compared to oxygen and it falls down to the earth giving up one atom of oxygen that purifies the air and water. It also has the capability of decomposing pathogens such as bacteria and fungi.

Hydrogen Peroxide

Hydrogen peroxide is formed when water reacts with ozone in the atmosphere. It is in a liquid state and consists of two hydrogen atoms and two of oxygen. It is also naturally available in food products and the human body, where it is used as a powerful oxidizer to kill pathogens on contact.



Bacteria

Bacteria's cell envelopes are made up of polysaccharides, proteins and fatty acid alkyl chains including helical proteins. Some of the bacteria consist of high quantities of lipids in their capsules for example complex lipids and glycolipids. This high content of lipid makes bacteria vulnerable to destruction when exposed to oxygen. Oxygen readily reacts with the cellular envelopes that are rich in lipid content. This destabilizes the cytoplasmic integrity and metabolic cycle of these bacteria. The entire process involves oxidation of the lipid molecules by oxygen in a process where it is itself reduced.

Ozone production in the byproducts of certain reactions leads to the destruction of many different kinds of bacteria. Ozone facilitates the formation of peroxides in the body, which eventually destroys the bacterial cells, leaving the healthy cells unharmed.

For example, the most famous example of a bacteria, E. Coli, is completely destroyed after being exposed to ozone solution for a maximum of one minute. Furthermore, bacteria that have caused the most serious epidemics in history such as mycobacterium tuberculosis are also believed to be damaged on exposure to oxygen. This shows the tremendous benefits that oxygen therapy may have on killing such deadly pathogens as a precaution to prevent future incidents.

Viruses

Although, antibiotics are not useful in the treatment of viruses, the newfound hope of oxygen therapy may be able to fill the void of the lack of antiviral treatment options. Viruses are well known to cause some of the most common and hazardous conditions such as AIDS, herpes, hepatitis and polio.

Ozone has the tendency to destroy the protein coat of the cell wall of viruses. Furthermore, it can disrupt the DNA enclosed inside the cell wall to destabilize its cell cycle and damage it completely. A number of latest research studies show that the HIV virus can be deactivated by as much as 97 percent with the help of ozone. This owes to the process of oxidation that damages the viral capsid and eventually destroying the nucleic acid material that is essential in keeping viruses active.

Furthermore, oxygen reacts readily with the enzyme coating on the surface of the body cells that makes them more susceptible to be invaded by viruses. The destruction of these enzymes through oxidation results in its removal from the body and eventually decreases the chances of being killed by viruses.

Fungi/Yeast/Moulds

Fungi, yeasts and moulds all fall in the similar category of pathogens. They are easily destroyed on exposure to oxygen; owing to their cell walls rich in carbohydrates. The basic composition of their cell wall is approximately 80% of carbohydrates and

proteins amounting to almost 10%. They are susceptible to the attack of oxygen because of the high numbers of disulfide bonds in their cell walls. This is where the chain of the process of oxidation begins; diffusing through the walls and eventually destroying the organelles and killing the organism.

Several studies testify the effectiveness of oxygen therapy in the destruction of fungi. For example, *Candida albicans* that weaken the immune system are known to be successfully treated using oxidation treatment methods using ozone and hydrogen peroxide.

Protozoa

Protozoa is a group of eukaryotic organisms that are unicellular and motile. They have been regarded in different literature as plants owing to their ability to photosynthesize and as animals because of their behavior of motility.

Some of the commonly known pathogenic protozoa include *Cryptosporidium*, *Giardia* and *Acanthamoeba*. Protozoa are also known to be affected by oxygen's highly reactive nature of oxidation. Oxygen is known to destroy the existence of protozoa based on three important principles: 1) The increase in oxidative stress that leads to the destruction of their proteins, enzymes and nucleic acid 2) Perfusion of oxygen into the cytoplasm by destabilizing its cellular membrane 3) Compromising the metabolic activities that results in cell death.

Parasites

Parasites are pathogenic organisms that live on a non-mutual symbiotic relationship with their hosts. In this situation, the parasites gain all the benefits at the expense of their host. The definition of parasites has now been extended to micro parasites that also include bacteria and viruses. Furthermore, protozoa are also referred to as parasites in some texts.

Studies show how effectively hydrogen peroxide and ozone can destroy parasites. The most recent research shows the destruction of malarial parasites with even the slightest concentrations of hydrogen peroxide. Furthermore, certain parasites

causing the symptoms of stomach cramps, and diarrhea, have been destroyed by as much as 97.5% with the use of ozone and its related products.

Significance Of Oxygen In The Immune System

Whatever the type of pathogen it is, may it be; bacteria, virus, fungi, or parasites, the immune system of the human body targets and plans the destruction of the pathogen before it can cause a disease. Therefore, the immune system is the key to universal therapy against all sorts of pathogens. However, the secret behind the working of this powerful immune system lies in its ability to utilize oxygen for its oxidizing potential to kill pathogens.

As a first line of defense, the immune system targets the pathogens with a specific type of white blood cells, called . Once the pathogen enters the human body, the phagocyte reaches the site of invasion by the pathogen and a process of digestion of the foreign particle is triggered. This ensures that the pathogen is actually engulfed by encircling it with a phagocytic membrane called the phagosome.



The entire process involves movement and conformational changes of phagocytes to reach, surround and engulf the pathogen, which demands energy in the form of ATP. The generation of ATP in the body is the result of respiration, which is only possible in the presence of oxygen. Therefore, oxygen indirectly powers the entire immune system and thus regulates how every type of pathogen that enters the body is destroyed and eliminated from the body.

Chapter 2: Can Oxygen Snuff Out Diabetes?

Diabetes has now been identified as one of the major health risks to a large population of the world, which can develop at any age. It is characterized by elevated levels of blood sugar or glucose that renders an individual hyperglycemic. Although diabetes is known for its detrimental effects on organs such as eyes, kidneys and nervous system, it disturbs the human body at the most basic level; the production, circulation and distribution of oxygen.

How Diabetes Affects Oxygen Production In The Body?

Damaged Endothelial Cells

The rise in blood glucose level directly affects the endothelial lining of the blood vessels in which it is being circulated throughout the body. Endothelial cells appear as a thin layer that lines the inner surface of the blood vessels and acts as an interface between the circulating blood and the vessel wall. These cells line the entire circulatory system of the human body including the heart and the smallest blood vessels called capillaries.

These capillaries are responsible for the exchange of oxygen from the blood to every cell of the body. In diabetes, the increased level of glucose thickens and clots the blood thereby impeding the blood flow especially in these capillaries, which have a very tiny and narrow structure. This is because of the release of AGEs or advanced glycation end products. Due to the over exposure of the endothelial lining of the capillaries, the fats and proteins in the cells undergo a process of glycation leading to AGEs that are deposited in the tiny capillaries. These interfere in the working of the capillaries in two ways:

Impeded blood flow

Interrupted exchange of nutrients, oxygen and waste products from the endothelial lining of the capillaries to cells.

Therefore, a condition of diabetes may harm the process by which the body utilizes oxygen and uses it to survive. Furthermore, the thickening of the blood, damage to the endothelial cells and narrowing of the vessels increases the risk of cardiovascular diseases such as heart attacks and strokes.

Insufficient production of Erythropoietin

Extreme cases of diabetes also affect the kidneys, a condition also referred to as diabetic neuropathy. The use of oxygen by the body may also be compromised, indirectly, due to low levels of erythropoietin. Erythropoietin is a hormone produced by the kidneys that regulates the production of the oxygen carriers, the red blood cells. If the production of erythropoietin is insufficient, very few red blood cells are available to absorb and transport oxygen to every cell of the body, often leading to symptoms of lack of oxygen or anemia.

These conditions lead to an overall inefficient system of utilization of oxygen in the body resulting in oxygen-depleted cells. The breakdown of the cascade of mechanisms in diabetes includes diminished peripheral blood flow and improper exchange of oxygen in cells that decreases cell growth, tissue repair and angiogenesis. All these factors contribute to slow and deficient wound healing.

How Can Oxygen Help?

The leading cause of the major symptoms of diabetes is the inefficient handling of oxygen for absorption, and circulation in the body. The circulation of blood in the capillaries, where the exchange of oxygen, nutrients and waste products with the surrounding tissue takes place, is at the highest risk in diabetes. This is also referred to as 'microcirculation' and corresponds to the flow of blood in the capillaries. Therefore, patients of diabetes need to follow a microcirculation assessment to quantify the circulation and delivery of oxygen to the tissues, otherwise lack of oxygen in the major organs of the body can lead to serious, life threatening illnesses.

Although, diabetes cannot be completely cured with conventional methods such as surgeries or medicines, targeting the root cause of all the major symptoms may help in the prevention of the disastrous effects of diabetes.

Hyperbaric Oxygen Therapy

Hyperbaric oxygen therapy is a good prevention method for the major symptoms of diabetes. It serves to maintain a healthy circulation especially in the capillaries or micro-level. In this therapy, it is required to breathe in pure oxygen in a pressurized room. This room provides an air pressure that is three times higher than normal. It is

designed to allow a person to breathe in three times more oxygen and therefore, higher levels of oxygen are transported throughout the body, replenishing the tissues with a rich supply of oxygen. Furthermore, the renewed supply of oxygen in the body stimulates the release of growth factors that promote healthy cells, and wound healing.

In addition to the re-oxygenation of the of hypoxic tissue that promotes cell repair and wound healing, hyperbaric oxygen therapy also serves to regulate the blood sugar level which indirectly helps in angiogenesis, and the growth of nerve endings. It acts as a blood thinning therapy, which aids in improving the compliance of red blood cells to enter the micro capillaries and enable efficient transfer of oxygen for healthy cell growth and metabolism. During this process, blood clotting associated with the symptoms of diabetes is greatly reduced also counteracting the risk of cardiovascular diseases such as strokes.

Moreover, hyperbaric oxygen therapy serves to provide an enhanced lung function to meet the increasing demand for oxygen in diabetes. It also helps in maintaining an improved functioning of the heart and immune system.

Research Studies On Oxygen Therapy For Diabetes

How Oxygenated Blood helps in Adult Onset Diabetes



According to a study implemented by Frank Shallenberger, Nevada Center of Alternative and Anti-Aging Medicine, Carson City, Nevada, the major symptoms of diabetes can be treated with a more reactive form of oxygen called ozone by targeting the blood circulation. This therapy may help in producing remarkable results.

Methods

Dr. Shallenberger treated a diabetic patient, Virginia, aged 51, with ozonated blood as a treatment for her recurring breast cancer tumor. The process of ozonating the blood involves simple steps of drawing approximately 150 cc of blood and injecting it with ozone gas. After 40 minutes or so, the blood is re infused in the body.

Results

A treatment, actually meant for the breast cancer tumor, had an extraordinary impact on her condition of diabetes. It was noted that her blood sugar level plummeted too low, which implied that her diabetic medicines and ozone were collectively targeting the blood sugar levels to force it to plunge down abnormally. Responding to this change, the quantity of her oral medications for blood sugar levels was decreased and finally completely stopped.

Discussion

Interestingly, it was inferred that Virginia, did not show any major symptoms of diabetes anymore. This can be accounted for the fact that

1. Ozone helps in the buildup of 2,3-diphosphoglycerate which is in a reduced supply in patients of diabetes. 2,3- diphosphoglycerate is known to stimulate the transport of oxygen in the red blood cells and deliver it to the tissues. This helps in improving the blood circulation and oxygen delivery to the tissues, required for cell growth and metabolism. Furthermore, the enhanced metabolic activity of the cells provides similar benefits to the patients of diabetes as with vigorous exercises.
2. The efficient transport of oxygen to the body tissues through ozonation also enhances the levels of energy producing molecule in the body called ATP. It ensures the integrity of the membranes of the cells that allows passage of oxygen and nutrients efficiently, in and out of the cells. This prevents cell and tissue death, avoiding the development of high-risk conditions of diabetes such as gangrene.

Oxygen Therapy To Target Individual Organs Affected By Diabetes

A press release by John Hopkins Medicine illustrates the use of oxygen therapy to target the physiology of individual organs that are at a high risk in the condition of diabetes. A recent research study has highlighted the positive effects of delivering oxygen through the nose, to help improve poor vision due to the condition of macular edema in patients of diabetes. This was published in the Ophthalmological

journal demonstrated significant results on oxygen therapy and improvement of the symptoms of diabetes.

Methods

Five diabetic patients with the condition of macular edema and demonstrating significant vision loss were studied in this research over a period of three months. These patients were made to breathe supplemental oxygen throughout the course of the study.

More specifically, three men and two women within the age range of 52 to 69 years suffering from type II diabetes for as long as nine years were taken as subjects. One laser treatment in a lifetime was common amongst all patients. Furthermore, all eyes taken under observation had the condition of permanent edema.

All patients were administered 4 liters of oxygen per minute, which was delivered to the patients via small tubes through the nose for a period of three months, only removing the tube while using the bathroom. The oxygen delivery was ensured by providing them with stationary oxygen concentrator for home and portable oxygen tanks when they have to be mobile outside.

Results

After three months, it was observed:

- ↪ Thickness of the macula was reduced to 43 percent in all the eyes studied in this research.
- ↪ Thickness of the fovea (the part of the eye which forms the sharpest image), was reduced to 42 percent
- ↪ Macular volume went down by 54 percent
- ↪ Improvement in visual acuity of three out of nine eyes studied

The results of this study showed that breathing supplemental oxygen for a longer period as much as three months had productive effects on the treatment of the condition of macular edema due to diabetes. All five patients showed reduced fluid buildup as well as swelling in the macula. It also allowed for some improvement in

the visual acuity of some patients as a result of the therapy. This therapy can prove to be useful to complement the laser treatment of the eye to improve oxygenation in the retina for long-term relief. Furthermore, it was found that after the oxygen therapy was discontinued, the improved vision could no longer be maintained in some eyes and the macular thickness receded back to its thickness.

Discussion

The condition of macular edema studied in this research accounts for more than 10 percent of all patients of diabetes. The prime reason for the development of such a condition is high blood sugar and decrease in a rich supply of oxygen and nutrients, damaging the blood vessels in the retina of the eye. releases vascular endothelial growth factors of VEGF as a result of low levels of oxygen, which disrupts its normal functioning by leaking the fluids and growth factors in the macula. The macula eventually thickens and this causes semi or complete loss of vision.



The use of supplemental oxygen helps in reducing the production of VEGF in the retina and similar growth factors that make leak out of the retinal vessels and cause macular edema. Furthermore, supplemental oxygen therapy may help to improve the effectiveness of the laser procedure by reducing the thickness of the retina.

Chapter 3: Curing Cancer With Oxygen

Explain The Relationship Between Oxygen And Cancer

An inadequate supply of oxygen to the tissues may lead to a condition known as tissue hypoxia, which may compromise important biological functions in the human body. The definition of hypoxia in terms of biochemical processes in the body can be termed as a state in which there is limited oxygen available in the electron transport chain. Furthermore, physiological hypoxia is a condition in which the availability of oxygen is reduced leading to decrease partial pressures that fall below critical values. This condition, therefore may lead to the development of certain medical conditions or cell death.

Tissue hypoxia has not only been linked to disruptions in cell growth and repair but also in certain medical conditions as serious as cancers. Numerous experimental studies highlight the role of hypoxia in the proliferation of tumors.

Tumor hypoxia is a pathophysiological condition when the micro-circulation of the cells is disturbed and there is insufficient supply of oxygen to the tissue. There are a number of ways in which tumor hypoxia is linked to the worsening of the condition of cancer:

- ↪ Tumor Propagation
- ↪ Malignant Progression
- ↪ Resistance to Therapy

Understanding cancer is important in relating how the depletion of oxygen in tissue may exacerbate the condition of cancer. Cancer is attributed to a dysfunctional condition, which is metabolic in nature and is linked to genetic mutations. The link of cancer with oxygen has now proved to be of immense importance to researchers. One of the first metabolic signs of cancer is now known as the changes in the metabolism of oxygen in the tissue. The hopelessness of the treatment of cancer has been associated with the lack of understanding of the disease and the misconceptions that have arisen over the years of unreliable research studies. Today, it has been established that the key to winning the battle against cancer maybe the eighth element on the periodic table and our source of life on earth - Oxygen.

Dr. Otto Warburg's Contribution

Dr. Otto Warburg was a physiologist and acclaimed biochemist with a doctorate degree in chemistry and medicine. He was born in Freiburg, Germany in 1883. He is famous for winning a Nobel Prize in the field of Physiology and Medicine in 1931. Dr. Warburg is considered to be the father of the discovery of the relationship between oxygen and the development of cancer. His work highlighted that cancer is the cause of compromised cell respiration in the human body, which is due to the lack of oxygen at cellular level.



He went on to further prove that cancer thrives in anaerobic conditions or in other words, where the pH is acidic. Therefore, according to Dr. Warburg the root cause of cancer is acidity in the human body.

Dr. Warburg further elaborated on his hypothesis by explaining the environment in which the cancer cells proliferate. When the cell respiration is damaged, it leads to fermentation or respiration is carried out under anaerobic conditions. This eventually results in the build of low pH or acidity at the cellular level. These cancer cells maintain a low pH of approximately 6.0 due to elevated levels of carbon dioxide and production of lactic acid.

Dr. Warburg also illustrated the close relationship between pH levels and the supply of oxygen. He explained that higher pH levels mean a rich concentration of oxygen and vice versa. Under normal circumstances and good supply of oxygen, the cells utilize glucose for the process of respiration called glycolysis.

However, in tissue where there is low concentration of oxygen the cellular respiration takes an alternative pathway for nourishment; utilizing glucose anaerobically through the process of fermentation. The end product of fermentation is lactic acid which lowers the cell pH and eventually destroys the ability of the molecules of DNA and RNA to function efficiently in controlling the cell division.

This is the key to the onset of the abnormal growth of tumor cells in cancer. From this point onwards, there is rapid, uncontrollable multiplication of cancer cells, which is initially triggered by low oxygen levels developing an acidic environment in the affected tissue.

This is also known as the Warburg's hypothesis and sometimes referred to as the Warburg theory of cancer. It mainly regards tumor genesis as a direct cause of insufficient respiration in the presence of oxygen.

He made it clear that cancer is directly related to oxygen deficiency that leads to an acidic state in the cells of the human body. Dr. Warburg also proved that cancer cells are anaerobic in nature and cannot thrive in a rich supply of oxygen and an alkaline state. Therefore, Dr. Warburg had already defined, explained and elaborated on the root cause of cancer and its development in 1931.

Research Studies That Prove Warburg's Hypothesis

Low levels Of Oxygen- Primary Cause of Cancer

According to a research study at the University of Georgia, the prime reason for the uncontrollable growth of tumor cells in some cancers may be due to low levels of oxygen in cells. This research was published in the Journal of Molecular Biology.

There is a major difference between linking oxygen levels as a contributing factor and a driving force for cancer growth. This study aims to develop an understanding that low-levels of oxygen is in fact the driving force that leads to such high incidences of cancers all over the world. The incorporation of bioinformatics in the field of molecular biology and cancer has further advanced this research study. Furthermore, this research study indicated how major cancer drugs target the onset of oncogenes at the molecular level and bypass the main driver of cancer, the low concentration of oxygen in the cells.

Methods

The analysis in this study utilized a publicly available database for their research. They studied the samples of the messenger RNA molecules and its relevant data from seven different types of cancer from the concerned database. The key experimental procedures were designed to investigate if long-term lack of oxygen in cells leads to

a higher probability of proliferation of tumor and cancer growth or not. The data was downloaded from the Stanford Microarray Database with the help of a software program that detects the abnormality in the gene expression patterns in seven types of cancers.

This online database is used to analyze the gene material available in small glass slides in the form of microchips. The researchers, in this study, used the gene HIF1A as a biomarker to estimate the amount of molecular oxygen that is available to the cells.

Results

The study of all seven cancers showed that the levels of HIF1A increased in amount that clearly indicated the decreasing level of oxygen in the cells.

Discussion

The results of the study showed that low levels of oxygen in cells of the human body result in interrupted activity of oxidative phosphorylation. This further highlights the core reasons why certain cancers become drug resistant and fail to respond to treatments. Therefore, this research stresses on the importance of preventing hypoxia in cells as the first step towards cancer treatment.

A Pure Oxygen Environment Kills Cancer Cells



Michael Jackson is known across the globe for his efforts to prolong and maintain his youth with the use of various techniques in medical science today. One of those techniques is now showing promising results as a natural remedy for cancer, as researched by University of Washington and University of State Washington, and reported in the journal of anticancer research.

This latest study highlights the importance of using high-pressure oxygen or artemisinin, on cell culture from human leukemia cells. It was noticed that the cancer cell growth was reduced by as much as 15 percent. When artemisinin and high-pressure oxygen were used together, the results showed drastic improvements by decreasing the cancer cell growth by as high as 38 percent. This showed the effectiveness of the use of artemisinins. In addition, the researchers further

elaborated that their study was based on 48-hours of observation and on how dramatic the effects can be if this study was based on long-term exposure of artemisinin and high-pressure oxygen on cancer cells.

Artemisinin has been known since decades to react with iron within the cells of the human body and form free radicals. These free radicals are highly reactive and charged particles that have the capability to destroy the cells.

The effectiveness of the use of artemisinin in the destruction of cancer cells is signified by the fact that the rapidly dividing cancer cells also utilize iron to form new DNA, which can be easily destroyed by artemisinin. Moreover, high oxygen levels enhance the effects of artemisinin because oxygen is known to promote the formation of free radicals.

Artemisinin is now being realized as a potentially promising treatment of cancer, because of its specificity, cheap availability and easy injection procedures over the traditional methods of chemotherapy.

Growth of Cancer Cells and Lack of Oxygen

A logical interpretation of a cell being deprived of oxygen is that it will shrink and die. However, recent research studies have illustrated how tumor hypoxia leads to tumors that are more aggressive. This can be explained simply as the tumor cells' will power to not succumb to low oxygen levels and instead grow and metastasize in search of new available resources for oxygen, spreading to other parts of the body.

A similar research was conducted by University of Colorado's Cancer Center. They highlighted the mechanism that the cancer cells use to proliferate in hypoxic conditions, which will be key to possible future treatment of many types of cancers.

The study highlights the behavior of the protein HIF-1a that is over-expressed in hypoxic conditions in addition to the cancer stem cell marker called CD24, also overly expressed in a number of tumors. This study showed how their over-expression is related and it was proposed that it is in fact HIF-1a that leads to the over-expression of CD24.

Furthermore, it was concluded that CD24 expressed in low-oxygen conditions is responsible for the aggressive nature of the growth and metastasis of cancer cells.

Low oxygen conditions and breast cancer

is one of the leading types of cancers in terms of the high number of incidences across the globe. A recent research from the biologists of Johns Hopkins University has related the low oxygen conditions and the production of proteins that help the cancer cells to thrive in terms of growth and mobility. These proteins are named as RhoA and ROCK1 that are produced in low oxygen conditions and are supposedly the cause of the worst cases of breast cancers.

A professor at Johns Hopkins School of Medicine, Dr. Gregg Semenza, further explained this theory by illustrating how cancer cells incorporate numerous changes in their internal cellular structure to move and grow within the body. Amongst numerous other proteins, RhoA and ROCK1 are known to aid in the development of these internal structures such as the parallel filaments used in the division of cancer cells.

The most interesting find of this research is that the genes that code for these cancer-aiding proteins RhoA and ROCK1 are known to be activated at high levels, which can be explained by the key condition of low oxygen levels in breast cancer cells. The multiplication of tumor cells leads to the depletion of oxygen. This activates the factors of hypoxia that control proteins to switch on genes to help adapt to this condition. These genes aid the cancer cells to break away from the low oxygen area of the tumor and spread to other parts of the body, a process of metastasis that leads to advanced stages of cancer.

A series of laboratory studies further investigated this process. It was found that breast cancer cells that were grown under the conditions of hypoxia or simple low oxygen levels were analyzed to have gained more mobility as compared to the cancer cells that were given a good supply of oxygen. More specifically, it was observed that these breast cancer cells developed more filaments in their internal cellular structure that allowed growth and free movement to other areas of the body.

Chapter 4: Oxygen - The Fountain Of Youth?

The phenomenon of aging is linked to the inability of the body to control and deal with the cell damage and death. When the body is no more capable of regenerating new cells it leads to the process of aging. Several research studies have directed the cause of aging towards the action of free radicals in the body. Free radicals can be defined as unstable molecules that are formed as waste products or part of the regular metabolic activities of the cell.



Their instability is because of the lack of paired electrons, which makes them readily lose or gain electrons. This action makes them highly reactive to the surrounding molecules, thus destabilizing them.

The body has a natural mechanism of destabilizing these free radicals that eventually results in damaging the cells of the body. Free radicals still tend to accumulate in their own pace, affecting the cells and organs over the years. This is the normal process of aging. However, sometimes there is an overabundance in the release of free radicals in the cells because of disturbed cellular processes. This is when the process of aging speeds up and can prove to be hazardous for the body.

To understand the mechanism of how the body works to neutralize these free radicals, it is essential to understand the underlying metabolic activities associated with it. Through these metabolic activities in the cell, the body produces energy that can be used to get rid of the free radicals that cause aging. Energy is produced in the cells in the form of molecules of ATP. The most important requirement for the production of ATP is the supply of oxygen. Therefore, the amount of oxygen that is available in the cells determines the rate of production of ATP that provides energy to the body for efficient metabolic and cellular processes and prevents aging.

According to the famous source of Biochemistry by Harper, aging is defined as a mechanism:

“... which allows the respiratory chain to function at the maximum rate until the tissue has become virtually depleted of oxygen”

This shows the relationship of the concentration of oxygen and aging, and reflects the importance of optimal supply of oxygen to prevent the damage of cells that eventually results in aging.

Oxygen Is Essential For Skin Health



Collagen is an integral component of the skin, because it forms the framework of fibers within the skin. When the skin is young and healthy, this collagen framework is strong and keeps the skin intact, and wrinkles free. Over the years, this framework of collagen loses its strength and weakens the structure that results in the skin losing its elasticity. This makes the skin lose its tone and appear aged and unhealthy.

Oxygen therapies are now proving to be useful for revitalized and healthy skin. These therapies may help in reducing the damage caused by aging by maintaining a constant supply of oxygen to the skin. This allows the skin cells to take advantage from essential nutrients that include minerals, enzymes and vitamins etc and maintain the strength of the collagen framework of the skin.

Usually people complain of the supposedly ‘contradictory’ statement by health practitioners regarding a healthy skin. They perceive the word ‘anti-oxidant’ as an opposite to having a good supply of oxygen, and as both are regarded as beneficial for maintaining a healthy skin; it seems to be a bit confusing. However, there is a difference between the words oxidation and oxygenation. When we talk about a rich supply of oxygen to the skin, we mean oxygenation and when it is expressed that anti-oxidants are effective anti-aging substances, we it means the ones those substances that can prevent oxidation.

Oxygenation Of The Skin Leads To Tissue Revival

It is a well-known fact that oxygen is associated with breathing and staying alive. Taking a holistic approach to the statement, it means the human body cannot survive without oxygen. However, it also means something to every cell individually. Skin cells need a good supply of oxygen to maintain their cellular process, therefore; they need oxygen to breathe, survive and look healthy.

When the skin is young, it works best by making up for the insufficient supply of oxygen, according to the availability. However, once the skin is exposed to such conditions for too long, the process of aging begins. In such a state, the skin's ability to use oxygen efficiently for cellular processes is hampered. The two of the most important actions that fall under this category are the regeneration and repair of elastin and collagen structures to maintain the structural integrity of the skin.

What does a rich oxygen supply do to the skin?

- ↪ Improved availability of oxygen for metabolic activities
- ↪ Boosted circulation
- ↪ Hydrated and revitalized skin
- ↪ Stimulates the cell turnover
- ↪ Triggering body's healing processes
- ↪ Maintaining aerobic conditions in the cells to prevent the growth of pathogens

The Need To Moisturize The Skin

Moisturizing the skin is an essential part of daily skin care. Using moisturizing products keep the skin hydrated and healthy with a rich supply of oxygen. Moisturizing products usually contain two types of ingredients, humectants and emollients.

- ↪ Humectants keep the skin moisturized by absorbing water from the surrounding environment. It includes hydroxy acids, glycerin and urea.
- ↪ Emollients comprise of petrolatum or mineral oil and lanolin. These serve the skin cells by filling their spaces and providing a smooth appearance.

In the long term, moisturizers can prove to be beneficial for the skin because hydration allows the cellular processes to perform at their peak. This includes efficient repair, regeneration and turnover of the fresh cells, which is an anti-aging mechanism. Furthermore, moisturizing the skin can help protect it from the external environment by creating a barrier. This prevents the escape of essential oils and helps to avoid dryness due to potential irritants from entering the skin cells.

Most of the moisturizers used today to keep the skin hydrated and healthy also include hydrogen peroxide in their ingredients. Hydrogen peroxide, as explained in Chapter 1, is formed when water reacts with ozone in the atmosphere. It is in a liquid state and consists of two hydrogen atoms and two of oxygen. It is also naturally available in food products and the human body, where it is used as a powerful oxidizer to kill pathogens on contact. The use of hydrogen peroxide provides the skin with a rich supply of oxygen so that they can carry out their cellular process and maintain the essential nutrients required for their growth and repair.

Ways To Get More Oxygen To The Skin

Oxygen Facials

Oxygen facials are an excellent procedure to treat your skin with high levels of oxygen. It provides a treatment that consists of pure oxygen at a high pressure with a mixture of anti-aging serum. Interestingly, the benefits of the use of oxygen in treating the skin have started to become widely acclaimed and several famous figures such as Kate Middleton are now using this treatment for a revitalized skin and maintaining its natural beauty.

Oxygen facials work better than other moisturizing treatments because they utilize high pressure oxygen, infused directly into the skin. Furthermore, with the use of latest technology, oxygen and other variety of nutrients can be inserted at much deeper depths to provide more enhanced results and greater benefits. The mixture of anti-aging serum utilized in this treatment reaches the lowest levels of epidermis and helps improve the absorption of nutrients.

The use of oxygen facials for a rich supply of oxygen is essential because of the fast depletion of oxygen from the external environment due to pollution. The lower concentration of oxygen in the environment barely serves to fulfill the requirements

of the body, but does not make it up for the demand of oxygen by the skin. This is because skin requires high concentration of oxygen for cell growth and regeneration as an anti-aging mechanism.

The benefits of oxygen facials include:

- ↪ It enhances the regenerative powers of the skin, which is needed as an anti-aging mechanism.
- ↪ Creating aerobic conditions in the skin prevents the thriving of the bacterial colonies and therefore; infections that cause pimples, acne etc.
- ↪ Oxygen reaching the deepest levels of the skin enhances the growth of elastin and collagen, the two proteins required to maintain wrinkle free, and healthy skin.

Hyperbaric Oxygen Therapy

Hyperbaric oxygen therapy is a good method to increase the supply of oxygen in the body. As explained in Chapter 2, in this therapy, it is required to breathe in pure oxygen in a pressurized room. This room provides an air pressure that is three times higher than normal. It is designed to allow a person to breathe in three times more oxygen and therefore, higher levels of oxygen are transported throughout the body, replenishing the tissues with a rich supply of oxygen. The renewed supply of oxygen in the body stimulates the release of growth factors that promote healthy cells. Moreover, hyperbaric oxygen therapy serves to provide an enhanced lung function to meet the increasing demand for oxygen of the body.

Breathing Effectively

Although breathing is a natural and most common phenomenon that every individual performs approximately 20,000 times a day, it needs to be done properly by giving a second thought to what is the most effective way to breathe. The most important reason to improve our breathing is to be exposed to higher concentration of oxygen in daily life as we breathe.

How can effective breathing help us in everyday life?

- ↻ Reduce stress levels
- ↻ Enhanced energy and vitality
- ↻ Improved work outs
- ↻ Boosted immunity
- ↻ Low risk of infections and illness

If we breathe in correctly, our bodies are able to gain maximum benefits from the adequate amount of oxygen that is required to not only serve the purpose of respiration but also replenish the brain and essential organs with nutrients. The condition of not breathing in correctly may rob your body of oxygen that results in long-term detrimental effects.

The first organ to suffer from ineffective breathing and low-levels of oxygen is the skin. If our breathing is not sufficient, this means that our blood is not rich in oxygen. Although, the process of oxygenation of the blood still occurs in the lungs during gaseous exchange, the skin is not supplied with fresh oxygenated blood with a high partial pressure of oxygen. This leads to the breakdown of a sequence of actions that are required to maintain healthy metabolic activity and thus the healthy state of the skin.

Steps to Breathe in Correctly

As mentioned earlier, breathing in correctly should not be ignored. This can be achieved through simple steps:

- ↻ The first step towards efficient breathing is to use the diaphragm, which is a large muscular sheet separating the chest and abdomen.
- ↻ While sitting or lying on your back on the floor, use your left hand and place it on your upper chest, while your right hand is on the abdomen.
- ↻ For a correct procedure of breathing, it is advised that only the right hand should move with the chest movements up and down, while the left hand should remain still.
- ↻ The movement of the left hand indicates shallow breathing and not utilizing the diaphragm to breathe.

In addition, breathing that is slow and rhythmic is the most useful to regulate the flow of oxygen in the blood vessels and ensure that your skin is provided with a rich oxygenated blood.



Chapter 5: Oxygen And Your Brain



The human brain is approximately 3% of the total body weight and yet it requires as much as 20% of the total inhaled oxygen. The consumption of oxygen by the brain cells is increased even more during intense mental activities involving sustained concentration. It can be easily deduced that oxygen is the food for your brain and its proper functioning.

A reduced supply of oxygen to the brain results in a condition called hypoxia. This means that the oxygen concentration in the brain cells have reduced to critical levels, eventually hindering the process of oxidative phosphorylation in cellular respiration. In such a case, there is decreased production of ATP in the cells that leads to a collapse of the ionic gradient maintained in the neurons. This ionic gradient forms the basis of the working of brain cells through a process called action potential. Therefore, in brain hypoxia, all neuronal activities quickly seize in a cascade of events leading to the death of brain cells.

Hypoxia may lead to severe medical conditions or death due to extreme sensitivity of the brain cells to oxygen. Although, the severity of the condition depends on the hypoxic level, it usually includes infarction, and ischemia that result in neuronal cell death.

Mental Clarity, Judgment And Attentiveness

It is very common to have a lack of mental clarity, inattentiveness or just being fuzzy headed occasionally. However, these conditions may eventually sustain for a longer time. Apart from the more serious conditions resulting due to lack of oxygen such as strokes, infarction etc. people may also develop cognitive impairment that does not necessarily indicate the potentially dangerous underlying cause. Unarguably, your body requires an adequate supply of oxygen for normal cellular functions. However, the brain cells also need it for the normal functioning holistically. Low levels of oxygen in the blood can be a source of mental fatigue that leads to poor endurance and lack of judgment or a condition known as mental fog.

How Can Oxygen Improve Brain Function?

Oxygen and sugar boost brain power

Latest research by the director of the Human Cognitive Neuroscience unit at the University of Northumbria has stressed on the importance of blood oxygen level for a healthy working brain. The study has revealed that inhaling pure oxygen and taking high doses of glucose may help in upgraded mental performance and its attentiveness. It is because oxygen is food for the brain; it can be energized in the same way as athletes can boost their performance with the right diet. Therefore, it is now being realized that students may be able to enhance their performance by taking an inhaling shot of pure oxygen just before a test.

The research has highlighted the importance of providing the right fuel to the brain for optimal judgment and mental clarity. This includes both a rich supply of oxygenated blood and glucose.

Study #1

Methods and Results: The research used a group of students in the study and gave them 30g of glucose. This group was then made to undergo a mentally challenging activity of a 'serial seven' test (where each student is required to continually subtract seven from an arbitrary starting figure). The results indicated a more enhanced brain function by students who were given glucose. These students were able to perform two to three more calculations per minute as compared to those who without glucose.

Study#2

Methods and Results: Another group of students was studied in a similar research where they were given a one-minute exposure to pure oxygen immediately before a test. The test comprised of a list of words to memorize. As expected, the students who took the oxygen treatment were able to perform better at memorizing a few more words from the list, as compared to the ones who did not receive the treatment.

It was concluded that treatment with oxygen and glucose affected the performance of people, however; it was more significant where the tasks required a high level of cognitive challenges. The director of the Human Cognitive Neuroscience unit at the

University of Northumbria, Dr. Scholey, further simplified it by comparing the reaction of brain to higher oxygen levels, with the reaction of fire on availability of the right fuel. He showed his belief in the improvement of cognitive functions by improving the supply of oxygen to the brain.

Fast ways to boost your brain power

Apart from the requirement of oxygen by the human body as a whole, the brain has special needs for the supply of oxygen to fuel its cellular processes. The environmental air we breathe cannot sufficiently oxygenate the blood to meet this requirement of the brain. Therefore, it is important to incorporate certain activities in daily lifestyle so that the brainpower can be boosted by increasing oxygenation to the brain. The most common such activities include solving problems while pacing, having coffee or in the shower than relaxing at one place.

Although, it may differ with every individual, it is important to note that brain oxygenation has a direct link with your body's efficiency in circulation and in turn with the brain's cognitive function. With the help of recent, diverse research studies on boosting brainpower, we might be able to substantiate this hypothesis.

1. Walking

Boosting brainpower can be as easy as walking, according to a research study by the University of Illinois. This study investigated the relationship of walking and improvement in the ability to recall the memorized tasks. In addition, a research study at Stanford authenticated this finding to conclude that whether walking is high-paced or low, inside or out in fresh-air, people who are walking are expected to produce twice as many creative responses as compared to the ones who are sitting.



2. Shower

One of the ways to boost your brainpower is thinking while in the shower. Whether, it is the result of increased oxygenation to the brain or just an effect of relaxation, showering is known to release a chemical called dopamine that is viewed as key to mental creativity.

3. Caffeine

There have been numerous research studies on the positive effects of caffeine on cognitive function. Duke Researchers studied the use of caffeine as a quick means to boost brainpower. They concluded that there was an overall improvement in neuroconductivity of the brain of caffeine users.



4. Chewing gum



A research study at the University of Lawrence found that chewing gum for at least five minutes can help in the improvement of memory and processing time of cognition for as much as 20 minutes. The improvement in this performance can be attributed to a logical explanation of how chewing helps in arousal or waking you up by increasing the vital processes such as cerebral blood flow, heart rate, and blood pressure. The increased blood flow results in increased supply of oxygen to the brain. This can be utilized for improved cellular processes.

Exercise and Brain Fitness

The need for oxygen by the brain can be easily met by incorporating exercise in the daily routine. Exercise helps in improved performance of the brain in numerous ways:

- Increased physical activity helps in reducing the levels of stress in the body by stimulating the production of hormones that are released under stress.
- Exercise helps in improving the circulation of the body. This means that there is increased blood and oxygen flow to the brain, which helps in the development of neural connections in the areas of the brain that are responsible for memory, learning and cognition.
- Daily exercise helps in releasing endorphins, which are released by the pituitary gland and result in a state of happiness and composure of the brain.
- There are several studies that validate these claims, for example;

1. A research in the journal of Neuropsychopharmacology in 2007 revealed how exercise stimulates the growth of new brain cells in laboratory rats.
2. In 2007, Colombia University studied how exercise helps in boosting memory by targeting certain areas of the brain.
3. Another research study from the Netherlands, in 2008, highlighted the importance of cardio exercises to boost brainpower and cognitive function.



Chapter 6: How Can Activated Stabilized Oxygen Help?

What Is Activated Stabilized Oxygen?

The eighth element of the periodic table – Oxygen, has 16 protons and 16 electrons. However, there are a number of available isotopes of oxygen with 16, 17 and 18 neutrons. Oxygen atoms occur in four basic forms in nature:

- ↪ The free atomic particle or O_1 , which is highly reactive and unstable.
- ↪ The most common form of Oxygen available in nature is O_2 . It is a colorless gas that appears pale blue in liquid form.
- ↪ The third form is the ozone, O_3 ; that possesses excess of energy and appears blue as a gas and dark blue as solid.
- ↪ The fourth type of available oxygen is typically unknown and appears in the form of O_4 . This is an unstable form of oxygen and pale blue in a gaseous state, and breaks down into two molecules of oxygen O_2 .

The fourth and the rarest type of polyatomic tetra oxygen, O_4 , also known as oxazone is the active component of Activated Stabilized Oxygen (ASO) that is now known to serve miraculous purposes in the treatment of various diseases. ASO with an active component of oxazone in a saline base is a unique formulation that is now being extensively researched. One of its major advantages includes its use of natural products that contain bio-available oxygen O_4 . Furthermore, activated stabilized oxygen has a balanced neutral pH of approximately 7.1 and provides environmental and health benefits because of its non-toxic, and bio and environmental friendly nature.

Chemical Composition Of Activated Stabilized Oxygen

The chemical components in ASO include:

- ↪ Distilled water,
- ↪ Sodium chloride (from sea salt),
- ↪ Bio-available oxygen and
- ↪ Essential and trace minerals.

Effects Of Activated Stabilized Oxygen

Pathogens

Activated stabilized oxygen has antimicrobial mechanisms owing to the cellular structure of some pathogens. The cell envelope of most bacteria is made up of enzymes, proteins, polysaccharides and lipids.

- ↪ The gram-negative bacteria consist of helical lipoproteins and other fatty acid alkyl chains in their cell envelopes.
- ↪ Bacteria such as the Mycobacterium tuberculosis, acid-fast bacteria, consist of complex lipid molecules in their capsules including glycolipids, sulfolipids, and lipopolysaccharides.

The rich lipid content in the walls of these pathogens is the reason to their extreme sensitivity to oxygen molecules that eventually leads to their destruction. Therefore, oxygen may disrupt and destroy these pathogens by reacting with them in a number of ways:

- ↪ Oxygen attacks the chemical bonds in the cell walls of pathogens.
- ↪ Oxygen reacts with the atoms and compounds on the cell envelopes of these pathogens, which include lipids and enzymes.
- ↪ Oxygen may carry out the process of oxidation, thereby, replacing hydrogen molecules from the complex structure of enzymes on the cell envelope's of these pathogens. This disrupts their normal functional activities and the microorganisms die.
- ↪ Activated stabilized oxygen also has a penetrating power that allows the oxygen molecules to enter the cellular envelopes of these pathogens and disrupt their cytoplasmic and cellular integrity. This eventually affects the metabolic activity of these microorganisms.
- ↪ Oxygen molecules disorganize the membrane structure of these pathogens that results in the leaking out of essential ions and nucleic acid that halts their cellular process and leads to cell death.

Cancer cells



Numerous research studies have now focused on the primary cause of tumor proliferation with respect to the environment in which cancer cells thrive. Although, genetic mutations have been linked to the growth and onset of cancers, it is now being realized that the chief reason may be more basic and perhaps, easy to handle. A recent research at the University of Georgia has highlighted how low levels of oxygen in cells may be the leading cause of tumor growth in cancers.

The researchers reached to a conclusion that hypoxia should be the next target to cure cancers and develop a treatment plan for cancer patients.

The exposure of activated stabilized oxygen can prove to be immensely useful as a new treatment method in curing cancers by providing an oxygen rich environment to the cells where their growth is hindered. The advent of oxygen therapies have now brought about hope for the never-ending battle towards cancer.

One of the recent research studies at Purdue University validates these claims by designing a miniature device to be implanted to tumors so that an oxygen rich environment can be created for the tumors that boosts cell death with chemo and radiation therapy. The research showed positive results on laboratory mice, in which the implanted device in pancreatic tumors showed that generation of oxygen leads to hampered growth of tumor cells.

Blood cells

When there is insufficient supply of oxygen in the body, the unsaturated red blood cells in the circulation eventually starve and cannot provide the tissue with the right amount of oxygen for respiration. When there is lack of oxygen in the circulation, the body's homeostatic mechanism is activated and it reacts by withdrawing blood from the body's extremities and concentrating more on the major internal organs. This leads to a chronic condition of cold hands and feet due to poor circulation.

Furthermore, blood cells that are starved of oxygen are unable to perform their functions in attacking the pathogens that enter the body. These cells usually include

the phagocytes that require ATP to move towards the pathogen and trigger the process of conformational change to engulf the foreign particle. Insufficient oxygen hampers cellular respiration and thereby, ATP to control this process.

Activated stabilized oxygen provides a rich supply of oxygen that helps to improve the condition of the blood cells and the body's circulation.

Industrial and Commercial uses of ASO

Activated stabilized oxygen is not only a powerful medium for health benefits but also a natural purification agent for several industries including agriculture, food processing etc. Being a powerful oxidizer that looks like water in its appearance and chemical properties, activated stabilized oxygen is a versatile in its applications in industrial and commercial use.

The diverse applications of activated stabilized oxygen prove its versatility in various areas of industrial and commercial use:

- ↪ Inhibition of microbial growth for example the befouling of water circuits and at the same time encouragement of microbial growth for example in bioremediation of soils and contaminated ground water.
- ↪ Treatment of easily oxidizable pollutants such as iron and sulfides, and at the same time difficult to oxidize pollutants such as gasoline, pesticides and other industrial solvents.

Activated stabilized oxygen can be used for such diverse applications because of its flexibility of oxidizing potential. ASO just requires adjustments in the reaction parameters such as pH, temperature, and time to be able to oxidize one pollutant over another.

Apart from its uses in pollution, additional industrial uses of activated stabilized oxygen include:

- ↪ Bleaching of textile and paper products.
- ↪ Manufacturing and Food processing.
- ↪ Use in consumer products such as detergents.

- ↪ Petrochemical and oil refining Industries
- ↪ Site remediation
- ↪ Landfills
- ↪ Potable water
- ↪ Hazardous wastes
- ↪ Power production
- ↪ Animal health enhancement
- ↪ Composting
- ↪ Municipal or agricultural wastewater



The usefulness of activated stabilized oxygen in a wide variety of industrial and chemical applications has now started to be acknowledged. It is projected that its application in wastewater contamination and treatment may take over the commonly used compounds of chlorine dioxide and hydrogen peroxide.

Emphasize Health Benefits Of ASO

Bactericide, Fungicide and Anti-Viral

Activated stabilized oxygen is useful in disrupting the cell envelope and eventually destroying them as explained before. The reactive nature of this type of oxygen readily oxidizes the lipids on the bacteria through the oxidation of phospholipids and lipoproteins. In the cases of viruses, oxygen can be useful in destroying the viral capsid, which interferes with the reproductive cycle of these pathogens with oxidation.

According to Dr. Joseph Montecalvo, Jr., Ph.D., at Central Coast Consulting, there is strong evidence to support the disinfectant nature of oxygen. The results of his research showed that using products that caused oxygenation could reduce molds on powder by as much as 90%. Therefore, oxygen stabilized oxygen's worth as a sanitizing agent is now being researched and popularized.

Increase oxygen saturation levels

Activated stabilized oxygen helps in raising the blood oxygen saturation for optimal function of circulation in the body. The PaO₂, also called the blood oxygen saturation was found in a study to have increased in the arterial blood following the intake of activated stabilized oxygen.

Methods

The study comprised of three healthy males, who were tested before and after consuming activated stabilized oxygen orally, extending over a period of 240 minutes. The dosage amounted to about 6 ml or 0.2 ounces of activated stabilized oxygen per person.

Results

The significance of activated stabilized oxygen in improving the oxygen saturation levels was graphically analyzed using the graphs of partial pressure of oxygen. It was found that every patient's graph of partial pressure showed stability prior to consuming activated stabilized oxygen, however; the graphs climbed up immediately after consumption. The results indicated that the partial pressure of oxygen peaked 90 to 120 minutes after consumption, eventually dropping with time.

Apart from this study, there are some common findings based on the role of activated stabilized oxygen and the improvement in the cardiovascular functioning:

- ↪ The free oxygen in ASO showed a positive effect of reducing systolic and diastolic blood pressure.
- ↪ ASO lead to capillary dilation and thus more blood flow to the tissues for oxygen and nutrients.
- ↪ These changes lead to greater metabolic efficiency that enhance the quality of life.

Lower blood pressure

The use of activated stabilized oxygen helps in lowering the blood pressure to its optimum levels because of its direct impact on the saturation of blood with oxygen and the improvement in the volume of oxygen inhaled per breath. The use of oxygen helps in stabilizing the cardiovascular system as a whole, which includes improved breathing, blood saturation with oxygen and improved circulation.

Therefore, the use of activated stabilized oxygen reduces blood pressure to normal levels and prevents the development of various cardiovascular diseases by decreasing the workload of the heart.

ASO - More Effective At Treating Conditions

It is quite evident by now that oxygen gives the body an overall boost towards healthy cellular processes that improves the metabolic functions.

Summarizing the core potential of oxygen in maintaining a healthy body:

- ↪ Strengthening of the immune system by being destructive to the pathogens.
- ↪ Improved metabolic activities including the metabolisms of poison that we breathe in thus overcoming their effect.
- ↪ Efficient absorption and thus utilization of nutrients in the body due to excellent circulation that leads to healthy cell metabolism.



Activated stabilized oxygen has now been under tremendous, high-quality research. Therefore, there is enough scientific evidence that includes the testimony of scientists and health professionals for the benefits of the use of ASO as a more efficient method of oxygen therapy. ASO is in a dissolved liquid supplement form, which can be taken orally and absorbed either directly to the plasma via the stomach lining or sublingually into the blood stream.

This easy mode of delivery allows for a better and long lasting effect of oxygen in the body. Other common products of oxygen therapy utilize compounds such as sodium chlorite and oxychlorine that produce higher pH values of about 10 as compared to the neutral pH of seven of ASO. Furthermore, the release and absorption of oxygen from these products involves the triggering of the body to release hydrochloric acid to neutralize these compounds. This releases a diatomic oxygen molecule that can be absorbed in the blood stream.

In a nutshell, ASO comprises of a bioavailable oxygen and is independent of the digestive processes to absorb and take advantage of the oxygen in the body. As compared to other products, ASO need not be diluted in water and can be easily taken sublingually. It is not only the safest and easiest way of oxygen therapy but also the best-researched and cost effective method for you to start believing in the wonders that oxygen can do for you.

There is an all-natural solution that contains the highest amount of ASO, which would enable you to flood your body with life-giving oxygen, and it is called NutriO2.

NutriO2 grants you massive healing and boosts your immune system by radically increasing the level of oxygen in your body, without any nasty side effects, or hit or miss results. NutriO2 is the safest, most cost effective alternative to expensive oxygen therapies like hyperbaric oxygen therapy.

With NutriO2, there is no need for complicated, costly equipment. Unlike other "oxygenating" products available in the market, NutriO2 does not rely on "Acid Release", and works independent of the digestive processes in your stomach. Its all-natural formulation works even without the aid of your stomach acids to release oxygen into your system.

What can you expect from NutriO2?

While the results may vary, you'll probably notice a change in your body on the very first day. You'll realize that your mind has become clearer, and you have more attention to focus on things. Your body will no longer be struggling for oxygen to do what it needs to do, so you'll feel the extra energy afforded by the increased levels of oxygen in your body.

But it won't be the hyper, caffeine-induced buzz that you get from coffee or sodas. It's a calm, cool energy, a heightened endurance that will get you through the day with ease. Say goodbye to the dreaded 2 PM caffeine crash.

And when you're ready for bed, you'll have the deepest sleep you've had in a long time. You'll wake up the next day feeling sharper than before, as if your body just got the rest it's needed for years. Imagine waking up every day feeling focused, alert, and ready to take on the world and whatever life throws at you.

You don't have to imagine any of it.

[Click here to give NutriO2 a try.](#) Give your body what it so desperately needs right now, and start living life to the fullest.

As of today, there are very limited quantities of NutriO2 left as demand for it has surged recently. You might not even be able to secure a bottle for yourself.

Check and see if you can still grab any here.

<http://www.nutrio2.com/go/>

Kevin Richardson