

# Bob Beck's Legacy

## OZONE FOR HEALTH

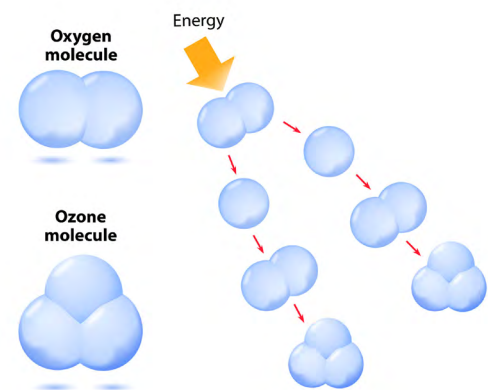
**Oxygen is absolutely essential** for life ... and getting enough oxygen is essential for health. Today, especially with air pollution in larger centers, we may struggle to get enough oxygen as the level in our air and water is less than the days when more of us lived on family farms or small villages. In addition, water that is stagnant and stored for urban consumption has less oxygen than a clear running brook or a well that taps into an underground spring. With the cycle of nature, trees and all plants are a key source for oxygen. They absorb carbon dioxide ( $\text{CO}_2$ )—one source comes from our outgoing breath—and in return the plants convert it to oxygen ( $\text{O}_2$ ) for us. This means it is important to have enough trees or living plants to use  $\text{CO}_2$  and give us  $\text{O}_2$ . Declining vegetation as a result of deforestation means less oxygen is produced.

Oxygen is great as a “pick-me-up.” Oxygen booths, springing up in large cities and airport terminals, are proving to be a quick way to rejuvenate the weary worker or traveler.

## OZONE IN AIR

**In the upper atmosphere**, ultraviolet rays from the sun bombard oxygen to produce ozone—a richer form of oxygen. A molecule of oxygen in the air has two atoms of oxygen ( $\text{O}_2$ ) while ozone has three atoms of oxygen ( $\text{O}_3$ ). Ozone is heavier than air so it falls to earth. Ozone is more noticeable at the seashore and in the mountains as it gives the air a wonderfully fresh smell. Lightning also produces ozone resulting in the air feeling and smelling fresh after a storm. Nature nurtures us with ozone.

Why then is ozone targeted as bad in reports of city smog? The problem is that smog levels are reported in terms of ozone levels rather than reporting the levels of pollutants in the air. Carbon monoxide, for example, is present in smog in much higher quantities than ozone, and would be a good indicator for smog or air pollution. Ozone is present in smog as it is nature's way of trying to clean the air. Smog is an irritant and causes considerable risk to individuals with respiratory problems. Evidence suggests it is the pollutants, rather than ozone, that are the greatest irritants.



## RESEARCH ON OZONE AND LUNGS

**In the 1980s**, Merlin Wolf, a chemist, was conducting experiments for the food industry. He experimented with an air purifier that emitted both ions and ozone. He found it was excellent for killing microorganisms that infect fruit and vegetables. He was concerned, however, about adding ozone to the air in the packing houses because of reported toxicity to humans—especially to lungs.

He decided to run a test:

*I chose to run some toxicity studies using lab mice as my subjects. For openers, I decided on a maximum exposure to a mouse in a small cage with the machine at 100% power setting. In fact, I was so convinced that the animal could not survive such an extreme test, that I deliberately chose a severely diseased mouse that didn't have long to live anyway.*

*The mouse received a total of sixty continuous hours of undiluted exposure to this (ozonic) air from the electron generating machine.<sup>1</sup>*

The mouse didn't die ... instead it was healed! With such an intriguing result, he delved into reading research studies about ozone. He discovered there was a difference in the reports.

Ozone produced from high voltage devices using pure oxygen did not report the toxic effects. Toxic reports came from the use of high voltage devices producing ozone from ambient air. The difference was the purity of the output of ozone as it was now mixed with oxides of nitrogen, which are toxic.

(Note that most ambient air water ozonators are not 'high output' units so they do not create oxides of nitrogen under normal operating conditions.<sup>2</sup>)

Wolf's further experiments using mice revealed that mice exposed to pure ozone, *"experienced initial breathing discomfort, but soon adjusted to the new environment and survived an exposure of one hour without ill effect."*<sup>1</sup>

Research in Cuba backs up Wolf's results. The Cuban research reveals that when the animals inhaled a low dose of ozone during long periods of time, their bodies increased specific enzymes—enzymes that allow increased oxygen in the form of ozone without damage to the lungs.<sup>3</sup>

(Please note we do not support research on animals unless the animals are already suffering and they can be helped with the application of a therapy.)

The key for ozone to be healing, even in air, may be gradual exposure to pure ozone. When ozonating water for drinking, we are wisely warned not to breathe the ozone directly so as not to risk respiratory irritation.



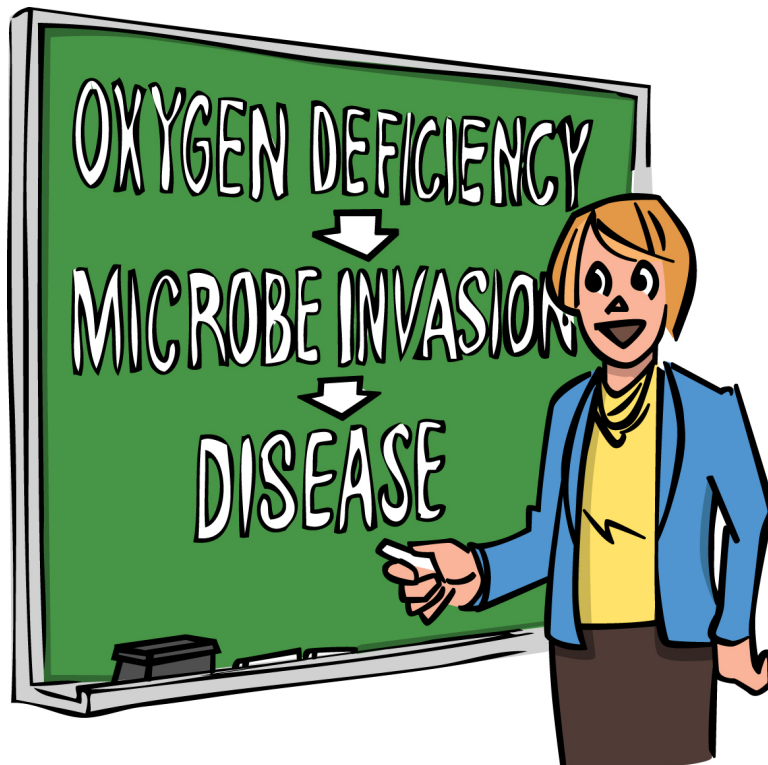
## MEDICAL USE OF OXYGEN AND OZONE

**Recovery from strokes** and surgery is accelerated using oxygen. With the administration of extra oxygen, researchers report reduced infections, as well as the absence of nausea and vomiting, after surgery. One research study ended after 500 of the planned 1,000 patients were enrolled. It was stopped because the administration of oxygen was so effective, the researchers didn't "want to withhold that treatment from people who might benefit from it." The researcher said, "I can't think of any reason why [physicians] wouldn't provide supplemental oxygen."<sup>4</sup>

Recovery from strokes and brain injury does not usually focus on actual repair of brain tissue. Research indicates, however, that this is possible using hyperbaric oxygen (HBO), a treatment that delivers oxygen under high pressure. Chronic, stable brain damaged patients demonstrated improved walking, speech, bladder control, bowel function, vision and hearing after two months of daily treatments. Chronic fatigue was also alleviated. The researchers added a comment to encourage combining the use of pulsed magnetic fields with increased oxygen:

*Pulsed electromagnetic therapy (PEMF) combines well with hyperbaric oxygen because it helps the damaged brain tissues use its renewed supply of oxygen for metabolic function and regrowth. ... Studies have shown a doubling of the rate of nerve healing with the use of PEMF.<sup>5</sup>*

Ozone, as a method to increase oxygen, is a popular medical therapy in Cuba as well as many European and South American countries. Researchers and the medical profession in Cuba have been using ozone for medical purposes since 1972. Their research reports healing is accelerated for many conditions including eye conditions, diabetic ulcers, and dementia.<sup>6</sup>



Ozone used medically is produced using pure oxygen and is usually infused into blood. The use of ozone in medicine continues to be limited in Canada and the USA as a result of the dominance of the pharmaceutical industry. Prescription drugs gained an early dominance over medical practices in these two countries, as compared with other countries.<sup>7</sup>

Here is another interesting application for medical grade ozone. The headline reads, "Dentists hail the end of fillings." Wouldn't

that be welcome! The BBC news reported on a new dental procedure in the UK: *“The procedure consists of a rubber cap fitted to the tooth. Ozone gas is then applied to the tooth through an airtight seal created by the cap.”* The ozone eliminates all bacteria from the cavity. The result? *“The painless procedure allows saliva to strengthen damaged teeth naturally.”* The dentist speaking for the nationwide chain of dental clinics using the procedure said:

*In time, I believe Ozone will completely replace the traditional tools of dentistry when it comes to treating decay and in doing so will eliminate the ‘fear factor’ the public associate with a visit to the dentist.<sup>8</sup>*

Pets are gaining benefit in an indirect way from the use of ozone. Veterinary science has turned to the use of ozone to sterilize blankets and cloths used for sick animals. *“The resulting ozone is 3,200 times more powerful than chlorine bleach.”<sup>9</sup>*

The research of Otto Warburg in Germany reminds us of the importance of getting oxygen to the cells of our body. He won the Nobel Prize for Physiology and Medicine in 1931 when he discovered that a lack of oxygen causes cancer. If our cells get enough oxygen, they readily create energy and thrive. If they don't, they are forced to switch to an inferior system to produce energy—a fermentation process that eventually leads to cancer. He warned it was useless to search for cancer-causing substances or germs as this obscures the fact it is a lack of oxygen. Germs and parasites cannot multiply in our bodies if we have a rich enough supply of oxygen. Dr. Warburg's work tells us the cells are better able to defend themselves from invaders when a rich supply of oxygen is available.<sup>10</sup>



Chronic diseases are rampant today. Established medical procedures fall short in dealing with long-term health challenges or what are known as chronic diseases. Frank Shallenberger, a medical doctor who uses ozone extensively in his clinic, passes along research about a body process that is critical to alleviating chronic disease. This research has revealed that the ratio of two compounds used by the body is crucial to health. For simplicity sake we will simply use the initials that describe the two compounds. They are NADH and NAD. When NADH is converted to NAD in the correct ratio, the body is healthier and better able to heal. The good news is that two of the factors that help keep these two compounds in a healthy ratio are exercise and ... you guessed it, ozone.<sup>11</sup>

Dr. Shallenberger also explains that our body's ability to slow the aging process depends on the ability of our cells *“to convert the energy that is trapped in the oxygen molecule to energy that can be used.”<sup>12</sup>* Oxygen is a powerhouse.

Ozone as a therapy adds extra oxygen to the body to assist the chemical processes that give our cells the ability to uptake oxygen. Then, once absorbed, ozone enhances the cell's ability to convert the oxygen to the energy we need. Ozone offers a double whammy—extra power to enhance our body's absolutely essential ability to use oxygen while also providing *more* oxygen.



## THE BODY PRODUCES OZONE

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**And, ozone is natural** to our bodies! Researchers at the Scripps Institute in California discovered that our immune system produces ozone as one method of protection. They explain how ozone is a weapon to help protect us from bacteria and fungi. The ozone *“can destroy bacteria by poking holes in their cell walls.”* The report continues:

*... the presence of ozone in the human body may be linked to inflammation, and therefore this work may have tremendous ramifications for treating inflammatory diseases.<sup>13</sup>*

Oxygen and ozone help to quell inflammation.

## THE FREE RADICAL PROCESS

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**Everything in and around us** is made up of atoms. Atoms have one or more electrons in orbit around a nucleus. The disease and aging process can be explained in terms of the electrons spinning around the nucleus. If an electron is unpaired or on its own (known as a 'singlet') it is keen to pair up so it scavenges, robs or grabs an electron from another atom. These atoms with a singlet electron are called *free radicals*. Normally, cells break down nutrients slowly to release small amounts of energy at a time, so free radicals are not over abundant and protect us. This action can be damaging, however, when free radicals are produced in excess. Inflammation is one process that heightens free radical production. Inflammation often goes unnoticed and is caused by a lack of nutrient-rich food, environmental pollutants, too much emotional and mental stress, excessive exercise and wounds.

Antioxidants, such as vitamin C, are known to satisfy free radicals by contributing electrons. Microcurrent therapies also contribute electrons to help control the free radical process. In addition, ozone helps satisfy free radicals by supporting the enzyme systems that control the free radical process.<sup>14,15</sup> With a process that is called 'antioxidant,' it seems odd that it is actually more oxygen that is needed.

Dr. Frank Shallenberger's clinical research indicates that insufficient oxygen is the problem when excess free radicals are produced. He brings fresh insights into the role of free radicals, *“... there is nothing as biologically important to life itself as an adequate supply of oxidants, including free radicals.”* While free radicals have a reputation for creating havoc or damaging tissue, it is not simply the excess of free radicals that is the problem. Shallenberger explains the problem is a result of a deficiency of the buffers—referred to as antioxidants—that creates disease. Shallenberger continues that the key is providing the body with therapies that stimulate *“an increased synthesis of antioxidant buffering enzymes.”* Medical ozone therapy, in the correct dose and correctly applied, does exactly that. Ozone actually stimulates the production of buffering enzymes needed to keep the essential free radical process in balance.<sup>12</sup>

Each molecule of oxygen stores the energy that powers our bodies. Ozone boosts the processes that allow our cells to uptake the oxygen and then release the energy to power the processes that keep us healthy.

As long as the body gets sufficient exercise, a healthy diet, a regular dose of humor, and is not overloaded with stress, it knows how to control the free radical process. Getting sufficient exercise in fresh air and deep breathing are two ways to increase intake of oxygen. Drinking ozonated water is another way.

## OZONATING WATER

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**It is encouraging to** realize ozone is used instead of harsher chemicals to sterilize water and for medical purposes:

**Water Sterilization:** Ozone is used extensively to sterilize water—city water systems, pools and bottled water. After ozone has done its work, it reverts back to stable oxygen (O<sub>2</sub>) and does not leave any harmful residues.

Laboratory tests to sterilize water with a unit designed to freshly ozonate water for drinking and that operates from ambient air, indicated the unit killed seven virulent pathogens.<sup>16</sup>

There is a difference between sterilizing and purifying water. Ozone sterilizes water as it kills pathogens—bacteria and viruses. To purify water, particulate matter such as heavy metals must also be removed. It is necessary to filter water in order to purify it.

To sterilize water, the length of time needed varies according to the degree of contamination and the volume of water.

**Medical Uses:** Many dentists use ozonated water to disinfect the mouth and help stop bleeding. Medical research in Cuba reports that drinking ozonated water was effective for a majority of the subjects to heal duodenal ulcers. In another study in Cuba, it was effective in helping the subjects get rid of the pathogen, *Giardia lamblia*. The researchers reported:

*Ozone's easy availability and low cost, as well as its great effectiveness in the treatment of Giardia lamblia permit its recommendation to be used on a greater scale and to substitute it for conventional treatments used to treat Giardia.*<sup>17</sup>

Research in Germany shows improvements to medical conditions of the teeth, stomach, bladder and intestinal tract simply by rinsing the mouth thoroughly on a daily basis with ozonated water. For these applications, medical grade ozone units were used as well as purified water.<sup>18</sup>

A research study in Switzerland proved ozonated water accelerated wound healing after dental surgery. In more technical terms, the researchers reported:

*The application of ozonized water clearly showed an acceleration of wound healing within the first 48 hours, resulting in earlier epithelial wound closure after 7 days.<sup>19</sup>*

Dr. H.E. Sartori, the author of *Ozone, The Eternal Purifier of the Earth and Cleanser of all Living Beings*, reports: “Ozone, the most powerful electron-donor therapy, has highly effective applications in the field of skin care and general dermatology.” He reports benefits using ‘ultrapure water’ plus ozone for burns, skin conditions and pain relief.<sup>20</sup>

## OZONATING WATER AND THE BECK PROTOCOL

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**Bob Beck** was rejecting ozone as a way to help clear toxins from the body as he was concerned about the safety to the lungs. After discussions with Ed McCabe, author of *Flood Your Body with Oxygen*, Bob realized adding ozone to water before drinking would be a safe way to ingest ozone. He then promptly added drinking freshly ozonated water to the program that became known as the Beck Protocol. He knew the extra oxygen would help flush toxins from the body. Many people report feeling more alert after drinking ozonated water. This is understandable when one realizes the brain uses 20% of the body’s oxygen.

Once we provide our bodies with more oxygen, in order for the body to efficiently transport oxygen into the cells, essential fatty acids (EFAs) are needed. Food sources particularly rich in EFAs are raw seeds and nuts, as well as seafood.<sup>21, 22</sup>

## SUMMING UP

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**It was important** to Bob Beck that he be able to measure results. He describes the equipment he used to measure the increase of oxygen in the blood after drinking freshly ozonated water:

*We have meters which will tell you exactly how much percentage of oxygen you have in your body. ... They clip on a fingertip and spectroscopically analyze the hemoglobin. It will read out the percentage of oxygen which you actually have. Doctors use these in the hospitals before they anaesthetize some patients.*

We enjoy the wonderful restored feeling from a breath of fresh air rich in ozone at the seashore or after a storm. Ozone is also produced naturally by our bodies. In many countries of the world, the application of ozone is a mainstream medical treatment as a way to get the healing power of oxygen to help restore healthy body functions. Oxygen and ozone are our friends ... vital friends.

Drinking freshly ozonated water is a simple way to increase oxygen in the body and help flush toxins.

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