

## Ozone Therapy

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Ozone is a powerful sterilizer that destroys bacteria, viruses, and Odors. When contaminants such as bacteria or viruses make contact with ozone, it breaks down cell walls, thus destroying bacteria in a process is called oxidation. To clean water, promoting its potent microbicidal action Ozone was successfully used to treat chronic wounds, ulcers, infected wounds. (Stubinger et al., 2006)

Ozone is relatively safe if used correctly. Extended exposure to very elevated levels of ozone can cause irritation to the lungs. Ozone is a great disinfectant used for livestock water tanks, cattle embryo transfer (ETT), swimming pools, spas and the water treatment systems of over 2,000 municipalities around the world

### Mechanism of action

- 1. Decreasing Inflammation:** This increase of carbon dioxide contributes to inflammation and pain. Increasing the amount of oxygen delivered to the tissue in the form of reactive ozone decreases inflammation, pain and swelling, and helps increase healing.
- 2. Activating the Immune System:** Ozone therapy has also been shown to activate the immune system by stimulating Cytokine production. Cytokines are “messenger cells”.
- 3. Inactivating bacteria, viruses, fungi, yeast and protozoa:** Healthy cells are surrounded by an enzyme coating, which ozone does not penetrate, but bacteria and viruses have no such coatings. Ozone therapy disrupts the integrity of the bacterial cell envelope through oxidation of the phospholipids and lipoproteins (peroxidation). In viruses, this peroxidation disrupts the reproductive cycle and damages the viral capsid. In fungi, ozone inhibits cell growth

### Properties

1. Ozone is a potent regulator of the immune system
2. Ozone stimulates increased uptake and utilization of oxygen
3. Ozone increases the efficiency of the body’s antioxidant enzyme system

4. Ozone improves circulation
5. Ozone is anti-inflammatory
6. Ozone is anti-microbial

### **Therapeutic use**

1. Skin – wounds, especially degloving ones and deep abrasions; hot spots; pyodermas; allergic dermatitis; abscesses
2. Pain relief
3. Head trauma, spinal cord inflammation–ozone and oxygen go through the blood/brain barrier so it is an excellent way to aid treatment of any neurological issue
4. Mouth–stomatitis, gingivitis, abscesses;
5. Cancer and autoimmune problems
6. Ears – chronic and acute otitis from bacteria or yeast; aural hematomas
7. Eyes – infections and allergic reactions
8. Upper respiratory ailments
9. Potentiates acupuncture, homeopathy and chiropractic treatments as it brings more needed oxygen to the body
10. GI tract – constipation, diarrhea, IBS
11. Equine infectious anemia
12. Musculoskeletal Injuries

### **Way of administration:**

1. Major or minor autohemotherapy (mixing ozone with blood and re-infusing)
2. Dissolved in IV fluid solutions (saline or distilled water)
3. Intestinal insufflations (rectal & vaginal)
4. Auricular insufflations
5. Limb bagging (Interdigital/Toe infections, wounds, pyoderma, Malassezia, tumor)
6. Topical exposure (ozonated olive oil)
7. Joint or subcutaneous injections (Prolozone)
8. After percolating ozone through olive oil it can be used in an incubator as an inhalant.
9. Ozone can also be percolated into saline fluids and use it for flushing (decreases inflammation and pain) wounds, ear, bladder, nose and mouth.
10. Prolotherapy (prolozone) injection is used for ailments of joints. In Human, studies have showed efficacy in pain relief for many conditions.
11. Biophotonic blood can also be used

### **References**

Stübinger S, Sader R, Filippi A. The use of ozone in dentistry and maxillofacial surgery: a review. *Quintessence Int.* 2006;37(5):353-359.

