

OZONE Therapy

Q.What is Ozone Therapy?

A. Using of Ozone and oxygen mixture for the benefits of human body is called Ozone therapy:

Ozone has been used in medical treatment since the early 1900's. It was legally used by medical professionals in the USA until the 1920-30's. Ozone has been in medical use for over a century. It is used in European countries like Germany, Italy, France, Russia, Latin American countries like Brazil, Mexico, Cuba, and also in Malaysia. Few states in USA have sanctioned the use of Ozone Therapy as an experimental therapy. Ozone therapy and its uses for Herniated disc treatment

Is Ozone therapy Safe?

Yes. It is Safe. In a 1980 study done by the German Medical Society for Ozone Therapy, 644 therapists were polled regarding their 384,775 patients, comprising a total of 5,579,238 ozone treatments administered.

There were only 40 cases of side effects noted out of this number that represents an incredibly low rate of 0.000007%, and only four fatalities. Ozone has thus proven to be the safest medical therapy ever devised and widely accepted all over world.

Q.What is your experience with in Ozone Therapy?

A: We have more than 90 centers all over the country. Ozone forum of India has members who are surgeons, orthopedic surgeons, gynecologists, physicians, GPs, ayurvedic practitioners, homeopaths, chest physicians, etc. We have got good results in osteo arthritis of knee joint, Parkinson's disease, pimples, diabetic foot, non healing wounds, fistulae, psoriasis, eczema, asthma, stroke, diabetes, cancer, etc. We have trained 160 doctors in Ozone therapy so far. Premier institutes like Bombay Hospital, Saifee Hospital, KEM hospital have started using Ozone therapy.

Bombay hospital has vast experience in using Ozone therapy for herniated disc. They have done more than 1500 cases of Ozone therapy in last 3 years. Doctor Kares hospital in Delhi has also done more than 2000 cases for the same. Dr. Das in Calcutta has been training doctors in Pain management and Ozone Nucleolysis. Ozone therapy has been successfully practiced by different doctors through out Bombay and other parts of India. Dr. Jasmine at Marine drive and Dr. Jignasha at Andheri are some of the practitioner who have shown good results with Ozone therapy and its uses in different diseases.

Cancer- We have seen good results with Ozone therapy as a supportive treatment at Lady Ratan Tata Institute for Radiation, Cooperage, where 83 patients were given Ozone therapy along with radiation therapy.

Ozone Therapy is given as a complementary therapy in addition to standard conventional treatment. It is a very good supportive treatment in Cancer Care. It produces its effects by immune activation. It reduces the side effects of the conventional methods and creates a sense of well being. It also reduces pain.

How does it help in Cancer patients?

- 1 Despite being a powerful oxidant, Ozone is able to stimulate the anti-oxidant defense system and therefore promoting a preconditioning effect or adaptability to oxidative stress.
- 2 Free radicals generated during radiation and chemotherapy

is effectively dealt with this stimulated anti-oxidant defense system.

3 Ozone stimulates synthesis of various cytokines. This leads to up regulation of immune system. Immune system remains in the alert state and helps enhance the effectiveness of other conventional treatments.

4 Liver activation by Ozone therapy improves enzyme function and detoxification.

5 In cancer there is loss of apoptosis. Free radicals generated by Ozone, induces apoptosis in cancer cells.

6 Ozone leads to new vessel formation inside the tumor, increasing oxygen supply. This leads to anaerobic cancer cell death.

7 It is a powerful germicidal agent; it helps fight the infections caused by decreased immunity.



Ozone Therapy in Cancer is a safe and painless supplemental therapy. It has to be taken for 20 sittings and followed by maintenance dose.

Osteoarthritis – We have seen good results with the treatment of Osteoarthritis in first and second grade. Parel Institute of Orthopedics at Parel, have conducted Ozone therapy trial and concluded that Ozone therapy is good in relieving Pain and it improves the Joint movements and reduces stiffness.

Causes of osteoarthritis:

● The cartilage in the joint wears away and tear along with Mediators of pain in Chronic inflammatory reaction

- Edema and inflammation leading to ischemia
- Collagenase and proteoglycanases secreted by activated chondrocytes and monocytes leading to matrix degeneration, softening and destruction of knee joint

Mode of administration:

Ozone therapy is given in the form of Injections under aseptic precautions around the knee (Peri articular Injections for about 10 to 15 sittings) and inside the knee joint (Intra articular for about 3 to 5 sittings)

Mechanism of action of Ozone:

- Proteolytic enzymes and endogenous ROS are inhibited
- Bradykinin and inflammatory PG release is inhibited
- Release of immunosuppressive cytokines TGF-beta and IL-10 may inhibit inflammation
- Disappearance of edema leads to improved circulation, washing away of lactic acid and relief in pain
- Ozone injections act as an analgesic
- Algal stimulation of skin can reduce pain through mechanism of Diffuse Noxious Inhibitory Control.

Ozone oil and its different products

In European countries, Ozonated olive oil has been applied topically to treat a variety of skin diseases, for disinfecting the lesions and promoting their healing. Ozonated olive oil is applied as a balm or salve for long-term, low-dose exposure. In Cuba, Ozonated sunflower oil is applied externally to treat a wide variety of skin problems. Ayurveda praises the properties of Tili Oil. It is easily available, widely acceptable and with inherent healing properties. That is why we in India have



selected Sesame (Til) Oil.

Ozonated Oil preparation:

Ozonated Oil is prepared by bubbling Ozone gas through any vegetable oil for varied length of time.

It is stable for 6 months at room temperature & for one year in refrigerator.

It has a peculiar smell and is viscous oil.

Ozonated Oil Indications:

General Indications	Indications for skin	Surgical Indications
Scrapes	Eczema	Diabetic foot
Bruises	Acne	Non healing wounds
Cuts	Herpes	Bed sores
Infected wounds	Fungal infection of nails	First & Second degree Burns
Bee stings	Athlete's foot	Prevention of scar formation
Insect bites	Chronic infections	Intractable fistulas
Rashes	Prurigo	Venous ulcers
Gingivitis	Wrinkles, freckles & aging of the skin	Vulvovaginitis
Fissures	Fibrotic scars & keloids	Hemorrhoids

How does it act?

Ozone attacks the lipids in the bacterial cell membrane forming variety of oxidants. These bacteria lack the anti oxidant defense enzymes and that is why they are destroyed.

Ozonated Oil is effective against most common disease producing bacteria, virus and fungi. It is also effective against organisms causing hospital acquired infections and multidrug resistant pathogens.

Thus it decreases the excretion of pus and also stimulates healing of the wound.

With these properties in consideration we have prepared lots of new products like Ozonated skin cream, Ozonil for pain relief, Ozonil for hair

They have been made with other natural ingredients. To facilitate Ozone's effect as enriched Oxygen.

How does Ozone work?



Increases and activates body's own antioxidants and radical scavengers

Despite being a powerful oxidant, Ozone is able to stimulate body's anti oxidant enzymes like glutathione, peroxidase, catalase, and superoxide dismutase. Thus it promotes preconditioning effect or adaptability to

oxidative stress. Normal human cells, having powerful anti oxidant enzymes, neutralize oxidants produced by Ozone and remain unaffected by therapeutic Ozone dose.

Lower life forms like bacteria, virus, fungi and parasites lack anti oxidant enzymes. Therefore, they just cannot survive in presence of powerful oxidant like Ozone, however much they try and mutate!! Ozone is one of the most powerful germicidal agents. This property of Ozone is used to treat infections.

Cancer cells are deficient in antioxidant enzymes just like other lower life forms and are unable to fight the Ozone onslaught. Therefore Ozone can be a powerful adjuvant in treating cancer.

When attack by internal as well as external oxidants (toxins) become too much for anti oxidant enzymes in the cell, it gives rise to chronic oxidative stress and diseases. Diabetes Mellitus, Rheumatoid arthritis are due to chronic oxidative stress. By

stimulating anti oxidant enzymes and mopping up excess oxidants, Ozone brings the body towards normal state.

Activates cellular metabolism

RBCs are the most abundant cells in the blood. They are Ozone's favorite target. To protect itself from oxidants from Ozone, a powerful anti oxidant enzyme system is stimulated in RBC. To support the increased functioning of this Anti-Oxidant Defense System, Glucose is metabolized. This causes increase in glucose uptake and decrease in blood glucose level. It is

beneficial in Diabetes Mellitus.

Increase in glucose metabolism in RBC leads to increase in a compound (2,3 DPG - which is an intermediate in glucose break-down process) causing more release of Oxygen at tissue level.

Ozone increases glucose metabolism and production of high energy compounds (ATP).

This energy is used to improve elasticity of the RBC cell membrane. Thus greatly improving circulation in microangiopathies.

Increase production of high energy compounds (ATP) following Ozone Therapy is responsible for rejuvenation and energetic feeling. It is an excellent therapy for not only old people but also for overstressed, tired young people.



Modulates the immune system

Ozone stimulates pro-inflammatory as well as anti inflammatory lymphocytes in a very controlled fashion. Thus maintaining immune system in an alert state, without any imbalance between activation and suppression. After Ozone

Therapy, activated lymphocytes home in several organs.

Activated lymphocytes, in lymphoid tissues and parenchymal micro-environment, stimulate entire immune system. This is very useful in fighting chronic infections and cancer.

Ozone induces production of PDGF, TGF-beta which helps in healing and repairs. This property is useful in treatment of chronic ulcers, bed sores, non-healing wounds, burns, etc.

Ozone, when comes in contact with inner lining of vessels (vascular endothelium) produces Nitric oxide; which causes relaxation of vessel walls, effecting dilatation of vessels. And improving circulation.

Stoppage of Ozone Therapy does not cause abrupt cessation in improvement which persists for 3-4 months corresponding to RBC life span. Therefore Ozone Therapy is repeated twice or thrice a year to treat chronic conditions.

In general its biological properties are
Wide spectrum germicidal properties
Improves Oxygen metabolism
Regulates Oxidative stress
Improves RBC rheology and microcirculation
Stimulates immunity
Promotes healing

Q: How is Ozone given?

A: Medication in a gaseous form is somewhat unusual, therefore special application techniques have to be developed for the safe use of ozone. We are used to pills and potions but medicine in the form gas has to be administered with precise concentration and volume.

External/Local Application:

Ozone water - as soaks or compresses, for oral ingestions mainly used for burns, peptic ulcers, sprains, Anti inflammatory

Ozonated oil - for acne, warts, burns, non healing wounds, eczemas fungal infections etc.

Ozone steam sauna for Rejuvenation, for better circulation.

Bagging the affected part/limb - a closed system using Ozone gas is fed into special plastic bags fitting various parts of the body. This method is highly effective in treating Diabetic ulcers, burns, eczema, herpes, etc.

Non invasive Ozone Application:

Ear insufflation for Sinusitis, sensory nerve hearing loss.

Rectal insufflation - Ozone is introduced inside the rectum using disposable plastic catheter. For local pathologies also, it is a very powerful tool for improving immunity.

Vaginal insufflation for female genital system

Invasive

Medical ozone is always prepared from pure medical oxygen and NEVER from air.

It is administered at an exact concentration and dosage.

As the ozone molecule rapidly dissociates in Oxygen, it is always freshly prepared for immediate administration on site with the help of Ozone generators.

Ozone injections- mainly given for pain relief

Peri articular and Intra articular for Osteoarthritis, for frozen shoulder

Subcutaneous, Intradermal and Intramuscular for rheumatoid arthritis, pains related carcinogenic origin, chronic fatigue syndrome



Intradiscal and paraspinal for Backches, herniated discs.

Microinjections at biologically active points Into the blood stream Intravenous Ozonated saline drip for cancer, cardiovascular pathologies.

Minor autohemotherapy and Major

autohemotherapy for autoimmune diseases, for intermittent claudication.

Ozone therapy is useful in

Circulatory disorders – microangiopathies, stroke, angina, Varicose veins

Infections and inflammation – Herpes, hepatitis, burns, non healing wounds

Chronic diseases – Diabetes Mellitus and its complications, hypertension, Parkinson's disease

Cancers

Asthma, Sinusitis, Allergic Rhinitis

Rheumatoid arthritis, Chronic fatigue syndrome

Osteoarthritis knee joint, back aches.

Dermatology Acne, Herpes, burns, psoriasis, eczema,

Gynecological infections

Major benefits are noted in:

The treatment of circulatory disorders

Cerebro-vascular accidents,

Varicose veins

Microangiopathies

The treatment of diseases produced by infection and inflammation.

Herpes

Non healing ulcers on the legs

Ulcerative colitis

Osteoarthritis

Prolapsed intervertebral disc

For immunomodulation

As an additive or complementary therapy in various types of cancer,

In chronic degenerative diseases like Diabetes Mellitus, Rheumatoid Arthritis, etc.

Various allergies, autoimmune diseases, chronic fatigue

Ozone therapy in diabetic foot management

Diabetes is a disorder of metabolism and of the circulation.

Chronic metabolic irregularities linked to poor circulatory perfusion and nerve damage can affect a number of organ systems, including skin tissues. The conditions include infected wounds, skin ulcers and gangrene. These wounds, in the context of diabetes, are notoriously difficult to resolve. Healing resistance is thus a well-recognized element of frustration in their clinical care.

In case of diabetic ulcer conditions, multiple factors play into healing resistance. Among them are circulatory impairments, neurological deficits, tissue injury, and immunological compromise. A central factor is the proliferation of infectious microorganisms that, by the variety of their families, their toxin-producing capacities, and their resistance to antibiotics, offer daunting obstacles to standard treatment regimens

How Ozone helps

Ozone has powerful bactericidal, fungicidal and virostatic properties widely used in disinfecting infected wounds

Ozone attacks PUFA in the bacterial cell membrane causing alteration of the membrane. It increases the porosity leading to cell damage, cell rupture and death

Indirectly, by activating macrophages and T cells, it leads to phagocytosis and antibody production; effectively killing the bacteria

Ozone induced synthesis of IFN blocks viral replication

Ozone in a higher concentration attacks fungi.

Improves blood circulation and tissue oxygenation

Increases and activates body's own antioxidants and radical scavengers

Ozone induces production of PDGF, TGF-beta which helps in healing and repairs. This property is useful in treatment of chronic ulcers, bed sores, non-healing wounds, burns, etc. Platelets

Ozone stimulated platelets produces PGDF (platelet derived growth factor)

A chemotactic factor enhances fibroblast proliferation & EC matrix

Using Ozone can be given in the form of external applications like:

Bagging the affected wound

Cupping the affected wound

Ozonated water soaks

Ozonated oil applications

Thus Ozone therapy has been proved beneficial in case of diabetic ulcers and this has been strongly supported by the research done in many nations in the world.

Can you suggest some material for further Information on Ozone Therapy?

A: Books:

The use of Ozone in Medicine by Renate Viebhan-Haensler, Fourth revised edition

Flood your body with Oxygen by Ed McCaby

Ozone Oxygen Therapies by Velio Bocchi

Internet: www.ozoneforumofindia.com. The Story of Ozone (Medical Uses)

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