

Oxygen Therapies? Yes!

But with which oxygen?

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Physical and biological characteristics of the oxygen forms and their therapeutic applications

The atmospheric air in which scavengers of aerobic organisms – thus also of humans – has adapted in the course of millions of years, and up to 50 years ago was still a pure gas mixture made above all from nitrogen and the five forms of oxygen (O_2 , $O_2^{\bullet-}$, $O_2^{\bullet+}$, 1O_2 , O_3), the so called 21% NITROX. The air of today is burdened in many ways (SO_x , NO_x , $>CO_x$, $>O_3$, pollen, PM10, soot . . .). Besides the $O_2^{\bullet-}$, $O_2^{\bullet+}$, it lacks the so called regulating air vitamins.

Molecular (medical) oxygen

O_2 is a biological electron carrier, a basic material for four energizing O_2 forms ($O_2^{\bullet-}$, $O_2^{\bullet+}$, 1O_2 , O_3). Already in the energetically lowest basic state of electrons oxygen is a bi-radical (R^{\bullet}). O_2 possesses a parallel spin of the electrons. O_2 has a triplet spin configuration ($\uparrow\uparrow$, $\uparrow\uparrow + \downarrow\downarrow$, $\downarrow\downarrow$) and a paramagnetic behavior. O_2 is 200 times more magnetic than H_2O . Because of the balance of 2 x 8 electrons and also the protons, O_2 is electrically neutral. However, H_2O is 100 times more electrically bipolar.

The Activation of Oxygen O_2 can occur differently

1. Biologically, according to evolution, for fixed energization of oxygen a minimum ionization energy of 13.6 eV is necessary (ditto with the water molecule, H). The ionization in the air results from UV-, cosmic- or radioactive radiation, by lightning discharge, sea surf, waterfall.
2. The four reactive oxygen forms (ROF = $O_2^{\bullet-}$, $O_2^{\bullet+}$, 1O_2 , O_3) originate from O_2 in the cells of the body through the mitochondrials, or the extra-mitochondrial enzymes, if these are not disturbed by the so called PED [pathologic energetic deficit] (see Table 1)! During work or sports the O_2 ionization, thus the ROF, is increased in the body through better blood circulation and the supply of bigger oxygen amounts.
3. In an artificial way O_2 ionization is carried out with the help of ionization devices (radioactive, UV-radiation, high voltage discharge, etc.). The IO_2Th

uses a “plasma” oxygen ionizer, the “Oxygen Ion 3000”. It donates all 4 ROF in a well balanced relationship and a probiotic dose with an O₂ flow of 4-8 liters per minute.

It is worth considering that since all molecules of the cell reactions are found in a singlet state (spin ↑ or ↓), the medical oxygen O₂ (in triplet condition and with spin prohibition) cannot rule over these molecules until it is energized or activated. Further reactions run off spontaneously and under free development of energy and photons only after cancellation of the spin prohibition brakes of the oxygen electrons. (M. Saran in E. F. Elstner, et. al., 1986)

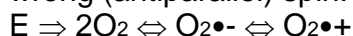
In spite of the above mentioned facts, still today the medically, physically and biologically “inert” oxygen O₂ is predominantly used therapeutically.

1. Short-term or Long-term O₂ Therapy (Intensive medicine, pneumo-cardiology)
2. Hyperbaric O₂ Therapy (I. Boerema)
3. Intravenous O₂ Insufflation (H. S. Regelsberger)
4. Oxygen Multi-Step Therapy (SMT/M. von Ardenne = O₂ Inhalation, Motion, Pre-medication)
5. Peroral O₂ Therapy with oxygenated water (A. Pakdaman)
6. Ionized Oxygen Therapy (IO₂Th/Engler) uses O₂ with a flow of 4-8 liters/min. as a carrier for four more highly activated oxygen forms.

The Four Reactive Oxygen Forms (ROF)

1. *Negatively ionized oxygen O₂•⁻ (so called oxygen anion, superoxide)*

It possesses one more electron and electrically is negatively charged. It has the wrong (antiparallel) spin. It is a strong radical (R•):



2. *Positively ionized oxygen O₂•⁺ (so called oxygen cation)*

It possesses one electron less (because it hands this over to the $O_2^{\bullet-}$), and is therefore electrically positively charged. It has an antiparallel spin, is paramagnetic and a radical (R^{\bullet}). Ionized oxygen (predominantly $O_2^{\bullet-}$ or $O_2^{\bullet+}$) is successfully used therapeutically with different complaints and diseases:

1. Therapy with ionized air (ionizer with the corona discharge principle)
2. Ionized oxygen therapy ($IO_2Th/Engler$) with one ionizer, the "Oxygen Ion 3000", which works according to the pressurized plasma principle.
3. In Balneology, with radon ionized air in a tunnel – used especially with asthma, rheumatism and pain conditions.

3. *Singlet oxygen* 1O_2

Originates in traces with the ionization, and its two forms have a very short life span. It possesses an antiparallel spin, has no radical, is electrically neutral and is dia-magnetic (i.e. non-magnetic). The therapies involved with 1O_2 are the following:

1. Hematogenic Oxidative Therapy, i.m. application, so called HOT (F. Wehrli)
2. Intravenous 1O_2 Therapy
3. Photo-biological Therapy (FB Th) of malignant tumors (see Reference 1, Chapter 10.2.)
4. Laser Therapy (Photons as a biological stressor produce oxygen radicals)
5. Acupuncture (The needle stick leads to cell necrosis, to phagocytosis and to the formation of 1O_2).

4. *Ozone* O_3 , $O=O=O$

It is electrically neutral and dia-magnetic. It is a strong oxidant. Application: Sterilization and disinfection, particularly water. As therapy O_3 is used:

1. Normo- or Hyperbaric Oxygen – Ozone Therapy (A. Wolf or H. Kief) with a few indications and applications

Pathological energetic deficit (PED) from hypoxia causes the radical cascades (R• escalation).

Without oxygen (thus without R•) the aerobic organism of a person dies after approximately 4 minutes. With age the oxygen parameter sinks into the critical ranges of the PED (see the following Table 1). Each stress, even the psychological, uses more O₂, the O₂η. Use is lowered and the R• is increased. Hence about 2/3 of the variously stressed population suffers from PED and R• escalation.

Table 1

The consequences of a pathological energetic deficit (PED) from hypoxia and by R• escalation:

Heart rate ↑ Enzymes ↓ O₂η ↓ ATP ↓
 Membrane-Potential ↓
 Lysosomes ↑ Anaerobic glycolysis ↑
 Acidosis ↑ ADH ↓ H₂O retention ↑
 Endothelial edema ↑ Hematocrit ↑
 Angiotensins ↑ Renin ↑
 Erythropoietin ↑ Peripheral resistance ↑
 Blood pressure ↑ Circulation regulator ↓
 Vital functions ↓
 Organic lesions ↑ Mutations ↑

IO₂Th raises the oxygen status higher, faster and more long term than only medical O₂ alone. The amount of O₂ used and the time of application is clearly shortened. Ionized O₂ needs no moistening with water.

Oxygen Radicals

Oxygen radicals (O₂ R•) necessarily develop biologically and permanently in the body (see activations of the O₂). With an insufficiency of the R• scavenger (see O₂ parameters) some clinical images can occur by which the effect of oxygen radicals is assumed (Table 2). Also a longer persisting hyperoxia (e.g. the breathing of more than 95% oxygen during > 17 hours), through the oxygen radicals (R•) causes the release of fibronectin and growth factor from the alveolar macrophages, which burdens the alveolar capillary membranes. This can even lead to a fibrosis of the alveoli, etc.

Table 2

The diseases caused by the radicals (R•)

Autoimmune illnesses
➤ Ischemia
Arteriosclerosis
➤ Consequences of smoking
Myocardial infarction
➤ Bronchopulmonary dysplasia
Apoplexy
➤ Pancreatitis
M. Parkinson
➤ M. Alzheimer
Multiple sclerosis
➤ Rheumatism
Ageing, Apoptosis, etc.
➤ Cancer

O₂ Parameters

During the course of each hypoxia or each oxygen therapy a control of the following parameters is recommended as a prevention due to the possible escalation of the radicals:

- The objective and subjective state of the patient, with respect to the disease process
- The oxygen status (pressure O₂ arterial, pressure O₂ venous, arterial-venous O₂ difference, O₂ utilization = O₂η, saturation O₂).
- The native [natural] microscopy of the blood in dark field.
- Hemolytic kinetics or deformity of the erythrocytes.
- Regulation of the scavenger (SOD, CAT, GAD) or the antioxidants (e.g. vitamin C)
- The Biotonometrie e.g. with the "VNS Diagnosis 3000"

Ionized Oxygen Therapy (IO₂Th/Engler)

Ionized oxygen therapy (IO₂Th/Engler) is a physical, adjuvant, brief medical application of the partially ionized oxygen, thus with all five oxygen forms (O₂, O₂•-, O₂•+, ¹O₂, O₃). It is applied especially as an inhalation, but also by vaginal, rectal, injections, or as a drinking cure (<25 mg O₂/liter in H₂O! See Reference 1, Chapter 15.2.), with different complaints or diseases, preventively or therapeutically.

Why does the IO₂Th use traces of ambivalent radicals? According to the theory of hormesis (in Reference 1, Chapter 10.3.) even the smallest dose of radicals works therapeutically against the radical escalation (see Table 1, 2).

R• dose by IO₂Th = 1 mol O₂•-
or O₂•+ : 100 Billion O₂ mol =
pico-femto dose = 10⁻¹²·10⁻¹⁵ =
D12 - D15
O₃ by IO₂Th = <0.03 ppm (O₃
maximum workplace concentration
= 0.1 ppm!)

Experimental Verification of IO₂Th

- a. Through approximately 10,000 measurements of the trans-membrane rest potentials (TMRP) in fibroblast cultures which were burdened with Radon 222 and were treated with the different oxygen forms: In the process the ionized oxygen of the IO₂Th proved to be radio protective. The medical oxygen O₂ showed no effect.
- b. In the cultures of embryonic lung fibroblasts which were transformed by monkey virus into cancer cells, the positively ionized oxygen O₂•+ proved to be selectively cancer destroying. The medical oxygen O₂ showed no effect.
- c. With the influence of the hemolytic kinetics, with CO displacement of the HbCO or the photon emission of cucumber sprouts, the ionized oxygen proved significant advantages compared with the medical O₂.

Clinical Verification of IO₂Th

- a. The VNS Regulation: The Extra-cellular Regulative Ground System (ERGS) plays a prominent role not only with the regularization, but also with the emergence of complaints, the illness and with its healing. You can objectify a clinical determination of the Vegetative Regulative Situation (VRS) through the simultaneous measurement of the skin resistance (R) and the electrical conduction capacity (C) – the so called Biotonometrie. With the “VNS Diagnosis 3000” the author introduced an improved technology for Biotonometrie. This method helps in the choice of the ion polarity (relationship of the O₂•- : O₂•+ ions) in the IO₂Th, and additionally as a control of the therapy effect or with the prognosis of an illness (including a cancer illness).

IO₂Th works opposite to medical oxygen, vegetatively regulating: O₂•- works vagotonic (e.g. against hypertension, allergy, asthma . . .), O₂•+ works sympathicotonic (e.g. against hypotension, depression, immune infirmity . . .).

- b. 60 doctors commented very positively about IO₂Th in a field study (approximately 75,000 treatments for numerous indications with approximately 3,500 patients). Only 8 times there was a momentary mild undesirable side effect which was caused by a mismatching of ion polarity. The "VNS Diagnosis 3000" connected with the O₂ ionizer "Oxygen Ion 3000" selects the best therapy program.
- c. L. Fodor reports on the advantages of ionized oxygen compared with medical oxygen with 12 pathological laboratory parameters including the improvement of the performance and lowering of the lactates in an ergometric double-blind study with significance. This observation can bring the IO₂Th into recollection as a non-doping method with competitive sports.
- d. P. Pohl reports on the favorable effect of the long term IO₂Th in a neurological clinic with geriatric patients suffering from severe brain blood circulation disorders. IO₂Th is a preventive and therapeutic method suitable to be used in geriatrics.
- e. P. Pohl reports on the significantly advantageous effect of long term IO₂Th in patients with severe, progressive multiple sclerosis. This study confirms the effect of the IO₂Th as a suitable method against the complaints and illnesses caused by radicals (R•) or with PED (respectively see Table 1 or 2).

IO₂Th is scientifically verified and has an effect on the "5 x R": Re-oxygenation, radical reduction, re-hydration, revitalization, and regularization, which is good for many complaints and illnesses. IO₂Th optimizes the effect from all medical methods, or other oxygen therapies. IO₂Th is used ever more and more successfully worldwide.

Literature:

1. Engler, I.: Handbuch Ionisierter Sauerstoff-Therapie (IO₂Th/Engler) im Spiegel der Ganzheitsmedizin Prevention und adjuvante Behandlung der chronischen-zivilisatorischen Krankheiten besonders des Alters und des Krebses. Spurbuchverlag, Baunach, 2004, 250 S.
2. Engler, I.: Ionisierter Sauerstoff Therapie-die Wissenschaftliche Belegung durch eine PhD Arbeit. Ärzteforschung für Naturheilverfahren, Salzburg, 2005, 32 S.
3. Engler, I.: Strategie für ein gesundes, langes Leben. Spurbuchverlag, 4 Auflage, Baunach, 1999, 168 S.

Books Available in English:

1. **HANDBOOK OF IONIZED OXYGEN THERAPY IN LIGHT OF HOLISTIC MEDICINE**, by Dr.med.Univ. Ivan Engler, Austria.

This important book has been translated into English and privately published. Some of the topics covered in this book include Bionometry of Reaction, Reoxygenation, Reduction of Radicals, Rehydration, Regulation, Revitalization, and Optimizing all Methods of Treatment. Dr. Engler starts with discussions on Electrons and Photons, Radicals and Scavengers and goes on to detailed explanations of Oxygen as Therapy, Aging and Anti-aging, Holistic Reflections about Cancer, Anti-Cancer Strategy, Water Oscillations and Structures, the Extracellular Regulative Basic System (Pischinger-Heine), Stress, and Adjuvant Holistic Programs. In his forward to this book, Prof. Dr. Fritz Albert Popp says: "This work belongs in the hands of every young medical student, therapist or scientist who wants to acquaint himself with the modern situation of research and development or who even wants to contribute to further development. It is a "bible" of modern holistic medicine. 199-page trade paperback.

Supplied with the previous book:

(1) Ionised Oxygen Therapy, IO2Th/Engler, Its Scientific Fundamentals, Dissertation submitted for the PhD Degree at the Medical Faculty of the P.J. Š. University in Košice, Slovakia. 23 page booklet with illustrations

(2) The Importance of Water as an Information Carrier and as the Biological Partner of Oxygen within the Organism by Ivan Engler and Wolfgang Hainschwang. 29 page report with illustrations and diagrams.