

COPD Compendium

A compendium that offers new perspectives and approaches in chronic lung diseases. With new diagnostic and therapeutic approaches, and realistic goals to greater well-being and a better quality of life.



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Notes on reading

The following Airnergy therapy, provided by the manufacturer Airnergy, has been referred to under various terms during its development. Therefore, it is also known today by the following terms:

S.O.E-Therapy = Singlet Oxygen Energy Therapy

SET = Sauerstoff-Energie-Therapie (Active Air)

OET = Oxygen Energy Therapy

The trials referred to on page 14, were performed under the formerly used term "Oxygen Energy Therapy"; therefore, we have not updated that chapter by renaming the term "Airnergy therapy".

COPD special – New therapy approach with Airnergy

This COPD compendium contains information and results which hitherto were not readily available and might open up completely new perspectives – namely improvement in lung function (FEV1 and Peak Flow) without the need to increase medication or oxygen supplies.

Airnergy therapy – a new approach in the therapy of chronic obstructive pulmonary diseases such as COPD, chronic bronchitis or emphysema; consisting of three methods (inhalation therapy, chromotherapy and aroma therapy) complementing each other synergistically. In order to better understand this new perspective, we shall first explain to you the biological background in a clear and comprehensible manner.

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is characterized by:

- ▷ chronic cough
- ▷ increased sputum
- ▷ progressive difficulty in breathing (dyspnoea)

The consequences are:

- ▷ Reduced oxygen uptake in the blood by the lungs cells
- ▷ Decreased energy production in the cells (mitochondria = power plants of cells), along with lack of physical performance
- ▷ Hyperinflation of the alveoli (air sacs) resulting in reduced gas exchange
- ▷ Repeated formation of mucus, which must be removed through coughing
- ▷ A significant reduction in quality of life and diverse restrictions in daily life
- ▷ The perspective that the disease is progressive and incurable

It is estimated that, in Germany 3 to 5 million, in the U.S. around 16 million, and worldwide approximately 600 million people are suffering from COPD; leading to the realistic assumption that COPD takes on the dimensions of a widespread disease, and will be the third most common cause of death by 2020.

Causes

The following causes are worth considering:

- ▷ Long-time smoking and resultant damage to the lung tissue
- ▷ Passive smoking
- ▷ Long-time exposure to polluted environments (for example: smoke, dust, waste gases, etc.)
- ▷ Asthma (also caused by allergies)
- ▷ Respiratory tract infections in children

Diagnosis

The diagnosis of COPD is based on the patient's symptoms and the results of pulmonary function tests. In all patients suffering from moderate COPD, heart rate variability (HRV) is reduced. This means the ability of the autonomic (sympathetic/parasympathetic) nervous system to regulate is limited. As the disease progresses, HRV deteriorates even further.

Degree of severity	FEV1 (nominal 100%)	FEV1 / FVC	Symptoms
I (mild)	≥ 80 %	< 70 %	with/without symptoms (cough, sputum)
II (moderate)	50 – 80 %	< 70 %	with/without chronic symptoms (dyspnoea, cough and sputum)
III (serious)	30 – 50 %	< 70 %	with/without chronic symptoms (dyspnoea, cough and sputum)
IV (very serious)	< 30 % or < 50 % plus chronic respiratory insufficiency	< 70 %	quality of life noticeably impaired, exacerbations can be life-threatening

FEV1 = Forced Exhaled Volume or one-second-capacity. The maximum amount of air that can be forcibly exhaled within one second.

FVC = Forced Vital Capacity. The lung volume between maximum inhalation and maximum exhalation.

Note: HRV is measured and recorded via ECG, and is scientifically proven and accepted.

Therapeutic options

The following therapies aim at minimizing or stopping progress of the disease and improving quality of life:

- ▷ Inhalation/administration of medication which dilates the bronchi (bronchodilatation)
- ▷ Inhalation/administration of anti-inflammatory medication
- ▷ Inhalation/administration of expectorant medication and/or essential oils
- ▷ Longterm oxygen therapy by means of oxygen concentrators or oxygen cylinders
- ▷ Various complementary approaches including acupuncture, "Ausleitungsverfahren" (cleansing), breathing exercises, homeopathy, phytotherapy – choose the most suitable solution according to type, symptoms and progress!

There is a promising new therapeutical approach. The following information contributes to a better understanding of its mode of action.

Superordinated control organ regulates subordinated systems

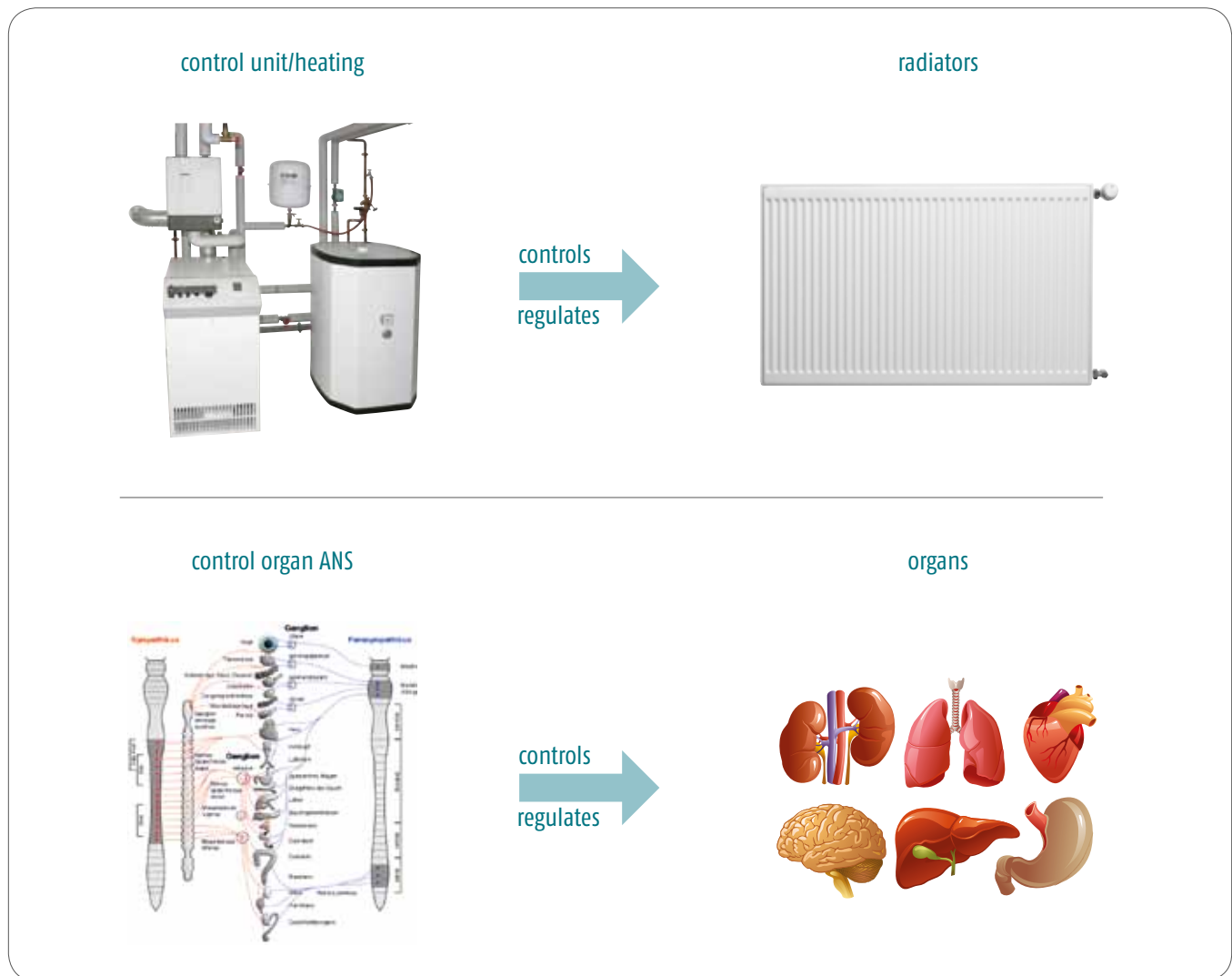


Illustration: The autonomic nervous system (ANS) works autonomously, i. e. it regulates independently without voluntary intervention.

This hitherto little known and little noticed knowledge provides new ways of thinking and successful therapeutic approaches.

Just as a heating system with several radiators in different rooms is controlled and regulated by a supervisory control center, there is a superordinate control organ in the body – the autonomic (or vegetative) nervous system (ANS); consisting of the two main nerves, the sympathetic and parasympathetic nerve. The ANS receives and processes information/feedback from the nervous system, endocrine system, immune system, sensory organs, the psyche, etc. It continuously responds to prevalent conditions and sends commands to the subordinate systems such as the heart, circulatory system, kidneys, liver and lungs, down to the cellular level, for example the alveoli (air sacs).

The detection of an acute threat, for instance, activates the sympathetic nervous system to alert all the organs, cells and control systems in the body to this hazardous situation. It is important that the alveoli are enlarged when we go into that state of alert, preparing for a fight-flight-response, so that they absorb more oxygen through the lungs and can provide sufficient energy for a successful “fight or flight”. This simple strategy is essential for survival, and is proven since the dawn of mankind, both in humans and in animals.

Following a “fight or flight” situation which, in nature, only lasts for a few seconds, minutes or hours, the parasympathetic nervous system (relaxation nerve) becomes active and provides for recreation, regeneration, regaining energy, and repair of wounds or injuries (if any). The overinflated alveoli return to their normal size.

The constant change between tension and relaxation is the natural way of our bodies to perform at their best and to subsequently regenerate.

Impact of the sympathetic and parasympathetic nervous system

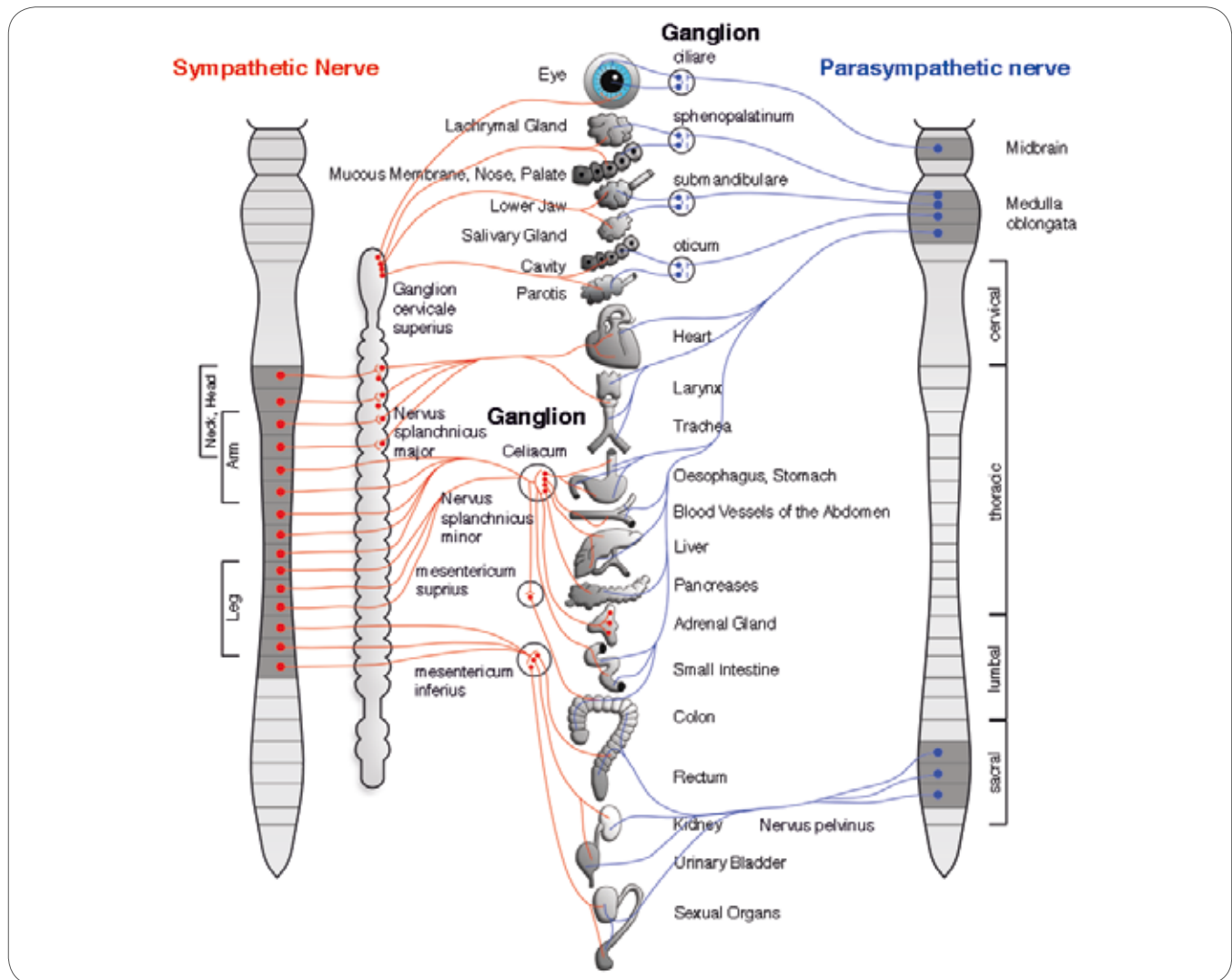


Illustration: The autonomic nervous system with respect to influencing of organs

Subordinated systems	Sympathetic nerve	Parasympathetic nerve
Alveoli	Enlargement	Contraction
Blood pressure	Increase	Decrease
Blood vessels of the muscular system	Expansion	Constriction
Blood vessels of the skin	Constriction	Expansion (slackening)
Brain	High concentration and attention	Reduced concentration and attention
Eyes	Mydriasis	Miosis
Gastrointestinal system	Decrease of digestive function	Activate digestive function
Genitals	Inhibition of blood circulation, ejaculation	Vascular dilation, erection
Heart	Increased heart beat	Reduced heart beat
Immune system	Undermining	Enhancement
Lachrymal glands	Reduced secretion	Increased secretion
Metabolism	Increase, energy depletion	Decrease, energy storage
Pancreases	Decrease in insulin production	Increase in insulin production
Perspiratory glands	Viscous (sticky) perspiration	Low viscous (fluid) perspiration
Salivary glands	Viscous (thick) saliva	Low viscous (thin) saliva
Urinary bladder	Inhibition	Activation

Regulation of the alveoli

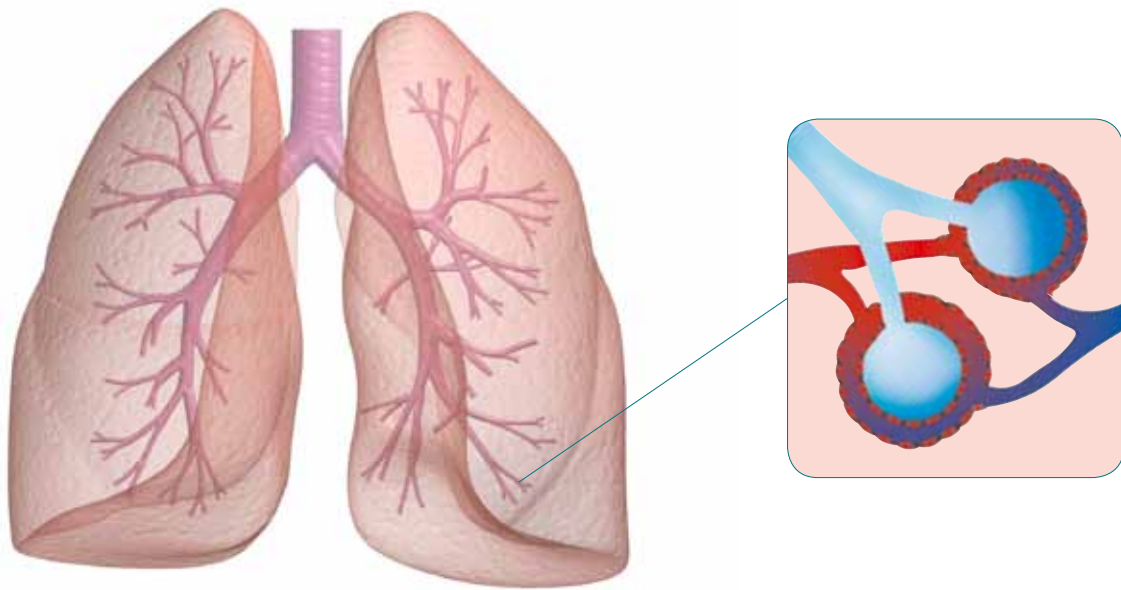


Illustration: Lungs with enlarged display of the pulmonary alveoli

Sympathetic and parasympathetic impact on the alveoli

Our lungs contain millions of tiny alveoli (air sacs), which are regulated and controlled by the superordinated autonomic nervous system. They are responsible for the uptake of oxygen from the air into the blood. These alveoli are not rigid and inflexible, but can and must adapt their size and shape to the current situation.

This becomes apparent, for example, in a situation of imminent danger when the sympathetic nerve suddenly becomes dominant and the alveoli are enlarged in a fraction of a second, so that the cells are immediately supplied with more oxygen. Hazardous situations, according to the ANS, are not only genuine threats such as an accident or a physical attack, but also unconscious risks such as stress caused by work, family, environment or media influences. The biological target is the increased energy production (ATP = adenosine triphosphate) in the mitochondria for successfully triggering the fight-or-flight reflex. Once the dangerous situation has been successfully averted, the parasympathetic nerve becomes dominant and the hyperinflated alveoli contract back to their normal size. This constant dynamic interplay of enlargement and reduction of the alveoli enables us to survive – in the same way as food intake and excretion or inhaling and exhaling. Both these poles belong together and are mutually dependent.

The principles of cause and effect, action and reaction, are important survival mechanisms that have been optimized and perfected in the course of evolution. In order that an action may be followed by a sensible biological and physiological reaction, the control organ (ANS) must remain operational and be kept free of foreign influences. All our senses, internal sensors and information channels continuously provide countless information, collected and processed by our autonomous nervous system in order to subsequently efficiently control the subordinate organs and organ systems. Many COPD drugs act directly on the autonomic nervous system and thus “obscure the view” or force the autonomic nervous system to stimulate the organs biasedly, leading over time to ever-increasing impairments.

**Stress/tension caused
by sympathiconia**



Sympathetic nerve – Enlargement/hyperinflation

**Relaxation/regeneration
caused by parasympathiconia**



Parasympathetic nerve – Decrease to normality

Illustration: Conditions of the alveoli in comparison

Brief summary:

The main nerves of the ANS control and regulate all organs and organ systems down to the cellular level.

Sympathetic nervous system = “tense nerves” (activates fight and survival systems)

Parasympathetic nervous system = “relaxed nerves” (activates relaxation, regeneration, repair and energy storage)

Airnergy therapy

Applications

- ▷ COPD (chronic obstructive pulmonary disease)
- ▷ Lung emphysema
- ▷ Chronic bronchitis and asthma

Aim and logic of the Airnergy therapy

If the superordinated control organ can better regulate with the support of Airnergy therapy, subordinated processes, organs and organ systems can also work and regulate better again.

Aim: Improvement of lung function, regeneration of lung cells, and improvement of regulatory capacity on the autonomic nervous system (ANS).

Recommendations for use

- ▷ For chronic diseases like COPD: 20 minutes several times every day
- ▷ As a self-help regimen for the therapeutic practice: 3 – 4 times per week for 4 – 6 weeks in total

Some patients respond extremely well to progressive doses, starting by administering shorter times of application and gradually increasing.

Risks and side effects

During the last 20 years, no risks or side effects have become apparent with Airnergy therapy. It can be used in combination with conventional medical and/or naturopathic therapies.

Combination of two therapies

1. Inhalation therapy (Relaxation energy from singlet oxygen)

The activated air is inhaled for about 20 minutes using a nasal cannula. Measurable are an improved HRV (regulation and control of the ANS), an improved external respiration (transport of oxygen from the air through the lungs to the blood), improved internal respiration (transport of oxygen in the blood to the mitochondria and conversion into cellular energy – ATP) as well as better protection against free radicals. That is achieved without the addition of foreign substances, increased oxygen, ozone or ionization. Airnergy technology successfully reproduces natural processes in existence for millions of years (i. e., photosynthesis).

2. Chromotherapy

For centuries, colours have been used successfully in medicine for various ailments. The knowledge about colours and their effect on body and soul is the key to the integrated chromotherapy. Neither esoterics nor faith in the effectiveness alone are involved here. The basic knowledge of physics and biology is the foundation for Airnergy chromotherapy.



Illustration: Airnergy therapy user.

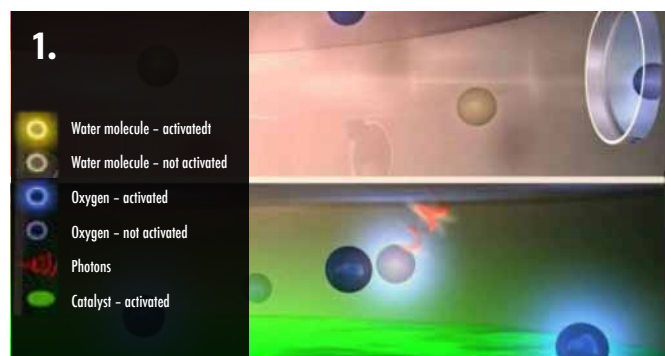
The technology behind the trial results – Basic processes learned from nature

Airnergy therapy uses the relaxation energy of singlet oxygen – the body is not flooded with extra oxygen, as known from traditional/conventional oxygen therapies.

This technology promotes an energy transfer via the water molecules present in humidity, which may be inhaled using a nasal cannula. The energy-transfer is accomplished by exciting stable, photo-sensitive catalysts (activation chambers) with specific wavelength of light. The role model for this is photosynthesis. This fluorescence/chemoluminescence process continuously releases relaxation energy from singlet oxygen which is absorbed by the water molecules in humidity and transported further.

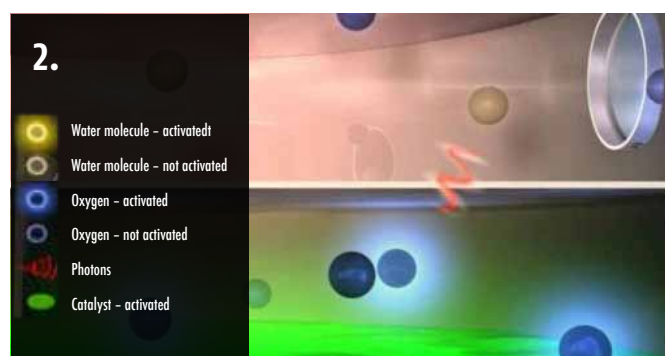
Finally, this technology provides a COPD therapy free of side-effect and pain, addressing the causes and the locations of the disease (lung cells, mitochondria, and superordinated control organ ANS).

Processes within the catalyst

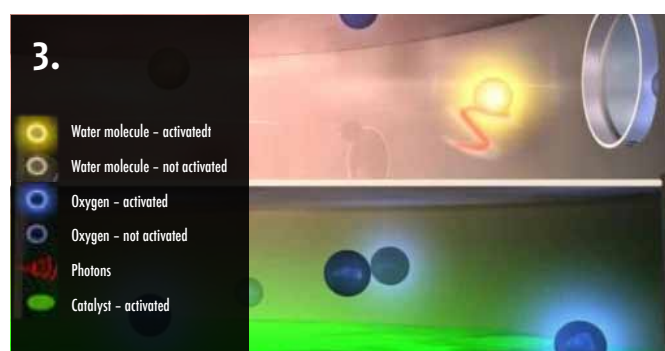


Energy released from singlet oxygen in the form of photons (red light quanta).

After releasing the energy, the singlet oxygen returns into triplet oxygen (basic state of the oxygen molecule).



The energy released from singlet oxygen in the form of photons (red light quanta) reaches the adjacent chamber, through which ambient air – containing humidity – is fed.



The energy released from singlet oxygen in the form of photons (red light quanta) is absorbed by the water molecules (humidity) and transported into our body by inhalation using a nasal cannula.

Possible (initial) reactions and their relevance

(Initial) reactions

Examples of biologically meaningful reactions after Airnergy therapy:

- ▷ Increased fatigue, dizziness and greater need for sleep
- ▷ Facilitated and improved inhaling and exhaling
- ▷ Blood-pressure regulation toward normal levels
- ▷ Improved blood circulation
- ▷ Pain relief
- ▷ Improved ability to fall asleep and sleep through the night
- ▷ Regulation of blood glucose toward normal levels
- ▷ Optimising visual performance
- ▷ Improved concentration span
- ▷ Faster regeneration after physical exertion
- ▷ More physical and intellectual energy
- ▷ Greater mobility despite restrictions on movement

Airnergy therapy is a natural application free of any foreign substances or increased oxygen concentration. As a consequence there is no chemically induced stress threatening the body, as in the case of medication. All noticeable and visible responses of the body are caused by improved regulatory processes. Each organism being unique, different dietary and lifestyle habits and environmental situations prevailing, drug use and other factors such as stress or conflict affecting the complex processes, not all potential reactions can be predicted. In any case, your body reacts intelligently and sensibly, even if first impressions may be interpreted differently.

In order to make meaningful responses understandable, we will now give some more detailed examples and explain their significance.

Increased fatigue and need for sleep

By improving energy production in the “power plants” of the cells (mitochondria), combined with a better control and regulation by the superordinated control organ ANS, the parasympathetic nervous system (calming and relaxed nerves) is activated allowing the entire organism to regenerate and repair. These processes can only take place when the parasympathetic nervous system (relaxed nerves) is more dominant than the sympathetic nervous system (tense nerves). Fatigue and need for sleep indicate that the body is now actively switching from stress and tension mode to recovery, repair and regeneration mode. Give your body the time it needs; these recovery processes have obviously been neglected in the past. It's like a long walk in the woods or on the lake shore: Your body is utilizing the higher energy level to relax, regenerate and recharge.

Runny nose

After a Airnergy therapy the nasal mucosa can produce increased amounts of liquid secretion. What does the increased production of secretions in the nasal mucosa suggest from the naturopathic or biological point of view? The mucous membranes in the nasal cavity are part of our first line of defense. Many immune cells are located in the nasal mucosa. Increased energy production stimulates the mucous membrane and immune cells, which then produce increased secretions to bind the abundance of persistent pollutants which we are constantly inhaling, in order to be excreted through the nose. The increased production of secretions is a sign that something very meaningful/useful is happening – detoxification and regeneration processes are improved.

Impure skin and small spots

Contrary to expectation, in some cases the skin may be prone to blemishes or spots following Airnergy therapy. This is due to the skin being a large detoxification organ. Deposited pollutants and metabolic waste products are better detoxified by a fundamentally increased energy production in the body, specifically in the skin and connective tissue cells, and exuded via the skin. Symptoms of impure skin will disappear when the body is largely freed of pollutants and waste products. The internal organs liver, kidney and intestine are also in charge of the excretion of pollutants and waste products; if these organs are, however, hampered in their function, the body seeks other ways and means to eliminate these. Sufficiently pure low-mineral drinking water supports the cleansing and detoxification process, as it can bind many harmful substances for excretion via the kidneys.

Note on severe (initial) reactions

In naturopathy and complementary medicine, initial reactions are well-known and welcome, as they are an indication of the effectiveness of therapy. If those reactions are, however, unpleasant and too strong, you should first reduce the application time and/or intensity, or suspend the entire therapy for one to three days. You can then gradually start using again.

Trusting nature

In our organism, approximately 10 million new cells are formed every second and 10 million old cells broken down or recycled. Trust it. Nothing is coincidental or at random. Some reactions and symptoms considered a "disease" do, however, make sense from a biological perspective. We will help you to better understand that logic, and relieve you of anxiety and stress.

Dosing of medicines

In case of permanent medication, the doses should be checked regularly as these may have to be reduced with Airnergy therapy. It is important to consult your doctor or therapist.

Realistic objectives and ambitions – the basis for your success

Unrealistic expectations lead to failure, frustration, insecurity, dissatisfaction, and ultimately to stress or chronic stress. Chronic stress means permanent hyperinflation of the alveoli, which inevitably leads to restrictions in breathing and oxygen saturation in the blood – a vicious circle that must be broken. Setting realistic objectives for yourself on a daily basis is an important starting point.

On days when you are not so well and experience difficulties breathing, you should pursue different goals and objectives than on days when you are in better form. This process, i. e. learning to define realistic goals and objectives, may even take six to twelve months. Expecting to achieve a therapeutic success within a week, is unrealistic and will again result in stress and hyperinflation of the alveoli.

Example of realistic objectives for COPD patients:

- ▷ months 1 – 6 after beginning the therapy: stopping any further progression of COPD
- ▷ months 7 – 12: achieve a measurable improvement in lung function and HRV (heart rate variability)

After beginning the Airnergy therapy, the doses of COPD medication should be checked regularly as they may have to be reduced.

Success = Achievement of objectives
Failure = Objective shortfall



The result from success is satisfaction and motivation.
The result from failure is frustration, demotivation and stress.

Trials and empirical evidence

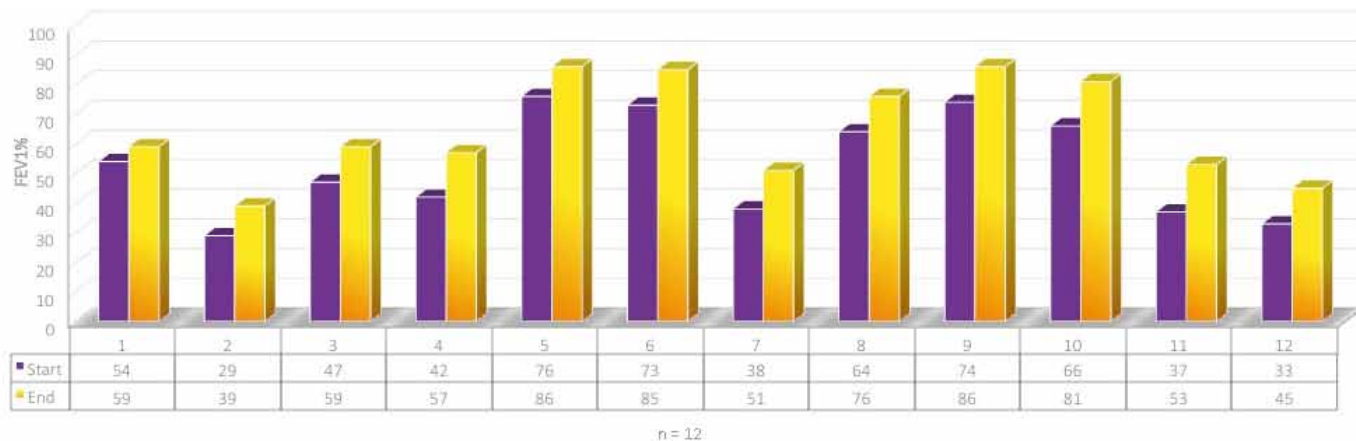
COPD pilot study

According to common doctrine, an improvement in lung function in the case of COPD is impossible without the administration of drugs and additional oxygen. In science, however, everything is about verifying and repeatedly reproducing a result. Therefore, Dr. Michael Kucera conducted a placebo-controlled pilot study on 24 COPD patients aged 49 to 67 years, proving that it is possible to improve lung function.

Since COPD usually develops over many months and years, a promising therapy must also be carried out over a longer period of time – everything else would be unrealistic and just wishful thinking. The patients suffering from COPD at different stages, received oxygen energy therapy for six months, twice a day for 20 minutes each. The most important parameter FEV1 was monitored using spirometry (pulmonary function test).

The remarkable part of these results is that every single (treated) COPD patient showed an improved lung function, without exception, whether COPD stage II or stage IV. Also notable is that the placebo group showed no improvements, not even the so-called placebo effect.

Oxygen energy therapy – COPD



Placebo therapy – COPD

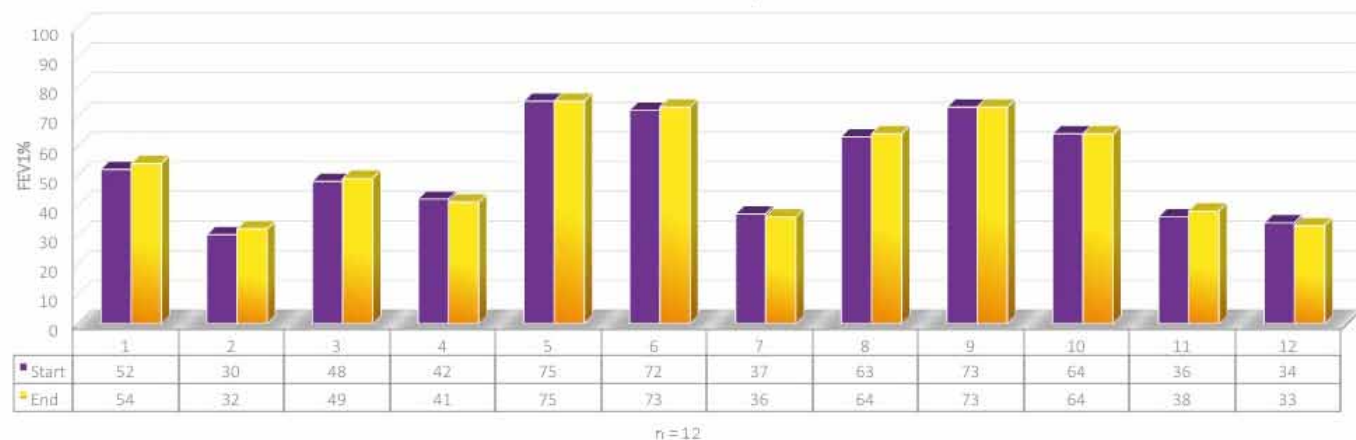


Fig. top: Results of pulmonary function test before and after the oxygen energy therapy using fully effective catalysts.

Fig. bottom: Results of pulmonary function test before and after the oxygen energy therapy without operative catalysts.

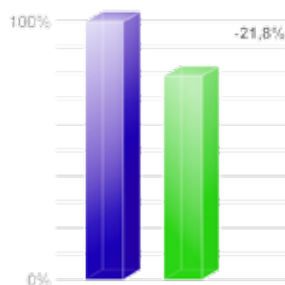
HRV verification

Another pilot study focuses on the impact of oxygen energy therapy on the superordinated control organ – the autonomic nervous system. The HRV (heart rate variability) was measured, which is included as gold standard in many diagnostic guidelines. The 37 persons who participated ranged from 23 to 83 years of age.

HRV analysis is an immediate indication of how well the autonomic nervous system acts and regulates. The value SI (sympathetic activity) is associated with stress/tension; RMSSD (parasympathetic activity) stands for recovery/relaxation; and TP (total power) presents the total energy in the body. Since nowadays we, and especially COPD patients, frequently suffer from chronic stress, consequently the stress value (SI) should decrease, the recuperative value (RMSSD) should increase, and total energy (TP) should also increase – the more, the better.

In this pilot study, oxygen energy therapy devices with the maximum amount of catalysts (activation chambers) each were used as well as chromotherapy.

SI – Stress index – Activity of the sympathetic nervous system

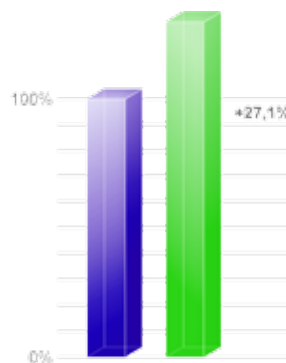


■ Prior to application (default value 100 %)

Fig. left:

The significant decrease ($p < 0.001$) in SI (-21.8 %) shows a clear reduction in sympathetic activity, indicating a reduction in stress and stress responses in the body.

RMSSD – Activity of the parasympathetic nervous system



■ After 20 minutes of OET application

Fig. center:

The significant increase ($p < 0.001$) in RMSSD (+27.1 %) displays a significant increase in parasympathetic activity, evidencing an improved recuperation/regeneration of the body.

TP – Total power

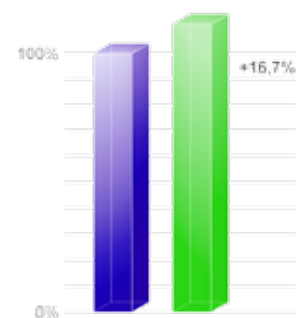


Fig. right:

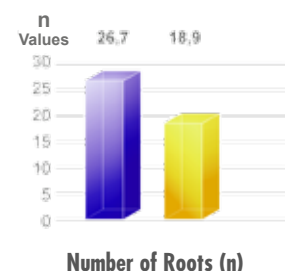
The significant increase ($p < 0.001$) in overall effectiveness (TP +16.78 %) of the autonomous nervous system refers to a significant increase in the reserves and effectiveness of energy balancing and metabolism.

Comparison: Root growth of plants

Activated water, produced using the OET5 equipment, tended to have a positive impact on the adventitious roots of mung beans and cress. This positive effect has been statistically proven. Non-activated water had no positive impact on adventitious rooting.

“Naturwissenschaftlicher Nachweis der Sauerstoff-Energie-Therapie bei Pflanzenkeimlingen.” Research performed by: Institut für Agrar- und Stadtökologische Projekte, Humboldt university in Berlin.

For more information on HRV/ANS analysis: www.vnsanalyse.de



■ activated water
■ non-activated water

Summary of results:

In addition to the fundamental proof of better regulation and control by the ANS using HRV analysis, a marked therapeutic success in COPD could be verified by testing lung function. Ultimately, more scientific evidence has revealed that oxygen energy therapy significantly improves root growth in plants. Since a placebo effect will not occur in plants, the subject of clinical trials and proof-of-concept can safely be considered successfully passed.

Product variants

Which device suits you best? The product variants for Airnergy therapy differ mainly in the number of catalysts and therefore in their potency. There are devices with two or four catalysts. More catalysts (activation chambers) means greater performance.

Our recommendations:

If you are healthy and want to take prevention action, a device with two catalysts is sufficient. For applications in chronic diseases, such as lung diseases (COPD, emphysema, asthma), macular degeneration (AMD), cardiovascular diseases, diabetes mellitus, or Parkinson's disease, mostly devices with four catalysts are being used. These devices can also be recommended for general use in the elderly. They are the fastest to provide the much needed energy for improved regulation and regeneration processes to increase vitality and quality of life.

Supporting background information on oxygen

Oxygen basics

The air we breathe contains 21 percent of the oxygen vital for our survival, 78 percent nitrogen and 1 percent noble gases. Oxygen cannot be stored by the body. Continuous breathing is essential.

In nature, oxygen is usually available as a molecule composed of two atoms (O_2). Even under optimum conditions, our body can only utilise a quarter of the inhaled oxygen from the air we breathe – three-quarters are exhaled again unused.

- ▷ the air contains approximately 21 % oxygen
- ▷ under optimum conditions, about one quarter is absorbed by the body and bound to haemoglobin ($\frac{1}{4}$)
- ▷ about three quarters are exhaled again unused ($\frac{3}{4}$)

How much oxygen is used and consumed by cells and organs in the body?

- ▷ 98 % oxygen, bound to haemoglobin in arterial blood, is considered normal (men approx. 20.4 ml/dl and women approx. 18.8 ml/dl).
- ▷ Only about 5 ml/dl oxygen is consumed by cells and organs in the body.
- ▷ That means that max. 25 % of the available oxygen (100 %) is being utilised by cells, organs and tissues in the body.

Energetic states of oxygen

Depending on the energy state, oxygen can be inert or reactive. An example shall illustrate the difference between inert and reactive: Whether water is cold or warm, in chemical terms it is H_2O . Sugar or salt, however, dissolve better in warm water than in cold water, because warm water has a higher energy state than cold water. Similarly, oxygen can also be inert and reactive.

The oxygen in the ambient air is inert (triplet oxygen = 3O_2), and our body must continuously activate it to become reactive (singlet oxygen = 1O_2) in order to be able to react with biomolecules at all.

Oxygen and energy production in the body

Except in intensive care, in cases of emergency or severe lung diseases such as COPD, pulmonary fibrosis, pulmonary emphysema or pulmonary sarcoidosis, there is normally sufficient oxygen passing from the air through the lungs into the blood. This can easily be measured by a so-called pulse oximeter (finger clip). Values ranging from 96 percent to 98 percent are a sign that the blood is sufficiently saturated with oxygen. Biologically, the increased supply of oxygen makes no sense because the blood is already saturated with a maximum of oxygen.

The cause of many disorders resides in the utilization of oxygen within the cells in the energy power plants – the mitochondria. If the actual combustion process no longer functions optimally, less energy and more pollutants are the result – just like in a car engine. Life expectancy sinks.

Increased oxygen supply is not the solution. If the engine in a car, for example, is set poorly, it makes no sense to fill even more petrol into the tank. The engine – especially the combustion process – must be tuned perfectly.

Oxygen and nature

In nature, the atmospheric oxygen (21 %) is primarily present in the inert triplet ground state ($^3\text{O}_2$). Inert oxygen cannot be used by the body and must be activated by the body itself in order to be able to be carried into the blood via the lungs, and to be transferred from there to the individual cells.

In physics, the reactive and active form of oxygen is known as singlet oxygen ($^1\text{O}_2$). In the case of this O_2 molecule, the position of the electrons in relationship to one another is changed: Two unpaired electrons with parallel spins become paired electrons with antiparallel spins.

Singlet oxygen has existed in nature for millions of years, is perpetually produced by the body itself to make metabolic processes and signal transmission possible. The incessant activation of oxygen that enables it to be transported and used, consumes energy. Throughout our lives, in disease, age and stress situations, the ability of our cells to produce enough energy (ATP = adenosine triphosphate) deteriorates.

Incomplete utilisation together with a fading ATP production and increased oxygen radical production, induces further damage to cell structures and accelerates cellular aging.

If energy is produced insufficiently, less oxygen can be activated, then again resulting in less ATP. A course that has to be stopped.

Differences between Airnergy therapy and Oxygen therapies

A range of oxygen therapies are used for various diseases and indications. The following list provides a general overview of the different methods:

Multi-step Oxygen therapy (EWOT)

This therapy consists of three steps:

- 1) the administration of vitamins and trace elements (nutrients)
- 2) supplying highly concentrated oxygen (usually 90 % to 99 %), partly even ionised = electrically charged
- 3) during the oxygen supply, a motion therapy is carried out on a bicycle ergometer or similar machine

Applications

- ▷ vascular disorders
- ▷ circulatory problems
- ▷ hearing impairments, tinnitus
- ▷ visual impairments
- ▷ general fatigue
- ▷ preparation for childbirth

Principle

The first step should always be to prepare your body for a better supply of oxygen. This is done via administration of vitamins, minerals, trace elements and special substances/reagents, whereby the cellular oxygen uptake is increased and improved oxygen utilization is ensured.

In the second step, 90 percent oxygen is inhaled using a nasal cannula or breathing mask. There are various options for this part of the therapy:

- ▷ **18-day option:** On 18 consecutive days, concentrated oxygen is inhaled for 2 hours daily.
- ▷ **10-day intensive option:** On 10 consecutive days, daily breathing of ionised oxygen for 30 minutes each. Compared to non-ionised oxygen, ionized oxygen is even more reactive.

In the third step, improvement of the blood circulation is sustained by means of motion exercises (treadmill, exercise bike) or by increasing cerebral blood flow through mental activities (i. e., reading, solving puzzles).

The original proceedings are nowadays carried out in different variations and forms.

Note

Ionised oxygen is, by definition, an oxygen radical, causing damage to mucous membranes, cells and tissue during inhalation. Professor Manfred von Ardenne's own early research produced no evidence to the effect that ionised oxygen (30-minute inhalation) has any advantage compared to normal oxygen (2-hour inhalation).

It goes without saying that physical exercise affects blood circulation and blood flow properties, exerting a positive influence on well-being and performance. There is also no doubt that, in the event of a deficit, the administration of dietary supplements (vitamins, minerals, phytochemicals, etc.) has positive effects on well-being and physical performance.

Except in the case of serious lung diseases, the blood is usually sufficiently saturated with oxygen and cannot bind/transport any more. Any oxygen inhaled/supplied in addition is immediately exhaled again because it cannot be utilised. Whether there is a lack of oxygen in the blood, can easily be established by an oximeter/pulse oximeter. Those devices (mostly via a finger clip) measure blood oxygen saturation in percent. 96 percent to 98 percent signify optimal oxygen saturation. In case of lung diseases such as COPD, emphysema, pulmonary sarcoidosis, pulmonary fibrosis, the figures fall short of such values and supplying concentrated oxygen is required. If, however, a reading shows 98 percent saturation and extra oxygen is inhaled, it can neither be bound nor used because the haemoglobin is already saturated. If that extra oxygen is even ionised (supply of oxygen radicals), damage to the mucous membranes, cells, and tissues in the area of the nose, throat and bronchial system cannot be avoided.

Haematogenic Oxidation therapy (HOT)

Principle

HOT is a therapy subjecting the blood to artificial oxidation processes by means of oxygen radicals. This therapy should only be performed by experienced therapists: Blood is taken from the vein, mixed with pure oxygen, and then irradiated with UVB light. Irradiating the blood/oxygen mixture with UVB light, will transform the oxygen into ionised oxygen, singlet oxygen, and ozone – or: free radicals (oxygen radicals). Subsequently, the treated blood is re-infused into the vein. The treated blood will trigger relevant stimuli, reactions and chain reactions in the body. Various systems responsible for protection and repair processes, are now actively engaged to neutralize the changes in the treated blood.

Note

This type of therapy is an intense stimulation therapy. A high formation of free radicals in the blood triggers strong stimuli in the body, so as to encourage/enforce an immune response. HOT has achieved significant results in very specific diseases, such as circulatory disorders, immune system disorders, etc. Before this therapy can be performed, however, patients need to have sufficient energy reserves to be able to respond to such powerful stimuli. The body's responses to such stimuli require and consume a great deal of energy. It would be important to know in advance how efficient the regulatory ability of the autonomic nervous system is, to avoid potential side effects.

Therapy with ionized oxygen

Principle

For this therapy, highly concentrated oxygen (usually between 90 % and 98 %) is additionally ionised, i. e. electrically charged. The supplemental oxygen aims at improving energy production and other systems in the body.

Note

Ionised oxygen is by definition a free radical (oxygen radical), which can produce a chain-reaction of damage in the body (oxidative stress). The excess formation of free radicals in the body is one of the principle causes for the onset and progression of many chronic disorders. Before commencing oxygen therapy, you can check with a pulse oximeter if oxygen saturation in the blood is reduced.

Normally, an additional dose of oxygen only makes sense if the oxygen saturation in the blood/haemoglobin is reduced, which is usually the case with medium and severe lung diseases such as COPD and emphysema. Whether the administration of additional oxygen makes sense when the blood saturation lies between 96 and 98 percent (i. e., saturated), remains doubtful from a biological and physiological point of view.

Ozone therapy

Principle

Ozone is a chemical compound consisting of three oxygen atoms. While atmospheric oxygen consists of two oxygen atoms (O_2) and is chemically inert, ozone with its three oxygen atoms is a highly reactive gas, reacting readily with other molecules. This stimulus (reactivity) accounts for the therapeutic effect of ozone. Ozone therapy is a therapy in which ozone causes different degrees of stimuli triggering a response (reaction to this stimulus) and the activation of the immune system and other control systems. About 50 millilitres of blood are taken from a vein straight into a vacuum flask and mixed with the required amount of ozone microbubbles. This mixture is then immediately re-injected into the vein (i. e., autologous blood transfusion). The success of an ozone therapy largely depends on the energy status of the patient and his/her regulating ability. If his/her energy reserves are insufficient to respond to this stimulus, the entire system can rapidly be overstretched.

Ozone therapy combines medical ozone with blood, mucous membranes or tissues, in order to cause a certain stimulus response (regulation) of the body. A therapist, prior to performing an ozone therapy, should have formed an expert opinion on the regulating abilities and energy reserves of the individual patient.

Ozone therapy belongs in experienced and well-trained therapist hands, aware of the potential risks. The therapy cannot be self-administered at home.

Types of Ozone therapy:

- ▷ Major autohaemotherapy (GEB)
- ▷ Minor autohaemotherapy (KEB)
- ▷ External therapy
- ▷ Rectal ozone administration (intestine insufflation)
- ▷ Injections into joints
- ▷ Infiltration
- ▷ Ozon puncture

Note

This type of therapy is a strong stimulation therapy with the aim of provoking an intense response by the increased formation of free radicals in the blood. Without doubt, ozone therapy has achieved good results in the case of special symptoms such as poor circulation, immune system disorders, wound healing, etc. However, reactions are always enforced: If the therapy stimulus is too strong, or the patient's energy level is too low, it usually results in violent reactions which can be very unpleasant for the patient. Before administering this therapy, patients should have built sufficient energy reserves to be capable to effectively respond to such stimuli.

Conclusion

Understanding the biological and physiological correlations on the autonomic nervous system as a superordinate control organ opens up new ways of thinking and new therapeutic approaches for the therapy of COPD. Systematic application of this realisation in the form of Airnergy therapy for COPD patients reveals that, for long-term users, a significant improvement in lung function and regulation of ANS is possible and achievable.

Airnergy therapy

- ▷ does **not** supply the body with unphysiologically high concentrations of oxygen,
- ▷ does **not** supply the body with an excess of oxygen radicals (ionised oxygen/ozone),
- ▷ does **not** enforce any responses by intake of foreign substances,

but

- ▷ **improves** the regulating capacities of the ANS, and thus the fundamental control and regulation processes in the body,
- ▷ **improves** oxygen utilisation, i. e. the use of oxygen in the cells for an increased energy production,
- ▷ **improves** the protective functions of the cells against free radicals by increasing the formation of own natural protective enzymes in the body without supplying foreign substances.

Testimonials

1. COPD (chronic obstructive bronchitis with pulmonary emphysema), oxygen content approx. 50 %, long-term oxygen therapy declined so far due to relatively good subjective health, slight improvement following acupuncture, sceptical attitude towards inhaling activated air, began with 3 x 10 and then 3 x 15 mins 3 times / week, marked improvement in subjective health despite inclement weather, fairly minimal increase in oxygen content to 54 %, positive verdict overall
2. Clinical diagnosis: COPD with pulmonary emphysema exacerbated by infection, increased production of viscid mucus which was difficult to cough up, nightly coughing fits, following inhalation of activated air (21 mins daily) easier to cough up large quantities of more liquid mucus, breathed more freely
3. COPD with pulmonary emphysema, aged 71, significant deterioration in recent years, increasingly breathless of late, treated by specialist, severe set back following cold (damp cold weather), immediate improvement on inhaling activated air (no longer out of breath, able to go for walks and climb stairs once more)
4. COPD for about 12 years, side effects due to drug treatment (stomach, eyes), after inhaling activated air for the first time already marked subjective and objective improvement (state of health, activity level, less medication especially prednisone, no more exacerbations, no more colds, marked increase in oxygen saturation) (NL)
5. COPD as a result of smoking and occupational exposure to asbestos, aged 55, short of breath, lacking in energy, could only manage to walk 25 m, not capable of anything more, already marked improvement after just a few days inhaling activated air (more air, more energy), pO_2 rose from below 70 to over 90 mmHg, improvement in lung function, even one year later no relapse, marked improvement overall (at work, on home exercise equipment, as regards physical and mental functional capacity) (NL)
6. COPD, aged 66, under specialist for last 5 years, no more colds since began inhaling activated air, more energy, better subjective state of health, oxygen content in blood increased, coughed less, able to walk more easily (NL)
7. COPD, aged 59, short-term deterioration in subjective state of health after inhaling activated air, then amazing improvement (could climb stairs without becoming short of breath, energy levels rose, slept better, no longer tired) (GB)
8. COPD, aged 78, heavy smoker all his life, 4 years previously serious deterioration in subjective and objective health (COPD) following pneumonia, prescribed inhaler, deteriorated further until totally immobile, after inhaling activated air FEV1 increased continuously from 0.59 l to 0.80 l and FVC increased from 1.86 l to over 3.10 l (rose by 210 and 1150 ml). At the same time marked rise in subjective health and functional capacity (GB)
9. COPD, aged 65, constant mucous congestion, also osteoporosis, rheumatoid arthritis, osteoarthritis; able to walk about 200 m maximum, short of breath, no appetite; since inhaling activated air less need to use inhaler, peak flow (PEF) rose from 200 to 300 l/min, took part in regular lung exercises without any problems, more energy, more stamina, no longer short of breath, blood circulation improved, easier to cough up mucus which is more liquid, slept better, more self confidence, improved state of health (GB)

COPD therapy and support concept



Contact details of the manufacturer

Airnergy AG

Wehrstraße 26

53773 Hennef

Phone: +49 (0) 22 42 - 93 30-0

Fax: +49 (0) 22 42 - 93 30-30

Email: info@airnergy.com

Internet: www.airnergy.com

Airnergy therapy is suitable for inhalation use for all ages. Especially with complaints such as COPD, a twenty-minute application should be administered several times a day. Since the very beginning of this kind of therapy about twenty years ago, no side effects or overdoses have been reported.

All perceptible and visible reactions are based on performance and capability of the body. Since each organism is unique, different dietary habits prevail, medications and other life circumstances influence complex physical processes, we are not in a position to predict all possible responses, but we will support you personally on your way to self-responsibility.

Experience has shown that COPD sufferers do not only want the mere therapy, but also seek appropriate supervision.

Whether notes on criteria for clean and healthy water, detoxification possibilities, intestinal rehabilitation, explaining symptoms and consequences – it is all part of our free service.

If you have any questions, please contact the manufacturer.

Bibliography

<http://www.lungeninformationsdienst.de/krankheiten/copd/verbreitung/index.html>

<http://www.leichter-atmen.de/copd-gold-stadien>

<http://www.sauerstoffenergietherapie.de/index.html>

http://www.sauerstoffenergietherapie.de/de/set_studien_iasp.html

<http://flexikon.doccheck.com/de/Vitalkapazität>

Kucera, M., *“Active Air” Inhalation Therapy: Autonomic Regulation Mechanisms with Use of Heart Rate Variability Analysis*. Prescott: Explore Publications, A Division of Chrystyne Jackson Ent., Explore! Magazine – For the Professionals, Volume 16, Number 2, 2007

Jung, K., *Energetisierung der Atemluft – auch bei COPD?!*. CoMed Verlagsgesellschaft mbH, CoMed – Das Fachmagazin für Komplementär-Medizin, Nr. 01/2009

Kunsch, K., *Der Mensch in Zahlen: Eine Datensammlung in Tabellen mit über 20000 Einzelwerten*. Spektrum Akademischer Verlag, 2006

Dehmlow, R., *Die Sauerstoff-Energie-Therapie (SET)*. Forum Medizin Verlagsgesellschaft mbH, Die Naturheilkunde – Sonderdruck aus Ausgabe 4/2010

