

Product information



MITOVIT[®]

HYPOXIC TRAINING

More vitality and well-being with hypoxic training –
easy and relaxed at rest



COMMIT
CREATING HEALTH

FIT FOR LIFE!



MI
HYPO

www.mitovit.de

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NOBEL PRIZE IN MEDICINE FOR HYPOXIA RESEARCH

In 2019, the Nobel Prize in Medicine was awarded to three scientists, William Kaelin, Gregg Semenza and Peter Ratcliffe. They have discovered molecular mechanisms that enable cells to measure oxygen levels and recognize when adaptive responses become necessary. Hypoxia, in particular, contributes to positive reactions that help the body supply all organs and organ systems with sufficient oxygen.

In his 2012 publication, Gregg Semenza documented the influence of hypoxia on mitochondrial function and showed that under hypoxic conditions, autophagy of weakened mitochondria is accelerated and the formation of new mitochondria is stimulated.

Science now assumes that a large part of civilization and chronic diseases, in addition to an autonomic imbalance, are closely related to damaged mitochondria. The studies of the three Nobel Prize winners now explain the many positive experiences of the users of the hypoxic training.

MITOVIT® is one of the most modern hypoxic training systems on the market. Although the training is carried out at rest, the effects of the altitude training known from competitive sports can be achieved through the targeted use of low-oxygen air.



THE EFFECTS OF ALTITUDE TRAINING

Altitude training for everyone. Increasing vitality.
Promoting health. Improving well-being.

The effects of altitude training.

In endurance sports, altitude training (hypoxic training) has long been known as a measure to improve performance and has therefore been used successfully by many competitive athletes for decades.

Since when have the effects of altitude training been known?

In 1968 the Olympic Summer Games were held in Mexico City. Having a height of 2240 m, the venue was significantly higher than previous locations. The preparations for these competitions gave rise to the development of the first systematic altitude training methods. In addition, the great successes of the long-distance runners from the highlands of Kenya and Ethiopia, even at low altitudes, meant that they had to continue to engage in altitude training as preparation for competitions in the lowlands.

What changes with increasing altitude?

With increasing altitude the air pressure decreases. This results from a reduced number of oxygen molecules in the breathing air. A cubic metre of breathing air at altitude has a lower proportion of oxygen than at sea level. This means that with increasing altitude, the oxygen content in the breathing air gradually decreases, and in simple terms, the air becomes thinner. With increasing altitude, the organism receives less and less oxygen per breath. The body therefore tries to keep up with this by faster breathing and an increased pulse rate in order to supply all cells with sufficient oxygen.

Why is altitude training effective?

In height training, the body primarily adapts to the oxygen-depleted air (hypoxia) through the increased production of red blood cells (erythrocytes). With an increased number of red blood cells, more oxygen can be transported through the body, the muscles and ultimately into the cells. This results in a significant increase in performance.

Is altitude training intended only for competitive athletes?

The use of altitude training has long since ceased to be exclusive for competitive sports. Many doctors, nonmedical practitioners, therapists, fitness studios and health-conscious people use the profitable effects of highaltitude training for their own benefit or for the benefit of their patients. Height training is said to have a multitude of health-promoting properties, especially in the therapeutic field. In addition to improving the regulation of the autonomic nervous system, it should also lead to faster regeneration of the mitochondria, lower blood pressure and stimulate the fat metabolism, thus accelerating weight reduction.

Do I have to go to the mountains for altitude training?

Thanks to 21st century technology, this is no longer an absolute necessary. MITOVIT® Hypoxic Training allows you to simulate altitude training at any time, relaxed and at rest. At intervals, low-oxygen and normal air or oxygen-rich air is breathed via a breathing mask.

MITOVIT® – THE TRAINING SYSTEM

MITOVIT® is one of the most advanced hypoxic training systems on the market. It is easy to use, allows quick visual control of the training progress and offers you an integrated real-time HRV measurement with parasympathetic activity display.



best housing insulation allows quiet atmosphere and optimal relaxation during hypoxic training session



determines the optimal training conditions with the help of the fully automatic hypoxia test



Automatic adjustment of oxygen delivery in biofeedback mode to achieve optimal training range



highest safety due to two synchronized pulse oximeters



more efficient training due to the unique adaptive hyperoxia



clearly visualizes whether the training is within the ideal range



Very mild hypoxia from 18 % O₂ for sensitive persons



highest reliability due to pure cable connections of software and hardware



stores the individual training settings to make 100% delegation possible



intuitive user interface with capacitive touch display for quick and easy operation



visualizes the altitude meters and the corresponding oxygen concentration for increased compliance



Manufacturing according to the latest standards - made in Germany

MITOVIT® – THE TRAINING SYSTEM

PRODUCT SPECIFICATIONS

Functions and scope of delivery

MITOVIT® Hypoxic Training System

15.6 Inch Full HD Touch Screen Monitor

2 soft, very comfortable portable pulse oximeters

10 breathing masks

10 Bacteria/virusfilter

1 Device protection filter

1 breathing hose

1 chest strap, ECG accurate

Marketing initial equipment

fully automatic hypoxia test for a safe start of training

individualizable hypoxia test: SpO₂ target value adjustable between 77 % - 93 %

3 training modes: manual setting or selectable as biofeedback program:

- hypoxia – normoxia
- hypoxia – hyperoxia
- hypoxia – adaptive hyperoxia

Optional: Start with hyperoxia

Oxygen concentration settings

- hypoxia: from 18 - 9 % oxygen
- normoxia: 21 % oxygen
- hyperoxia: 30 % oxygen

SpO₂ target value biofeedback mode: adjustable between 75% and 93% SpO₂

SpO₂ safety value biofeedback mode: adjustable between 73% and 92%.

O₂ safety value Biofeedback mode: automatically 1.0 % below the determined O₂ value of the hypoxia test

intuitive software

integrated real-time HRV with display of parasympathetic activity

high relaxation comfort thanks to low noise level

humidified breathing air for comfortable breathing

integrated oxygen concentrator, no exchange of oxygen cylinders necessary

continuous recording of measurement data

capacity of unlimited storage of patients possible

capacity of unlimited storage of training sessions possible

automatic backup of the measurement data

Export of training reports via USB stick

Database backup via USB stick

Simultaneous recording of SpO₂ via two pulse oximeters for maximum patient safety

Size approx. (W x H x D): 45 cm, 106 cm, 37 cm

Weight: approx. 60 kg

Made in Germany

! Due to its intuitive operation, MITOVIT® hypoxic training can be delegated 100%.

MITOVIT® – THE TRAINING SYSTEM

PRODUCT SPECIFICATIONS

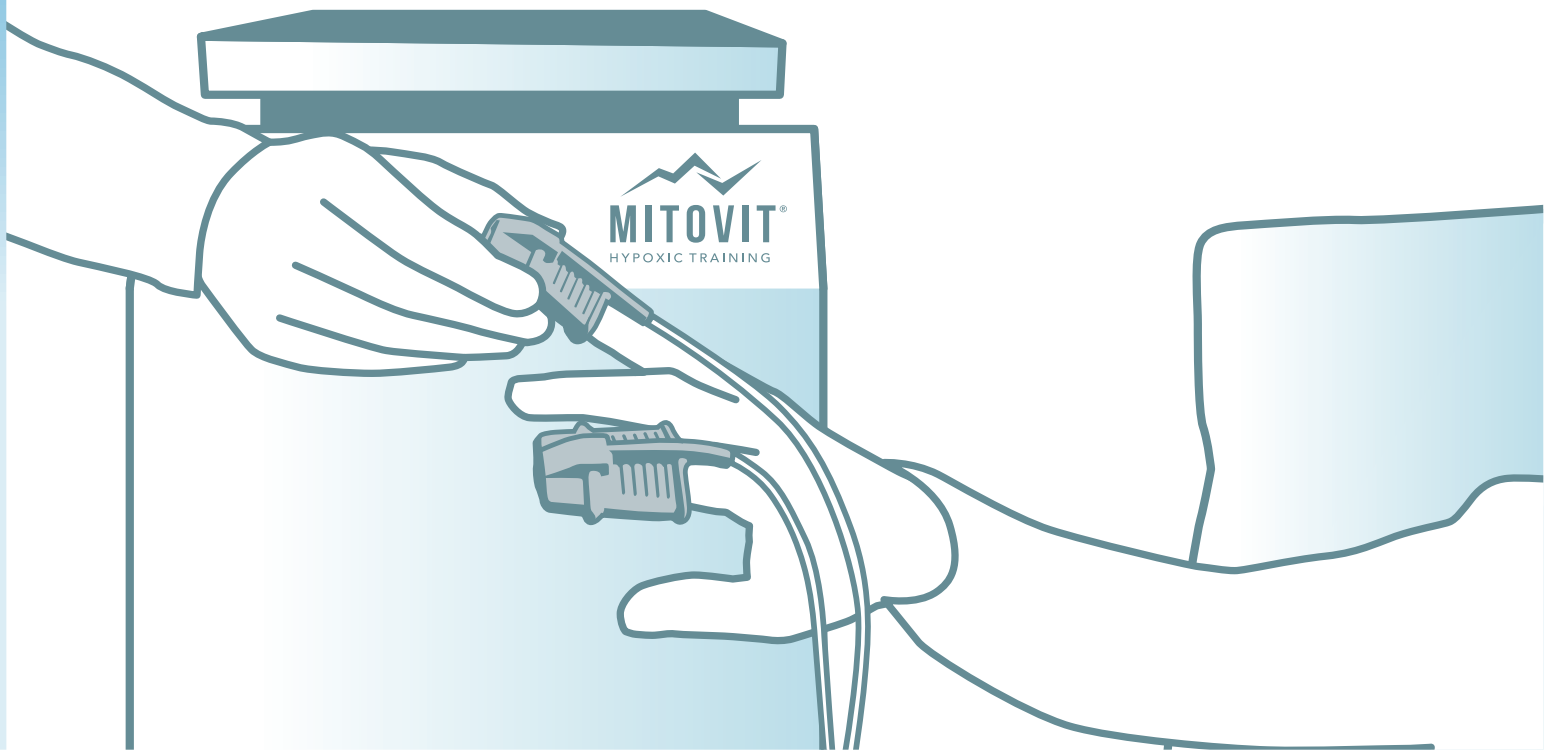
Double protection with 2 pulse oximeters

Since safety is the top priority in our hypoxic training, two pulse oximeters are used at MITOVIT® for optimal safety. Thus, using the two pulse oximeters, two values for the SpO₂ are always recorded in parallel and compared with each other. If one pulse oximeter fails, displays incorrect values, or the difference of the two measured data becomes too great, the automatic safety mechanism takes effect and the user is immediately supplied with normoxic air. This double safeguard during treatment ensures that an inadvertent lowering of the SpO₂ below the limit range takes place.

To ensure that the person finds the treatment comfortable, we supply special pulse oximeters made of soft material with a long cable that is very comfortable to wear.

In the event of a power failure, MITOVIT® contains a safety valve that ensures the supply of room air at all times if MITOVIT® can no longer supply air.

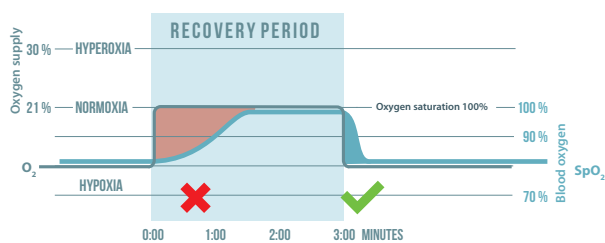
Optimum relaxation with maximum safety – for the best training results.



ADAPTIVE HYPEROXIA FOR MAXIMUM TRAINING SUCCESS!

Adaptive hyperoxia combines the respective advantages of hypoxia/normoxia (IHT) and hypoxia/hyperoxia (IHHT) while avoiding their specific disadvantages. In the following diagrams you can see the advantages and disadvantages of the respective training options.

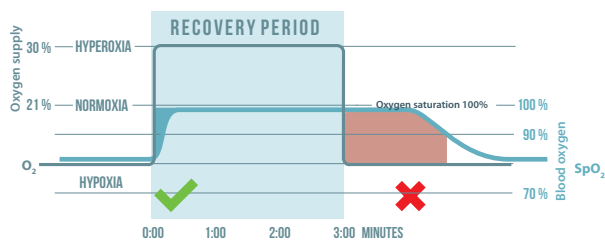
Intermittent Hypoxia/Normoxia (IHT)



❌ Disadvantage: In the recovery phase (normoxia) it takes longer until the initial oxygen saturation in the blood is restored. The regeneration time is not optimally used.

✅ Advantage: In the training phase (hypoxia) the oxygen saturation quickly sinks back to the training range (below 90% SpO₂) because there is no oversaturation. The training time of hypoxia is thus optimally exploited.

Intermittent hypoxia/hyperoxia (IHHT)

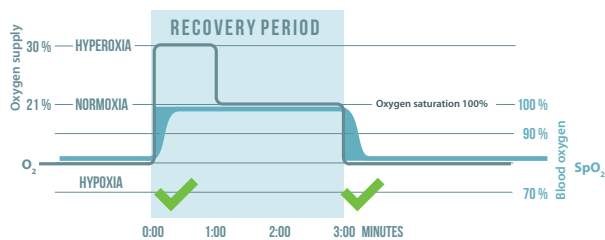


✅ Advantage: In the recovery phase (hyperoxia) the initial oxygen saturation in the blood is quickly restored. The regeneration time is used optimally.

❌ Disadvantage: In the training phase (hypoxia) it takes longer for the oxygen saturation to sink back into the training range (below 90% SpO₂), due to supersaturation. This considerably shortens the effective training time.

Adaptive hyperoxia combines the advantages of both methods and eliminates their disadvantages.

Intermittent Hypoxia/Adaptive Hyperoxia



✅ At the beginning of the recovery phase, hyperoxic air is administered until an oxygen saturation of 99% is reached in the blood. The regeneration time is optimally utilized.

✅ Normoxic air is then breathed for the remaining time of the recovery phase so that supersaturation does not occur. Thus, at the beginning of the training phase, the oxygen saturation in the blood can quickly drop back into the training range. The effective training time is optimally utilized.

The adaptive hyperoxia makes the interval hypoxic training significantly more efficient, increases the training success and leads to higher patient satisfaction.

Faster regeneration - maximum training effect - same amount of time!

APPLICATION IN PRACTICE

TRAINING DURING RELAXATION

The MITOVIT® hypoxic training takes place completely relaxed, preferably in a semi-recumbent position. Low-oxygen and oxygen-rich/normoxic air is breathed at intervals via a breathing mask. Oxygen saturation is measured in parallel via two pulse oximeters to ensure the greatest possible safety at all times.

General hypoxia tolerance varies greatly from person to person. Therefore, before the first hypoxic training, the fully automated hypoxia test integrated in the MITOVIT® system should be performed to determine the oxygen concentration individually for the person.

The breathing mask offers optimal wearing comfort and is easy to put on.

The two pulse oximeters should be attached to the same hand. These are extra soft and comfortable to wear. Due to the long cable, there is great freedom of movement during training.



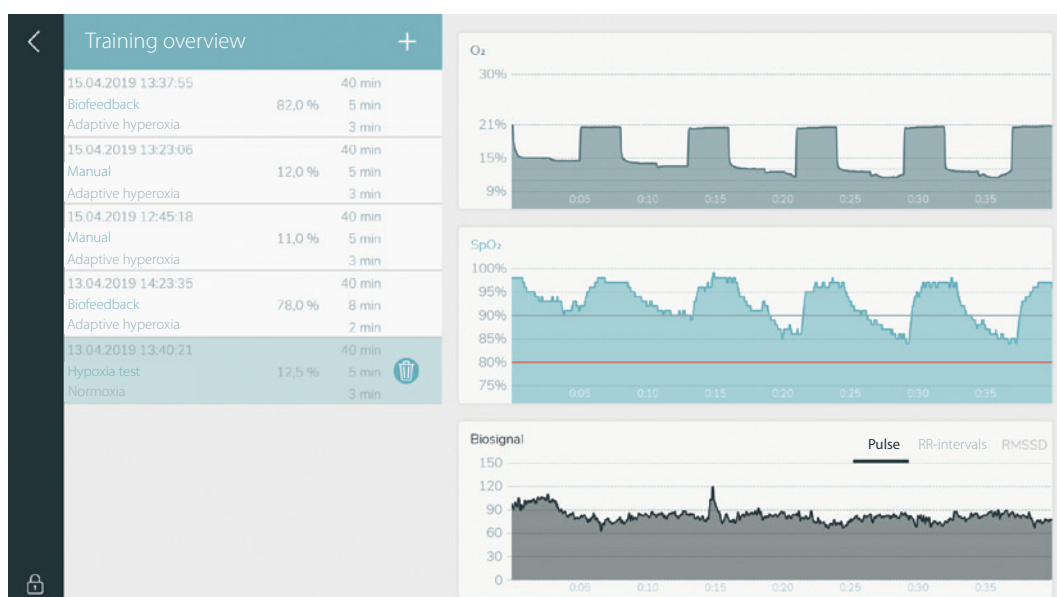
APPLICATION IN PRACTICE

FULLY AUTOMATIC HYPOXIA TEST

By default, the hypoxia test is started with an oxygen concentration of 15%. The oxygen content is then reduced by 0.5% every 2 1/2 minutes. This continues until an oxygen saturation in the blood of 85% or the set value between 77% - 93% SpO₂ is reached. MITOVIT® stores this value in the background and performs a biofeedback session for the remaining time. In the fully automatic hypoxia test, MITOVIT® gets to know the person and stores the individual values determined for him, so that the subsequent training sessions can be optimized fully automatically.



The graphic below shows the visualisation of the hypoxia test. In the third hypoxia phase, the oxygen concentration of 12.5% was used to reach an 85% oxygen saturation. Subsequently, the process continues in biofeedback mode. The determined oxygen value of the hypoxia test is proposed directly as the target value in the settings at the next session of the patient.



APPLICATION IN PRACTICE

INTUITIVE USER INTERFACE

MITOVIT® offers you an intuitive user interface so that you or your practice personnel can easily operate the system and make the correct settings.

Training phase

In the training phase, you can choose between manual and biofeedback mode.

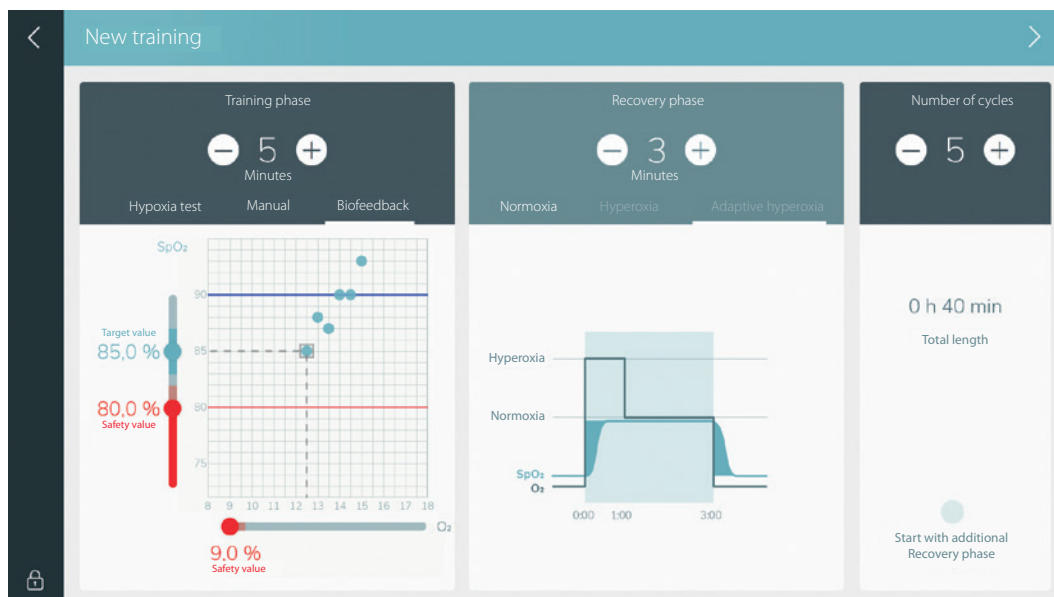
In manual mode, the oxygen concentration of the breathing air is defined as the target value and in biofeedback mode the oxygen saturation. MITOVIT® adapts the oxygen content during biofeedback according to the user's response in order to remain within the specified training range. The duration of the training phase can be set between 1 and 30 minutes.

Recovery phase

In the recovery phase, you can choose between normoxia, hyperoxia and adaptive hyperoxia depending on the patient's state of health. The duration of the recovery period can be set between 1 and 30 minutes.

Number of cycles

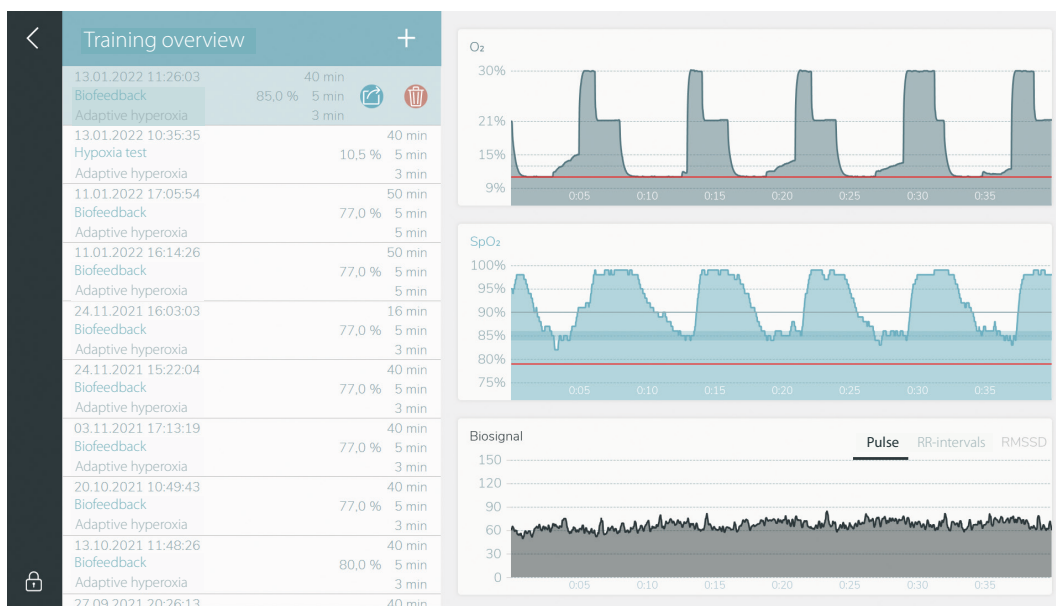
Here you determine how often the training and recovery phase should be repeated. You can also start with an additional recovery phase to relax the patient a little before training.



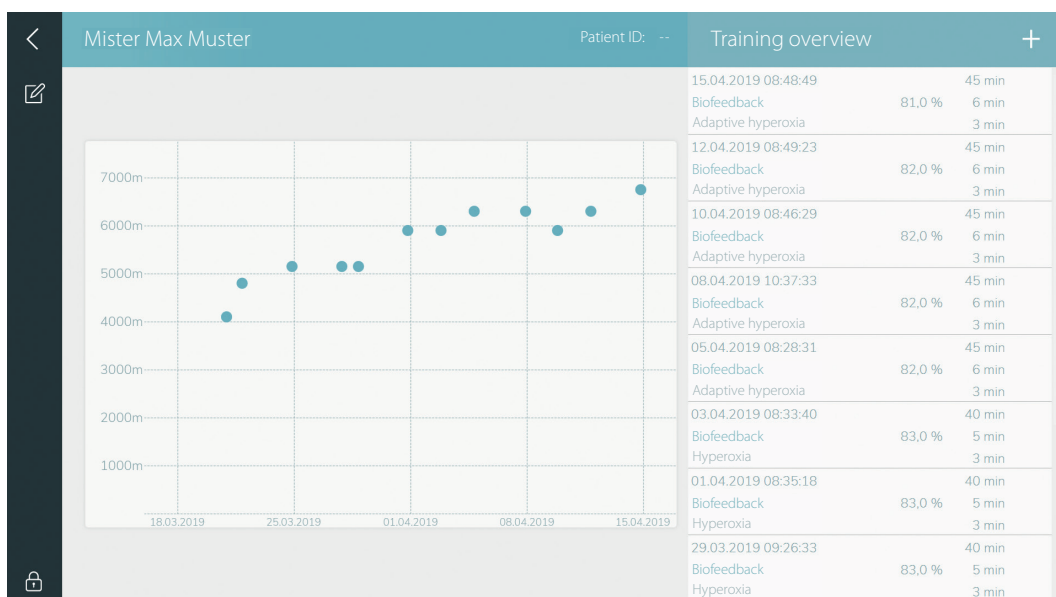
APPLICATION IN PRACTICE

BIOFEEDBACK WITH ADAPTIVE HYPEROXIA

The graph below shows you an example in biofeedback mode with adaptive hyperoxia in the recovery phase. The fully automated biofeedback program ensures that the oxygen saturation is within the set training range during the training phase, as the oxygen concentration of the breathing air is automatically adjusted. In adaptive hyperoxia, hyperoxic air is administered during the recovery phase until 99 % SpO₂ is reached. Normoxic air is then breathed until the end of the recovery phase. This makes the training significantly more efficient, increases the training success and leads to higher user satisfaction.



The graph below shows you the training overview of a user. On the X-axis you see the data of the training. On the Y-axis you can see the altitude meters. This graph makes it easier for you to communicate with your clients, as the altitude meters achieved are clearly displayed.



WHAT OUR USERS SAY



DMITRY GRINSPAN, SPECIALIST FOR INTERNAL MEDICINE, MEERBUSCH

"The non-invasive, easily explained hypoxiC training. has shown very good results that can be accurately measured with ANS Analysis. In the patients with chronic, unclear, functional, health multi-organ problems, this treatment method has special acceptance and effectiveness. With MITOVIT® hypoxic training we have helped several patients with Lyme disease, burn-out syndrome, fatigue, stress syndrome, hypertension and vegetative dysregulation. Hypoxic training also shows visible and measurable success in metabolic disorders and weight loss blockages with the help of metabolic analysis."



**DR. MED. PETER SOUSCHEK
SPECIALIST FOR ORTHOPEDICS
AND TRAUMA SURGERY, BAMBERG**

"In our integrative orthopedic practice with 3 doctors, we already use several IHHT devices MITOVIT® of Commit GmbH very successfully mainly for pain, exhaustion and burn-out patients. After a thorough ANS Analysis, our patients usually start with 2 IHHT sessions per week and usually take 20-30 sessions over a period of 3 months. High altitude training is particularly well received in a quiet environment such as our IHHT lounge with recliners. The simple intuitive operation and the safe fully automatic procedure of the treatment with double pulse oximeter control allows a problem-free integration of the therapy into our daily practice routine."



**BIRGIT FRANCKE, PHARMACIST AND
NATUROPATH, BÜDINGEN**

"Initially, I had mainly cardiovascular patients and stressed patients in the focus of the recommendation, meanwhile we have very different indications of all possible mitochondriopathies such as tinnitus, migraine, exhaustion, susceptibility to infections, dementia, pain patients, cancer patients in aftercare and many more. Patients experience this very effective and well evidenced "cleaning up" of their system down to the deepest cellular level in a very relaxed atmosphere and can not only subjectively perceive the success of the therapy, but also see it through objective ANS diagnostics. In addition, there is always accessible perfect service from the friendly and competent staff of Commit, so it is a great pleasure for us to work with MITOVIT®."



**PHILIPP NEDELMANN,
NATUROPATH, BERLIN**

"As an alternative practitioner, we specialize in chronic diseases, pain digestive problems, exhaustion and burnout in my practice "Healthy Living"! Our focus is on nutritional counseling and micronutrient therapy, as well as intensive practice therapies, which includes hypoxic training. To meet the high demand, we work with two MITOVIT® systems. We and the patients are highly satisfied."



**DR. MED. ADELHEID DEUSTER,
GENERAL MEDICINE, NATUROPATHIC
MEDICINE, STUTTGART**

"With increasing stress and age, the mitochondria lose their ability to produce energy effectively, they atrophy and eventually break down, which is noticeable to us in the decreasing vitality of body, soul and spirit. Almost all chronic, degenerative diseases are associated with a lack of energy in the cells. Hypoxic training can uniquely activate and regenerate the mitochondria, the basic requirement for healthy cell metabolism. This cell training creates new energy in all cells: noticeable, visible, measurable. In my practice, this therapy method is very successful and is requested by many patients."



**SVEN STEFAN EHRICH, NATUROPATH,
BAD NAUHEIM**

I have been working medically-therapeutically in the spa town of Bad Nauheim for 30 years. Of these, 11 years in my naturopathic practice with a focus on mitochondrial medicine and pain therapy. My experience with the MITOVIT® altitude training is very good. The therapy starts at the cell and the course of the treatment can be followed exactly for me and my patient. The secure therapy control and real-time HRV measurement provides me with full documentation of the therapy progress. Patients report clear positive effects and a relaxing feeling during and after the training. Due to the success, many patients continue the therapy in longer intervals after the first treatment series."



**THOMAS MANNES,
NATUROPATH, IRSEE**

"After working a lot with micronutrient therapy in my practice, I was looking for ways to further improve existing therapies for the benefit of patients. In the meantime, MITOVIT® has become a kind of "door opener" for me. Due to the positive effect of IHHT on the cell metabolism, existing therapy concepts became increasingly more effective for me, which is confirmed by the positive feedback from the patients, but also by the ANS Analysis. Thanks to the company Commit for the always friendly and competent support, as well as two ingeniously implemented and intuitively operable procedures that I no longer want to miss in my practice!"



**DR. MED. WOLFGANG STEFAN REUCHER,
SPECIALIST FOR INTERNAL MEDICINE, KÖLN**

"I was surprised at the beginning of the use of altitude training for my patients and for us about the good effect on the vegetative system. Since then, it has become a standard therapy for vegetative dysregulation! This is also based on the fact that the use of altitude training shows a positive effect on cell metabolism in addition to the improvement of physical resilience and vegetative adaptability. Here, our frequently seriously ill patients also profit. However, it is important to repeat the training. But we know this again from sports, only regular training leads to an improvement in athletic performance and correspondingly to more energy."

BILLING & AMORTISATION

With a leasing rate of between 400.00 € and 500.00 € per month, MITOVIT® already pays for itself with one patient per month. The total investment amortises with not even 30 private patients performing 10 hypoxic sessions.

Billing Codes for medical doctors in Germany

GOÄ 646	Hypoxia test	63.47€
GOÄ 505	Breathing therapy	8.91 €
GOÄ 602	Oximetry	15.95 €
GOÄ 636	Analysis of heart rate variability and autonomic nervous system.	39.76 €
Practice income per day / patient		128.09 €
Practice revenue with 10 recommended sessions		1,280.90 €

Recommended billing

If insurances do not cover the hypoxic training in your country, we recommend to charge between 70.00 € - 100.00 € per training session.

Diagnosis

- Exhaustion syndrome
- Hypertonic, sympathicotonic vegetative dystonia
- Bronchopulmonary dyspno
- Mitochondrial cytopathy (secondary)



An official expert opinion from the BDI (Berufsverband deutscher Internisten e.V. - Professional Association of German Internists) is available for the above-mentioned billing recommendation. We are happy to make this available to our customers for communication with health insurances.

FIT FOR LIFE!

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YOUR PARTNER FOR REGULATORY MEDICINE.

Products for the practice of tomorrow.

Have we piqued your interest?
Please contact us by phone or email.
We will be happy to fix an appointment.

Product information valid from January 01, 2022

All previous product information is no longer valid.
Errors and price changes excepted.

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Version 01

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