

Ozone Therapy (O₃)

OZONE IS A NATURALLY-OCCURRING GAS: Everyone is familiar with oxygen gas, and how vital it is for sustaining life. The air we breathe provides oxygen which is transferred into the blood within our lungs, where it is carried to all parts of the body and used by our cells for their metabolism (chemical reactions). Air is about 78% nitrogen gas and about 21% oxygen gas. Oxygen molecules in the air are composed of 2 atoms of oxygen (O₂). When ultraviolet light or electric sparks are applied to O₂, it causes the oxygen molecules to break up into single oxygen atoms, which spontaneously and rapidly combine back into O₂. However, some atoms combine into O₃ which is called ozone gas. Ozone gas is formed in the upper atmosphere of the earth due to ultraviolet light exposure from the sun. This ozone layer helps protect the earth from excessive UV light which can be harmful to animals and plants.

ozone is a more reactive form of oxygen than the oxygen we breathe (O₂)

- Ozone is created by UV light and by electrical arcs, but does not last long (breaks down into O + O₂ on its own in minutes → hours)
- Speed of ozone breakdown depends on temperature (slower breakdown with colder temp)
- Ozone has many effects in the body: increases oxygenation in tumours, directly kills cancer cells, kills bacteria/viruses/parasites, helps regulate the immune system, increases the function of the anti-oxidant system in the body and reduces the effects of aging.
- Ozone has been safely used in Europe and Russia for decades, and is approved by the Ministry of Health in Russia (but is still not accepted by Health Canada or FDA)
- Side effects are extremely low
- Can be administered in a high dose by direct injection under pressure into blood removed from the body, which is then re-transfused into the body (major autohemotherapy or "10 pass")
- Can be administered in a medium dose by dissolving in saline which is then infused by i.v.
- Can be administered into accessible tumours by direct injection
- Can be inflated into the bladder for bladder cancer therapy
- Can be inflated into the rectum, which then absorbs into the blood for colon and liver cancer.
- Can be mixed with a small amount of blood and injected into a muscle to stimulate the immune system (minor autohemotherapy)

OZONE CANNOT BE EASILY STORED: Ozone is an unstable gas with a half-life of about 40 minutes at room temperature. This means that after ozone gas is produced, only half remains after 40 minutes. After another 40 minutes, ¼ remains, and after another 40 minutes, 1/8 remains, and so on. Because of this, when ozone is needed for medical therapy, it must be created and used right away. It cannot be easily stored (at cold temperatures, it is possible to store it however). Ozone gas also has a distinct odour. In low concentrations, it can be described as a "fresh" smell, and in higher concentrations, it resembles a chlorine bleach odour, and should never be inhaled. (For lung issues, ozone is fused through olive oil, and breathing in the off gas, called ozonides.



Ozone Therapy (O₃) Continued

OZONE HAS BEEN EXTENSIVELY RESEARCHED:

Hundreds of peer-reviewed scientific publications demonstrate the effectiveness of ozone in treating many different diseases including cancer, autoimmune disease, inflammatory conditions, cardiovascular disease, endocrine disease, chronic pain and acute or chronic infections, as well as evidence showing it can slow down the aging process.

OZONE RESEARCH: There are many Medline-indexed publications dealing with ozone therapy dating back about 20 years. An extensive collection of ozone research can be found on **zotero.org**, a free online database used to collect and share research. Much of the publications on zotero originate in Russia or Europe where medical ozone has been used for decades.

- Cancer (improves immune system function and produces peroxides in the blood that kill cancer cells).
- Infections of all kinds (bacterial, viral, fungal and parasite), even Ebola virus, osteomyelitis and infected joint replacements.
- immune diseases like colitis, multiple sclerosis, rheumatoid arthritis (modulates the immune system).
- Osteoarthritis (eliminates pain and stimulates cartilage regeneration).
- Inflammatory conditions like bursitis, tendonitis, plantar fasciitis, carpal tunnel syndrome, enlarged prostate (BPH) by direct injection, back pain due to disc.
- Herniation, non-healing wounds related to poor blood flow or infection (e.g. diabetic foot ulcers).
- Limb salvage in cases that would normally require amputation (e.g. diabetes or vascular disease).
- Nerve injury (stimulates healing).
- Osteonecrosis of the jaw (death of the jaw bone) caused by bisphosphonate drugs or multiple myeloma, emphysema.

OZONE AND CHEMOTHERAPY: Current research indicates that ozone can be combined with chemotherapy to reduce side effects, and enhance the cancer cell kill at the same time. In many cancers, tumours contain low levels of oxygen due to rapid growth and resulting inadequate blood supply. The low oxygen (hypoxia) contributes to therapy resistance. Ozone improves oxygenation in tumours which helps overcome resistance. Also, ozone activates NRF2 and several other tumour suppressor proteins.

SAFETY: Ozone has been studied in humans and animals and found to be very safe. Some mild side effects could occur, and depend on the method of ozone administration.

Most people do not experience side effects, but feel nothing or even rapid improvement of energy level, mental clarity or visual clarity.

