



Ozone: Good or Bad

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ozone and hydrogen peroxide serve as antioxidant therapies in patients with fibromyalgia and CFS

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Some amazing things happen when three atoms of oxygen dance together, like three little girls holding each other's hands in ring-around-the-rosie. Those familiar with Italian art may see that as the three muses in Botticelli's Primavera. Oxygen atoms dancing in threesomes (ozone in common language) have the potential of both seriously threatening human health as well as saving lives of the very sick. Such is the mystery of oxygen in a ring-around-the-rosie!

Ozone is a good player. Ozone is a bad player. I read articles published by public health officials warning readers about the dangers of rising levels of ozone in smog. They write about ozone toxicity and consider it as one of the important factors in the rising incidence of lung disorders, including asthma, in polluted cities. That makes ozone bad. Then I hear scientists on TV forecasting doom because there is not enough ozone up in the sky. They show maps of gaping holes in the ozone layer. They teach us that ozone in the sky protects us from cancer-causing ultraviolet rays in sunlight, and that we get skin cancer when holes in the ozone layer fail to block those rays. That makes ozone a good player. **Many people do not seem to realize that ozone in pure form and ozone mixed with pollutants behave differently.** (Furthermore, the ozone layer in the stratosphere has a different impact on humans than are on a beach.)

Ozone is an oxidant. Ozone is an antioxidant. "Of course, ozone is an oxidant. That's basic chemistry," the chemists chime, in supporting drug doctors. "Don't those quacks who inject ozone into the blood understand something that simple? Doesn't everyone know we need antioxidants such as vitamin C and E to protect our tissues from oxidative injury? Don't they know anything about science?" That shows ozone is an oxidant. "Yes, ozone is an oxidant in a test tube," the ozone therapists refuse to yield. "The point is that ozone works for the chronically ill, whether it is oxidant or antioxidant." So the proponents of ozone therapy are steadfast in their defense of the empirical value of their chosen therapy.

For several years, I sided with the chemists on the above issue. How could I reject established chemistry? So I stayed clear of ozone and hydrogen peroxide therapies. But then I conducted some other experiments and, **to my great surprise, found that ozone and hydrogen peroxide serve as antioxidant therapies in patients with fibromyalgia and CFS**, even though both substances are potent oxidants in a test tube. This phenomenon thus demonstrates another aspect of the amazing dual roles of oxygen. In 1998, I published my observations about the apparent paradox of an in vitro (in the laboratory) oxidant serving as a powerful in vivo (in the body) antioxidant therapy in fibromyalgia and chronic fatigue syndrome in *The Journal of Integrative Medicine*.¹² The abstract of that paper is included in the appendix of this book, and the full article is included in the companion volume, *Canary Three: Fibromyalgia Is an Oxidative-Dysoxygenative Disorder (ODD)*.

Ozone is a dangerous gas. Ozone is a safe gas. I see most mainstream doctors cringe when they hear about intravenous injections of ozone. They imagine patients collapsing with strokes as bubbles of the gas block small blood vessels in their brains. "How can anyone can be that stupid to inject a toxic gas straight into the blood of a living person?," they ask with indignation. That makes ozone a dangerous gas. "Ozone is safe," ozone therapists counter. "Why don't those closed-minded drug doctors simply talk to patients who receive ozone therapy? They will find out that no one keels over after an ozone infusion." That makes ozone a safe gas to inject.

Years ago, I was curious about that controversy. So I thought of a simple experiment and conducted it several times. Immediately after injecting ozone into a vein, I pulled on the plunger of the syringe. What I got back was bright red ozonated blood, not dark vein blood with gas bubbles trapped in it. I found out that ozone diffuses rapidly into the blood and cannot lead to gas bubbles trapped in blood vessels in the brain, or for that matter anywhere else.

Ozone is a useless therapy. Ozone is a valuable therapy. "There is no known scientific evidence that ozone works for anything. If there were any evidence, why wouldn't The New England Journal of Medicine publish such evidence?," the drugs doctors tell their patients. That makes ozone therapy quackery. "The scientific evidence of efficacy is not known to you because you are ignorant of holistic literature," the ozone therapists respond with sarcasm. "There are hundreds of published papers that demonstrate the many clinical benefits of ozone therapies. Why don't you read those papers?" That makes ozone useful.

My personal experience supports ozone therapists. Ozone gives me positive results in the majority of the patients for whom I use that therapy.

Ozone is a toxic free radical. Ozone enhances tissue oxygenation. "Ozone is a powerful free radical," the professors teach medical students. "Free radicals lacerate every living thing in their way. Why would anyone ever damage circulating blood by putting into it a powerful free radical such as ozone? How can twenty, thirty or fifty milliliters of ozone improve oxygen supply to tissues that receive 5,000 or so milliliters of blood every minute?," they ask with patronizing smiles. That makes ozone a sharp dagger. "Silly professor stuff!," the ozone therapists hit back. **"Why don't those professors simply try it and find for themselves whether or not ozone works?"** Why don't they get off their high horses and for once do some honest work? Ozone works. We know that. Our patients know that. Those professors can do that as well if only they were serious enough to test ozone therapy." That makes ozone an oxygenator.

Many, but not all, of my patients tell me that ozone therapy lifts their brain fog and they can think clearly. Of course, ozone alone does not cure anything. This is one of the explanations of the paradox of oxidant ozone serving as antioxidant therapy. By improving tissue oxygenation, ozone diminishes oxidosis.

Ozone tightens arteries. Ozone opens up arteries. "Ozone is an irritant, and irritants cause arteries to tighten up, not open up," the academics weigh in the debate. That makes ozone a vasoconstrictor. "Nonsense!" cry out ozone therapists in rebuttal. "Ozone commonly creates a flush effect if given rapidly. That indicates opening up of blood vessels, and not tightening them up." That makes ozone a vasodilator. Many of my patients report a desirable sense of warmth in their tissues after ozone therapy. This is another explanation of the paradox of oxidant ozone serving as antioxidant therapy. By improving tissue blood supply, ozone counters anoxia and oxidosis.

Ozone is useless for viral infections. Ozone is an effective antiviral therapy. "Ozone may have some antiviral activity in a test tube, but it has not been proven effective clinically," the drug doctors argue. When using that argument, they seem not to be troubled by the fact that they reverse themselves and speak against their laboratory findings. Taken at its face value, that makes ozone useless for viral infections. "Come and we will show you falling viral counts after ozone therapy," the ozone folks challenge. That makes ozone an effective antiviral agent. Of course, drug doctors consider it beneath their dignity to study the clinical histories of patients of ozone therapists.

I see significant drops in the viral counts of my patients with HIV and hepatitis infections after treatment with ozone and/or hydrogen peroxide infusions. This is yet another explanation of the paradox of oxidant ozone serving as antioxidant therapy. Viruses cause cellular injury by causing oxidative cell membrane injury. By reducing the viral load, ozone counters oxidosis.

Ozone is worthless for wounds. Ozone is good for wound healing. Ozone is ineffective for severe immune disorders. Ozone is beneficial in treatment of such disorders, including lupus, multiple sclerosis, vasculitis, and others. Ozone is voodoo treatment for cancer. Ozone is a good therapy to include in a program for controlling cancer. Those controversies have raged for decades.

My view of those debates is this: The academics are right in pure theory. The ozone therapists are right in empirical observations. The trick, of course, is to figure out how oxygen in a ring-around-the-rosie does so many seemingly contradictory things. Ozone rapidly turns into hydrogen peroxide which, in turn, brings to life (turns on) many antioxidant enzyme systems.²⁰⁻²² So it is that what I write above for ozone is also true of hydrogen peroxide. Again, I refer the advanced and professional readers to my in-depth discussion of the paradoxical effects of ozone and hydrogen peroxide in **Canary Three: Fibromyalgia Is an Oxidative-Dysoxygenative Disorder (ODD)**.