# Macula Degeneration Compendium

A compendium that offers new perspectives and therapeutic approaches for people with age-related macular degeneration (AMD). New insights into the causes and development of AMD have given rise to new diagnostic and therapeutic options. Realistic goals and a holistic approach combine to help people feel and live better.

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# Age-related macular degeneration – new insights, new therapies

We have produced this AMD compendium to provide you with information and results that were not previously available and that may open up completely new perspectives concerning the successful treatment of age-related macular degeneration. The experience gained over the last 14 years clearly shows something that has also been confirmed by ophthamologists and opticians, namely that it is possible to achieve a significant improvement in vision in patients with age-related macular degeneration and to reduce gray creep and the metabolic deposits called drusen. To achieve such improvement, the body's internal repair and regeneration processes need to be able to do their job, and this in turn requires that certain preconditions be met.

# 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 22, were performed under the formerly used term "Oxygen Energy Therapy"; therefore , we have not, updated that chapter by renaming the term "Airnergy therapy".

# Superordinated control organ regulates subordinated systems



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

# Widely misunderstood or ignored until today, the knowledge pertaining to our ancient and deep-rooted biology offers new approaches to achieving successful diagnosis and therapy.

Just as a modern heating system with several radiators in different rooms is controlled and regulated by a supervisory control center, there is a superordinate control center in the body known as the autonomic (or vegetative) nervous system (ANS). It consists of two main nerves, the sympathetic nerve and the 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 prevailing conditions and sends commands to the subordinate systems such as the heart, circulatory system, kidneys, liver and lungs, all the way down to the cellular level (including the retina cells), in order to trigger the response that is, biologically speaking, the most advantageous to the body.

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. When we go into that state of alert, preparing for a fight-flight-response, one important response is the dilation of the pupils, which allows more light to hit the retina and macula cells so that we can get a better look at our surroundings and at our "enemy". This is important if we are to win the battle for survival. This simple strategy is essential for survival, and has been proven and continuously improved by nature, 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 dilated pupils return to their normal size or shrink even further, reducing the amount of light that reaches the retina cells. The constant change between tension and relaxation is the natural way for our bodies to perform at their best and to subsequently regenerate.

In long-lasting stress situations, the pupils remain dilated the whole time, causing too much light to fall onto the sensitive visual cells, resulting in damage due to the increased production of free radicals. When a person is in a state of constant stress, the essential visual cell regeneration and repair processes cannot function optimally because the vagus/parasympathetic nervous system is not active or cannot be activated. For example, a 24 hour day consisting of 15 hours of constant stress (from 7 am to 10 pm) and only nine hours of nighttime "rest" produces an imbalance that over time will inevitably lead to disorders and functional impairments.

# The sympathetic and parasympathetic nerves control all organs and systems down to the cellular level



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 mascular 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
Perspiratory glands	Viscous (sticky) perspiration	Low viscous (fluid) perspiration
Retina/Macula cell	More light exposure/activation	Less light exposure/normalization
Salivary glands	Viscous (thick) saliva	Low viscous (thin) saliva
Urinary bladder	Inhibition	Activation

# Effects on eyes, retina and macula cells and their blood vessels – Sympathetic and parasympathetic nerves

All our organs, eyes and vessels are made up of different types of tissues and cells formed from the three germ layers called the endoderm, mesoderm and ectoderm (embryology). The autonomous nervous system controls and regulates these cells and vessels in response to the given situation. Among other things, stress and tension allow more light to pass through the dilated pupils to the light-sensitive visual cells and more oxygen to be transported to the eye cells and converted into energy (ATP). The combination of increased energy production and the increased amount of light hitting the retina cells automatically results in a rise in the number of aggressive oxygen radicals produced in the affected cells/ tissue. And this will - over time - lead to accelerated damage of the retina and macula cells. The required internal repair mechanisms initiated by the body often result in the formation of small (micro) swellings between the white of the eye (sclera) and the retina (retina and macula cells). These microswellings, however, are a necessary and indispensable part of the repair process. But they do initially cause visual impairment (lifting/loosening of a part of the retina/ macula), which in most people understandably stimulates a high level of anxiety and hence more stress. The biological and physiological processes at work here, though, are the same as you might experience after twisting your ankle. The swelling that follows is very important for the repair and healing process and thus makes perfect biological sense.

If you are like most people, you will now pay a visit to your doctor who will then aggravate the stress cycle even further by doing what the generally accepted opinion (opinion, not science) calls for, namely to initiate therapeutic measures. This serves to sharply intensify the existing levels of stress, since the patient gets the impression that he or she will soon suffer vision loss or blindness if something is not done immediately. Many sufferers of age-related macular degeneration regularly report that their vision is better on some days than it is on others. How can it be that "defective" macula cells allow vision to be sometimes better and sometimes worse? Are these "defective" macula cells not "defective" after all, but simply perform better on certain days under certain conditions than they do on other days? If so, and if you have also experienced such ups and downs in performance, then the thing to do is to identify the circumstances and conditions under which your macula cells perform and work better. These circumstances and conditions are not mysterious or random factors, but follow simple biological and physiological laws.

The danger situations perceived by the body are not necessarily what we think of as true dangers, such as an accident or a physical attack, but are often unconscious dangers such as family stress, relationship stress, boss stress, money stress, environmental stress, communication stress, to name but a few. The biological reasoning behind stress is to increase energy production (in the form of adenosine triphosphate, or ATP) in the mitochondria in order to successfully deal with the danger situation by either fighting or fleeing. Once the danger situation has been successfully averted, the parasympathetic nerve becomes dominant and the previously dilated pupils contract back to their normal size or smaller (to restrict light entry) and the function of the activated/light-sensitive eye cells returns to normal. This constant dynamic interplay between pupil dilation and pupil contraction and between the increase and normalization of retina/macula cell performance 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 center (ANS) must remain operational and be kept free of "interference". All our senses, internal sensors and information channels continuously provide countless bits of information, collected and processed by our autonomic nervous system in order to subsequently and efficiently control the subordinate organs and organ systems in any situation.

#### The macula region - swelling during the repair phase



Stage 1: No swelling

Stage 2: Slight swelling

Swelling is part of biologically effective repair processes following certain injuries or tissue changes. For a sprained foot, a bee sting, a knock to the head or tissue repair processes, swelling has for millennia been a proven part of our intelligent and complex bodily repair system. In the retina and macula regions, however, repair swelling between the sclera and the retina leads to visual impairment, which when first experienced understandably causes anxiety and stress in most people. This in turn results in a state of constant stress (= sympathicotonia) and inevitably to more light entering the eye which causes even more damage — a vicious cycle that needs to be broken.

## Light exposure of sympathicotonia/vagotonia



Large pupils – high light admission – sympathetic nervous system dominant (fight or flight situation) A large amount of light strikes the retina and macula. The accelerated photoactivity and metabolic activity (energy production/ oxygen consumption) generate free radicals which increase the damage done to the light-sensitive visual cells.

# Small pupils – low light admission – parasympathetic nervous system dominant (recuperation, regeneration and repair processes)

Less light strikes the retina and macula. The extra damage to the cells can be repaired.

If more damage occurs to the retina and macula cells than can be repaired by the body alone, functional disorders and damage occur which can have an impact on vision.

# **Characteristics of macular degeneration**

## Age-related macular degeneration (AMD) is characterized by:

Distorted vision (metamorphopsia) caused by deposits known as drusen.

 $\triangleright$  We differentiate between a dry form and a wet form of the condition

## 1. Dry form

Dry AMD is the most common form and is found in 80 to 85 percent of cases. As the regulatory capacity of the autonomic nervous system (the "control center") diminishes with age, metabolic activity and regeneration processes no longer function at their optimum and the body is no longer able to repair the growing number of damaged cells on its own. Over a number of years, functional impairment and damage occur to the light-sensitive cells of the eye's retina. Vision loss occurs very gradually and the ability to read normally is retained for a long period.

## 2. Wet form

Seen in 15 to 20 percent of cases, the wet form of macular degeneration is rarer but its progression is much faster. This condition is characterized by the growth of new blood vessels below or into the retina which, depending on the stage of the condition, cause the retina to lift. Medical professionals use the term "neovascular AMD" to describe the condition. Under certain conditions, leakage occurs from these blood vessels, allowing blood and fluids to seep into the retina and damage the sensory cells. This form of AMD can lead to serious vision loss within a very short period.

#### Possible symptoms of AMD:

- Dash Reduced visual acuity with loss of reading ability, especially in the fixated area
- Dash Reduced contrast sensitivity, fixated area appears as a gray spot
- $\triangleright$  Reduced color discernment
- $\triangleright$  Reduced adaptability to changing light conditions
- $\triangleright$  Increased glare sensitivity
- ▷ Central scotomas (visual field defects)
- ▷ Distorted vision (straight lines appear wavy/bent)

The eye is one of the organs in the human body with the highest per cell consumption of energy and oxygen. Of course, where the demand for energy (ATP energy storage molecule in the cells) is high, so is the demand for oxygen and nutrients. The conversion of oxygen into energy automatically produces a greater number of aggressive oxygen radicals, so-called free radicals. This is no problem as long as there is a balance between the formation of free radicals and their neutralization by antioxidant substances. If, however, more free radicals are produced than can be rendered harmless by the body's own forces, damage will occur to the sensitive structures of the mitochondria, membranes and cells, particularly to the retina and macula cells and thus ultimately to the eye.

# Causes

## The following causes are possible:

- Dash Circulatory disorders in the vascular system of the eye
- Dash Disturbed metabolic processes in the macula and retina cells
- > Imbalance in the psyche, emotions and in the processing of normal personal and job-related issues
- $\triangleright$  Oxidative stress
- $Descript{old}$  age
- > Pre-existing conditions such as arteriosclerosis (hardening of the arteries), high blood pressure and diabetes
- ▷ Psychic stress (e.g. recurring conflicts)
- ▷ Eye-specific conflicts:
  - ▷ I can't see something/someone any longer (wish to see/lost sight of)
  - Dash I don't want to see something/someone any longer (wish not to see)
  - Dash I am nearly blinded by anger
  - $\triangleright$  I've lost sight of what's going on
- $\triangleright$  Genetic disposition
- Dash Previous eye operations, injuries and other traumata
- $\triangleright$  Smoking
- Unbiological and "unnatural" diet (lacking necessary basics required for the proper functioning of the retina cells, including micronutrients, vitamins, trace elements, enzymes, phytochemicals and enough pure water).

# Diagnosis

#### Self-diagnosis with the Amsler test:

Distorted vision (metamorphopsia) is one of the typical symptoms of macular degeneration. The Amsler test is used to determine whether affected persons see straight lines as being bent or shifted. The test can be self conducted:



Normal vision

Abnormal vision

#### Fluorescein angiography

Fluorescein angiography is a diagnostic method used to detect diseases of the fundus. It involves the intravenous injection of a contrast medium (dye), which after a certain period reaches the blood vessels of the eye/fundus. Photographs are taken using a special light that excites (illuminates) the contrast medium and then compared with photographs taken without contrast medium to reveal changes in the smallest blood vessels in the fundus. Fluorescein angiography is considered the gold standard for diagnosing wet-type macular degeneration and is covered by basic health insurance plans in Germany. Once a precise diagnosis is made, treatment can begin.

# New therapeutic options for people with age-related macular degeneration

The first and most important thing to do if you experience distorted vision or other initial symptoms of age-related macular degeneration is to remain calm. Panic and stress activate the sympathetic nervous system (tension nerve), which over the long term prevents and blocks the body's own repair and regeneration processes.

At this point you will need to make a decision as to which therapeutic pathway you wish to take. But before you make this decision, you should at least be aware of the advantages and disadvantages of the various therapeutic methods. The fact is that every "unnatural" therapeutic method has disadvantages and side effects. Unfortunately, these are often played down or not fully explained by physicians, therapists and experts.

The more information you have the better you are able to select your course of therapy. This information enables you to responsibly and confidently take the decision that is right for you in the spirit of self-determination and self-accountability. For your healing process, it is important that you confront this issue with determination, because if you don't, other people (strangers) will end up assuming responsibility for your therapy and your health. Holistically and biologically oriented therapists and physicians can accompany you along your path.

Take enough time to make your decision. Macular degeneration is not a condition that requires emergency action. Should you decide in favor of a holistic/naturopathic therapy, you will still have the option of choosing conventional therapy later. Conventional therapy, on the other hand, may cause damage that cannot later be reversed.

# Holistic therapeutic options

The basic idea behind the following holistic therapies is to identify the metabolic and repair processes that have been disturbed and to bring them back into balance so that the body's innate repair processes can again perform optimally. Since there is no destruction or battling of cells and tissue, there is no risk of irreversible damage. Here, the focus is much more on understanding the biological and physiological processes going on in the affected tissue.

- $\triangleright$  Airnergy therapy
- ▷ Acupuncture particularly Boel acupuncture
- $\triangleright$  Orthomolecular therapy
- $\triangleright$  Herbal and homeopathic remedies
- Dash Conflict recognition and elimination for stress reduction
- $\triangleright$  Relaxation methods
- $\triangleright$  Change of diet

# **Conventional therapeutic options**

Let us now look at the treatments administered most often. The problem with these classic therapies is that they do not treat the actual causes of AMD. It is always assumed that the body is stupid and out of whack and that our job is to repair this defect – and this despite the up to one million intelligently controlled chemical reactions that take place every second in every cell. It's a good thing that we enjoy freedom of religion and that people can believe what they want :-) The risk associated with these

methods, however, is extremely high. Damage such as scarring, destruction of the macula and retina cells and of surrounding tissue drastically reduces the chances for the body's own regeneration and repair processes to be effective.

## $\triangleright$ Intravitreous injection of VEGF inhibitors:

VEGF inhibitors are drugs designed to prevent new vascular growth in or under the retina. VEGF stands for vascular endothelial growth factor. The drugs are injected using a syringe inserted directly into the eye using local anasthesia.

## ▷ Thermal laser therapy:

Thermal laser therapy is used to seal (burn) newly formed blood vessels to prevent further growth. This therapy, however, also destroys the visual cells located above the vessels!

#### ▷ Photodynamic therapy (PDT):

PDT works by introducing light-sensitive catalysts into the blood vessels of the fundus and then exciting them by means of laser light. The previously non-reactive catalysts now become reactive and cause nearby oxygen to assume the singlet state. This reactive oxygen (which acts like free radicals) leads to the destruction of the surrounding cells, including healthy ones.

#### ▷ Drug injection behind the eye:

In this therapy, a modified cortizone preparation is injected behind the eye at six-month intervals using a special needle. The preparation is used to prevent the growth of new blood vessels in or below the retina and it is only used in Australia.

Even if you choose to undergo one of the conventional therapies, the Airnergy therapy can be applied as a complimentary therapy to minimize possible side effects, improve repair processes and increase overall well-being.

# Successful new therapy for age-related macular degeneration (AMD) using synergy effects

According to the teaching of conventional medicine, there is no cure for macular degeneration. Once the cells of the macula become damaged, there appears to be next to no chance for regeneration and long-term vision improvement.

Experience with Airnergy therapy, however, has clearly demonstrated that it is possible to regenerate damaged macula cells. It is indeed possible to achieve both a long-term improvement in vision as well as a reduction in drusen and film buildup.

In some patients, visual capacity rose from 10 percent to over 60 percent in the course of a few months. These are not rare, isolated cases. They are cases in which the holistic prerequisites were achieved so that the body could carry out its own repair and regeneration processes. Even for conditions arising due to defective genes, such as mucoviscidosis, therapeutic success has been achieved after just two years using holistic methods.

Since diseases of the macula progress differently in each individual, the therapy applied should be custom-designed and monitored. This is where we can help.

## Can macula cells regenerate?

Every second of our lives, 10 million new cells are formed in the body and just as many old or defective cells are removed. The body has many ways of compensating for or repairing functional disorders and damage. Doing so, however, requires that certain preconditions be met.

# Preconditions for repair and regeneration processes in people with macular degeneration (AMD)

Our DNA (genetic material) is not rigid, unflexible and unchangeable. On the contrary, it adapts itself to continuously changing living and environmental conditions. To live means to respond to stimulation and to deal with different situations in the best way possible. It is not the strongest who survive in nature, but those who can best adapt.

# If the body's internal repair and regeneration processes are to function optimally, the following conditions should be met:

- The vagus/parasympathetic nervous system (relaxation system, responsible for regeneration, repair and energy buildup) should be dominant more often than the sympathetic nervous system (tension system = responsible for the fight-or-flight response and the struggle for survival)
- ▷ Basic building materials and building blocks need to be available in the amount required for the eye cells to function and regenerate perfectly. This can only happen if the body is able to take up a sufficient amount of micronutrients.
- ▷ Identify your biological conflicts and try to resolve them.
- Question your personal habits and mindsets that may have led to your illness (nutrition, intentions and goals, stress, lack of exercise, etc.).
- > Strengthen your eye muscles and promote circulation by training with pinhole glasses. The need to constantly refocus when wearing pinhole glasses is an effective way to train your eyes.
- Dash Support your body with proven herbal and naturopathic remedies and holistic therapies
- > Drink lots of pure, low-mineral water (e.g Lauretana/Mont Roucous) to help bind and excrete more metabolic waste products.

#### **Required micronutrients for AMD:**

▷ Beta carotene, lutein, zeaxanthin and lycopene | vitamins C, E | zinc, selenium | citrus bioflavonoids and blueberry anthocyanins | B complex vitamins (B1, B2, niacin amide, calcium pantothenate, B6, biotin, folic acid, B12, B15 – pangamic acid)

## Tried and tested naturopathic preparations (available from pharmacies):

- ▷ Euphrasia (e.g. from Ceres/Alcea PZN 0178910)
- ▷ Ginkgo (e.g. from Ceres/Alcea PZN 0178985 in combination with Euphrasia)

# Airnergy therapy – applications for patients with chronic eye diseases

- ▷ Age-related macular degeneration
- $\triangleright$  Retinopathies
- $\triangleright$  Cataract
- ⊳ Glaucoma
- $\triangleright$  Conjunctivitis

# Aim and logic of 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:** To improve blood circulation, remove a greater quantity of metabolic waste products, enhance protection against free radicals and cellular damage, regenerate the retina cells and improve the regulatory capacity of the autonomic nervous system (ANS).

# **Recommendations for use**

▷ 20 minutes several times a day

Some users respond extremely well to progressive doses, beginning with short administration durations and gradually increasing.

# **Risks and side effects**

During the last 14 years, no risks or side effects from Airnergy therapy have been reported. It can be used in combination with conventional medical and/or naturopathic therapies.

# **Combination of three therapies to combat macular degeneration**

# 1. Inhalation therapy (Relaxation energy from singlet oxygen)

The activated air (with no increase in oxygen levels) is inhaled for about 20 minutes using a nasal cannula. There is a measurable improvement in HRV (regulation and control of the ANS), in external respiration (transport of oxygen from the air through the lungs to the blood), in 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. All this is achieved without the addition of foreign substances, increased oxygen or ozone. Airnergy technology successfully mimics natural processes that have existed 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:

- $\triangleright$  Improved visual capacity
- $\triangleright$  Intraocular pressure returned to normal levels
- $\triangleright$  Improved blood circulation
- $\triangleright$  Faster regeneration after physical exertion
- $\triangleright$  Pain relief
- Dash More physical and intellectual energy
- $\triangleright$  Blood pressure regulated closer to normal levels
- $\triangleright$  Blood glucose regulated closer normal levels
- $\triangleright$  Improved concentration
- > Greater mobility in people with movement impairments
- Dash Facilitated and improved inhaling and exhaling
- Dash Increased fatigue, dizziness and greater need for sleep
- Dash Improved ability to fall asleep and sleep through the night

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 causes the pupils to dilate, allowing more light to enter and hence promoting the production of free radicals, a process that is antagonized by the increased conversion of oxygen to produce even more energy. This is a vicious circle that needs to be broken. Setting realistic objectives for yourself on a daily basis is an important first step.

On days when you are not feeling well and your vision is poorer that on previous days, you should set different goals and objectives for yourself than on days when you are in better form. This process, i.e. learning to define realistic goals and objectives, may well take six to twelve months. Expecting to achieve therapeutic success within four to eight weeks is unrealistic and will inevitably produce more stress.

#### Example of realistic objectives for AMD patients:

- ▷ Months 1 6 after beginning the treatment: stopping any further progression of AMD
- ▷ Months 7 12: achieve a measurable improvement in vision and HRV (heart rate variability)

# Airnergy therapy – Trials and empirical evidence

In all patients suffering from marked macular degeneration, heart rate variability (HRV) is reduced. This means that the regulatory ability of the body's superordinate control center – the autonomic nervous system – is limited. As the disease progresses, HRV deteriorates even further. A pilot study was done to examine the impact of oxygen energy therapy on the superordinate control center – the autonomic nervous system. The study measured heart rate variability (HRV), which is considered the 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) reflects the level of recovery/relaxation; and TP (total power) indicates the total energy in the body.

Since nowadays we, and especially AMD patients, frequently suffer from chronic stress, 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 five activation chambers were used along with chromotherapy.



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.



Fig. right: The significant increase (p < 0.001) in overall effectiveness (TP + 16.78 %) of the autonomic nervous system points to a significant increase in reserves and to the effectiveness of energy balancing and metabolism.

# **Comparison: Root growth of plants**

Activated water, produced using the Oxygen Energy Therapy 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.



## Summary of results:

HRV analysis has been used to clearly demonstrate the success achieved by the therapy for a number of different disorders. Studies have also produced the scientific evidence to prove that Airnergy therapy significantly improves root growth in plants. Since a placebo effect can be ruled out in plants, we can safely say that the therapy has successfully passed the trials for proof of effectiveness.

# **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, three 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  $(0_2)$ . 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
- $\triangleright$  under optimum conditions, about one quarter is absorbed by the body and bound to haemoglobin (1/4)
- $\triangleright$  about three quarters are exhaled again unused (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).
- $\triangleright$  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 =  ${}^{3}O_2$ ), and our body must continuously activate it to become reactive (singlet oxygen =  ${}^{1}O_2$ ) 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 ( ${}^{3}O_{2}$ ). 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  $({}^{1}O_{2})$ . 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
- $\triangleright$  hearing impairments, tinnitus
- $\triangleright$  visual impairments
- $\triangleright$  general fatigue
- 🕞 begleitend bei Krebserkrankungen
- $\triangleright$  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.

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#### 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  $(0_2)$  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
- $\triangleright$  Rectal ozone administration (intestine insufflation)
- $\triangleright$  Injections into joints
- $\triangleright$  Infiltration
- $\triangleright$  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

By deepening our understanding of the biological and physiological correlations associated with the autonomic nervous system (the body's superordinate control system) and of the predictable, tissue-specific reactions, we are discovering new ways of thinking about and treating AMD. The systematic application of these insights in the form of Airnergy therapy combined with a holistic and biological approach and the support and care provided by our team has shown that long-term application makes it possible to achieve a clear improvement in vision and ANS regulation in AMD patients.

#### **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. Healing Practitioner H.S. reports:

76-year-old female patient showed 30 to 50 percent improvement in vision after 10 sessions of combined spirovital and dermovital therapy (local application with energized air), with success fully maintained after 2 years of observation.

## 2. Patient W.F. (Sweden) reports:

"Concerning my eyesight, I would say that after about 3 to 4 weeks of oxygen therapy with three to four 20-minute sessions every day, my (dry-type) macular degeneration not only hasn't worsened, there have even been days in recent weeks where my vision has noticeably improved, especially in the near and reading range, with fewer blank outs of letters and numbers".

## 3. Ophthalmologist C.C. reports:

"The indications for which I apply spirovital therapy are circulatory disorders of the retina, diseases of the optic nerve, and scotoma following a stroke. Patients receive five to ten treatments lasting 20 minutes each. Then we test the patient's field of vision, examine the fundus and ask about his or her general well-being. The overall response from patients has been very positive. Objective examinations reveal a significant improvement in vision in most patients, sometimes by up to two levels of visual acuity. This therapy has been successful in significantly reducing complaints, though they are rarely eliminated altogether. The quality of life for most patients generally improves greatly".

#### 4. Patient M.W. (England) reports:

Macula degeneration had left Mr. W. with only 10 percent vision in both eyes and he could barely see at all by the time an ophthalmologist began treating him with spirovitalisation. "After the treatments the first test was done and it showed an improvement of almost 40 percent in the left eye. But vision in the right eye remained at about 10 percent. By using the treatment at least four times a week, the vision continued to improve, especially the left eye, which is now at almost 60 percent. And when we did the last test we found for the first time that vision in the right eye had also improved from 10 to about 15 percent".

#### 5. G.R. reports about his mother (Switzerland):

80 years old, typical macular degeneration (totally blind in left eye, 30 percent vision in right eye). After three months of spirovitalization, shadowy vision in left eye (estimated 5 percent vision according to ophthalmoscopy), right eye vision improved from 30 to 60 percent. Overall well-being is very good.

#### 6. Healing Practitioner H.M. reports:

"I myself suffer from AMD (wet type right, dry type left). Based on my own experience, I developed a biological holistic therapy, with two weeks of combined spirovital and dermovital therapy (local application of energized air) plus 30 acupuncture applications during this same period. When given this therapy, many of my patients report significant subjective improvements of their vision during the treatment phase. Objective tests showed a reduction of AMD from the wet to the dry type in one patient".

# AMD 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 AMD, 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 AMD 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.

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