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### **DENTAL OXYGEN/OZONE THERAPY INFORMATION**

Oxygen/ozone therapy in medicine has been used in the United States since 1885. Dental oxygen/ozone therapy involves the application of a mixture of oxygen and ozone in the form of a gas, emulsion, or water into the skin, mucous membranes, muscles, joints, jawbones, and teeth of the head, neck and associated structures. There are no additives, chemicals, or any other agents or elements in "ozone", it is strictly a combination of oxygen and ozone. Dental oxygen/ozone therapy is defined as the creation of a therapeutic oxygen rich environment, which induces a multi-factorial positive biochemical and physiologic change in the affected tissues. Dental oxygen/ozone therapy has the following dental relevant and useful properties: it kills bacteria, viruses, fungi and parasites. It is a wound-cleanser, an accelerant for wound healing, a hemostatic agent, and an immune activating agent. It increases circulation and oxygenation to the treatment area and creates an environment for the production of anti-oxidants. There may be other effects that at this time are unknown.

#### **GENERAL USE OF OZONE IN THIS OFFICE:**

As this office utilizes several forms of oxygen / ozone therapy, the various applications (gas, oil, water), are created within this facility and as such you may detect a mild odor at times. You should be aware that ozone should not be directly inhaled as, despite its numerous benefits, it has a known hazard to the lungs when inhaled in certain concentrations. The concentration of ozone that creates this mild odor is not toxic, it is a result of "free" ozone from the production of ozone gas (controlled) and ozonated water or oil. A comprehensible comparison could be to bleach or chlorine, which are likewise substances that are not toxic when properly controlled: When you use bleach as a cleaning / disinfecting agent, such as added to water for cleaning surfaces or laundry, you are able to smell the odor of bleach. Though offensive, this is not a toxic concentration. Similarly, chlorine is used to kill bacteria in swimming pools. When swimming, the odor of chlorine is often quite noticeable, but again, the odor is produced at an excessively low concentration and therefore not toxic. Unlike chemicals such as bleach and chlorine, ozone is not a chemical agent nor is it toxic or hazardous with the above noted exception. Review the content listed under "Applications" for more information about how inhalation is avoided.

Because of the immense benefits of ozonated water, we utilize a mixture of ozonated water and distilled non-ozonated water in some of our dental equipment that distributes water. This does not include water from our sinks. This mixed water is used during many routine dental procedures which require water to be sprayed from our "water syringe".

"I acknowledge that I am aware of the use of oxygen / ozone therapy in this office and have completely reviewed the information above."

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Patient Name

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Patient or Legal Guardian Signature

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Date

## **APPLICATIONS FOR DENTAL OXYGEN / OZONE THERAPY**

### **1. Injection**

Dental oxygen/ozone therapy involves the injection of a mixture of oxygen and ozone in the form of a gas, with or without local anesthetic, into the skin, mucous membranes, muscles, joints, jawbones, and teeth of the head, neck and associated structures. This therapy carries with it some risk of side effects, such as: pain and/or discomfort at the injection site, soreness and temporary bruising. There may be a red, inflamed, blister-type area at the injection site. This area usually heals in a 1-5 day time period. An allergic reaction to the mixture of oxygen/ozone would be unusual, and usually restricted to the injection site. The most common patient comment is that there is a warm to burning sensation at the site of the injection.

In Dr. Johnson's office, injections are used predominantly in the treatment of: failing root canals, abscesses, prior to a "re-do" of a root canal in hopes of avoiding such procedure, TMJ injury and / or chronic irritation or swelling of those tissues.

### **2. Ear Insufflation**

Dental oxygen/ozone therapy insufflations involves blowing the gas mixture into the ear canals using a device similar to the ear pieces of a stethoscope, however instead of receiving sound, this tool is administering the ozone. This application method is predominantly used to treat various TMJ conditions, sinus irritation and infections, and colds. Because the membranes in the ear canals are so receptive to absorption of agents into the blood stream, Ear Insufflation is an excellent method for aiding the immune system, oxygenating the blood, and addressing bacteria, viruses, fungi, and other harmful processes in the body; for dental maladies the indication is to further assist in treating dental infections. This therapy carries with it some risk of side effects, which may include minor skin irritation; the most common patient comment is a warming sensation in the ear canal during and shortly after the administration.

### **3. Ozonated Water**

Ozonated Water is used to flush oral irritations, including canker sores, after dental cleanings, and as a rinse for patients with periodontal disease. During root canals, when the canal is opened, it has been long dental practice to sterilize the canal with the use of bleach; we have replaced the use of bleach with ozonated water, which has the same advantages of sterilization without the possible toxicity of bleach. It is also used at the completion of endodontic (root canal) therapy in the form of a mixture of ozonated water and ozone gas. Dr. Johnson's paradigm aims to avoid the removal of tonsils and adenoids, and in cases where the recommendation for surgical removal has been made (due to enlargement and chronic swelling), ozonated water is provided for gargling to reduce inflammation and shrink the tonsils and/or adenoids in avoidance of the need for removal; this method has proven successful in most cases, however, it is ultimately up to the patient to make their own choice as to whether or not to pursue surgical removal.

### **4. Directed Ozone Gas**

Ozone gas is administered via a directed syringe (needle tip, non-injection) in the following procedures; high-volume suction is utilized to remove any excess ozone gas to avoid inhalation:

- a. Deep Cavities
- b. Primary Teeth: "Baby" teeth have shorter roots than adult teeth. Drilling too deeply to ensure removal of all decay almost always results in hitting the nerve. As an alternative to this, the decay is removed conservatively and ozone gas used to ensure any possible remaining decay is sterilized.
- c. Custom Trays: Laboratory fabricated custom-fit trays with portals for the gas to infiltrate the arch(es), are used for patients with periodontal disease and excessive or high rate recurrence of decay.

### **5. Ozone Emulsions**

Usually an olive oil base, which in itself carries numerous health benefits, ozone emulsions are used on cold sores and other irritations on the lips, swabbed subgingivally (below the gum line), and applied into the nostrils for indications of sinus infection.

### ***Risks And Other Relevant Information Related To Ozone***

There are potential side effects with all types of dental treatments, and all types of medications have some risk of allergic reactions. Likewise, dental oxygen/ozone therapy carries with it some risk of side effects. Known possible side effects have been listed in the Oxygen/Ozone Therapy Information sheet. Additional relevant information is listed here:

1. An allergic reaction to the mixture of oxygen/ozone would be unusual; some patients may experience flu-like symptoms which last on average 2-5 days following treatment.
2. Your disorder(s) may not respond to the treatment(s).
3. Any new treatment technique may produce unanticipated effects. All known effects to date have been explained in this document. If you experience any reaction not described in this document, please contact Dr. Bruce Johnson and/or his staff. The office phone number is: 818-248-7976

### ***Limitations of Treatment using Dental concentrations of Oxygen/Ozone for the Treatment of the Head, Neck, Face, TMJ, Teeth, and Associated Structures***

I understand that, as with any treatment, there is no guarantee that I will obtain satisfactory results. I may achieve no results, satisfactory results, or unsatisfactory results. If I am currently under the care of a physician or dentist for a known or unknown condition(s), it is my responsibility to inform all practitioners that are providing treatment(s) for my condition(s), of ALL other courses of treatment that I am receiving. I am aware Dr. Johnson advises that it is in my best interest to integrate all therapeutic modalities that are available to treat my health condition(s). I understand that Dr. Johnson is not my primary care physician. I understand that it is in my best interest to have a primary care physician for advising me in regard to any treatment(s) that I may choose to receive.