

**NOT FOR PUBLICATION,  
ESPECIALLY ON THE INTERNET!**

## TimeWaver Frequency

Information field controlled  
frequency therapy



# Support for your practice



## TimeWaver Frequency

TimeWaver Frequency expands your range of therapeutic techniques through its practice proven application methods. As a therapist, you will be noticeably supported, your workload will be reduced, and your patients can benefit from a variety of diverse and new therapies. Find out what this innovative system can offer you.



## The "extra therapist" for your practice

Using the automation function for the practice programs, you can integrate the TimeWaver Frequency into your practice like an almost "independently working therapist", which gives you more time for other patients.

## Innovation and experience

System's versatility and diversity of potentially treatable indications, the exceptional technical implementation of information field medicine, or the analysis and treatment at the deepest causal levels, make this system truly unique.



## Experience with over 45,000 patients

The clinical experience incorporated into the TimeWaver Frequency system speaks for itself. Using this method, the Portuguese clinic manager Nuno Nina has treated more than 45,000 patients in his clinics worldwide.

## Many integrated application methods

Using precise frequencies and low intensity currents, numerous diseases can be treated, whether in the field of pain therapy, in case of mental illnesses, such as depression, anxiety, learning support, addictions, or with cardiovascular difficulties.

## Proven in practice over the years

The therapy protocols integrated in the TimeWaver Frequency and the automated processes, are now successfully used by about 1,000 therapists worldwide, which shows the good and easy integration into everyday practice for therapists.





## Treating the **cell**

In our experience, a decrease in the cell membrane voltage is a major cause of nearly all diseases. TimeWaver Frequency's basic treatment principle is based on a cellular improvement of the membrane voltage of the cell.

## **Variety of symptoms and indications**

The TimeWaver Frequency system includes numerous programs, which are sorted by indications, special modules for analyzing the most fitting frequencies, and over 150,000 frequency databases that are assigned to more than 1,000 symptoms and indications.

## For **chronic and acute** diseases

The systemic therapy integrated in the TimeWaver Frequency system and the underlying operating principle permit the treatment of almost all diseases in a supportive and direct way, irrespective of acute or chronic conditions.

## Unique **information field technology**

The information field controlled frequency therapy integrated in the TimeWaver Frequency system is unique: the system permanently determines the frequencies to be applied in real-time and immediately adapts them to the patient's needs for the duration of therapy.

## **Co-treating the causes**

The information field technology of the TimeWaver Frequency intends to analyze deeper causes and connections on the psychological and systemic level and to influence them positively by means of certain information and vibrational patterns.

## Perfect **complement** of individual methods

The wide spectrum of applications and the numerous therapeutic possibilities offer every physician or alternative practitioner a first-class complement to his or her own range of therapies, as well as a perfect integration into practice.

**Note:** The TimeWaver systems, the existence of information fields and the herein mentioned applications are not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards. The herein mentioned case reports and studies are also not acknowledged as scientific evidence in accordance with orthodox medicine standards.

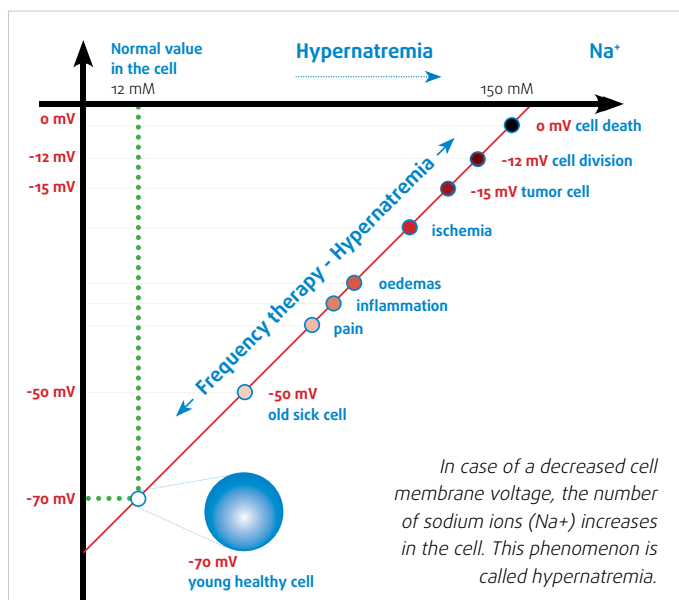
# Health starts in the cell

## TimeWaver technology - Made in Germany

The TimeWaver Frequency system for information field controlled frequency therapy consists of hardware and software. It constantly analyzes the frequencies to be applied and conveys them to the patient via various electrodes. It includes numerous programs sorted by indications, more than 150,000 frequency databases assigned to more than 1,000 symptoms and the unique therapy protocols for systemic therapy according to Nuno Nina.

## A strong cell as the basis for health

The cytologists Dr. Robert O. Becker and Dr. Bjorn Nordenstrom, former chairman of the Nobel Prize Committee, have discovered that almost all acute and chronic diseases may be caused by a decrease in the cell membrane voltage. According to their model, a person is just as healthy as his or her cells and their communication with one another. Thus, the health of the cell can be linked to a simple parameter: the electric cell membrane voltage.



Ideally, the cell has a voltage of -70 mV and therefore enough energy to live and to communicate with other cells. In the course of disease this voltage often decreases to -50 mV. In case of a voltage of -40 mV, pain and inflammation may arise. According to Becker and Nordenstrom, -15 mV is the threshold where the cell can mutate to a tumor cell.

## Energy for the cells

But why does the cell's membrane voltage decrease? According to their model, a major cause is an acidic milieu of the cell. This means that there are too few electrons in the environment of the cell and thus the pH value may decrease. This is the starting point of TimeWaver Frequency, which aims to reverse this process by way of restoring the natural voltage of the cell membrane.



Marcus Schmieke

Nuno Nina



### The **language** of the cell

If frequencies are the language of cellular communication, many diseases can be treated with the appropriate current intensities and frequencies. The basis of this theory is that certain frequencies can be systematically assigned to certain symptoms.

### The cell as a **mirror** of the body

The TimeWaver Frequency system has been developed by Marcus Schmieke, the inventor of information field technology, and the Portuguese Nuno Nina, head of 7 clinics for integrative medicine and a specialist in cell biology. In many years of practical work Nuno Nina collected 130,000 frequencies, the so-called Gold frequencies, and assigned them to specific disease patterns. His experience with more than 45,000 patients strengthens our opinion that a reduced voltage of the cell membrane is present in almost all diseases.

### **Supporting** the cell

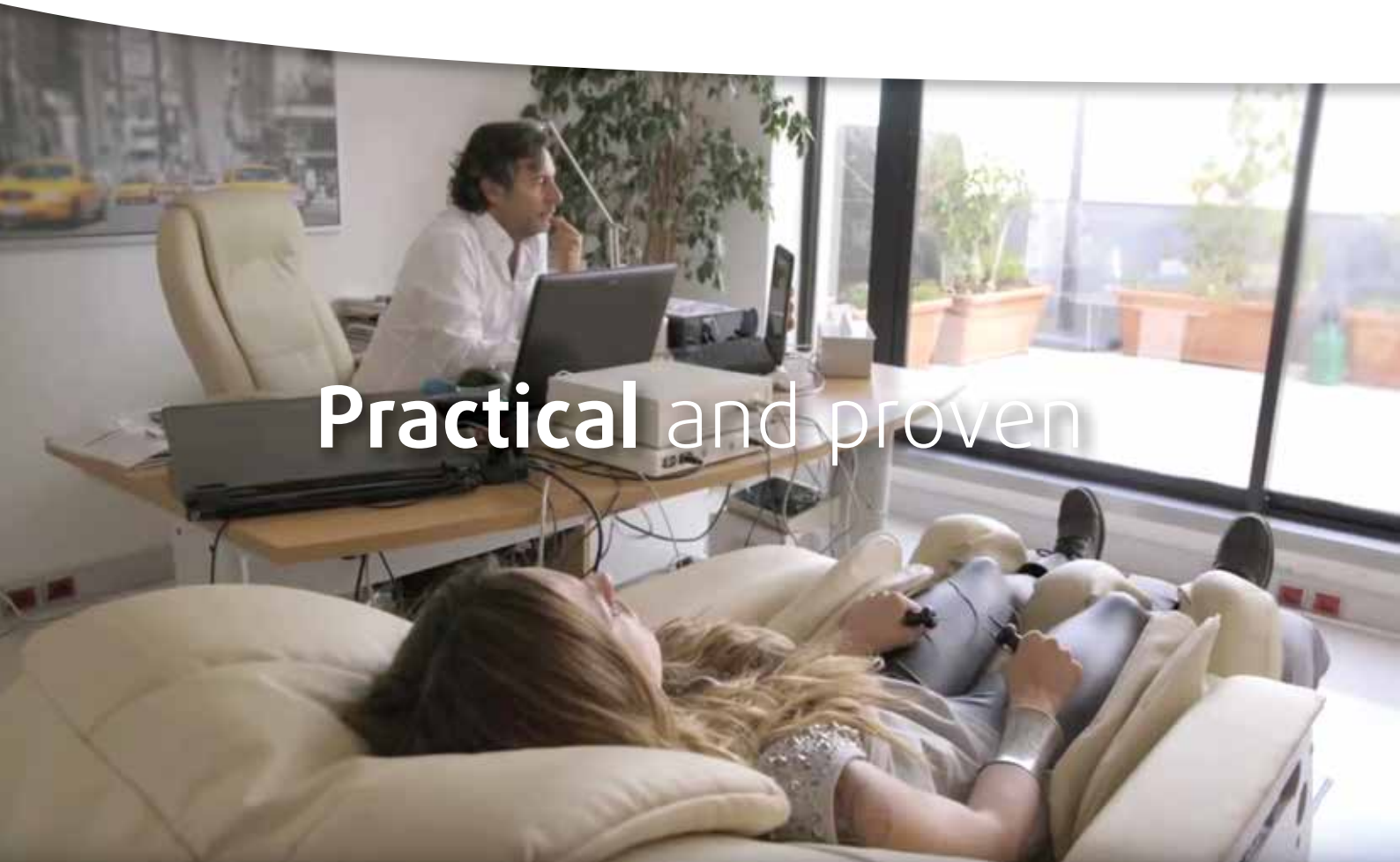
The knowledge about which frequencies can be used in treatments has been a key factor in the TimeWaver Frequency development. The system aims to support the cellular environment and the cell membrane voltage with specifically and individually selected frequencies and currents.

This way, metabolism and cell division should be stimulated in order to strengthen the ATP-synthesis or the cells' energy production and the protein-synthesis, that is, the assembly of the basic elements of the human body.

### A natural **cell membrane voltage**

According to our model, electrical frequencies are the language and the key to cellular communication. The therapy with TimeWaver Frequency's low intensity currents communicates with the cells via the language of frequencies. The treatment with the TimeWaver Frequency aims to counteract extracellular acidosis and to restore the natural cell membrane voltage of preferably about -70 mV.

**Note:** The TimeWaver systems with its applications, the technical models of Bjorn Nordenstrom, Robert O. Becker und Nuno Nina regarding the cell membrane voltage, and the herein mentioned case reports and studies, are all not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards.



## Practical and proven

### Nuno Nina



**Nuno Nina** is one of the world's leading specialists in the field of integrative medicine. He is the head of several clinics in Lisbon and many other healing centres worldwide. Originally, his fields of expertise were mathematics, systems engineering and biochemistry.

### A treasure of experience

Together with a large number of specialists and therapists, Nuno Nina has been looking after patients from all over the world for years, including several state presidents and numerous well-known athletes.

Nuno Nina's ingenuity, his profound knowledge, intuition and charisma inspire everyone who meets him both professionally and privately.

### From practice into **your practice**

In collaboration with TimeWaver, Nuno Nina has developed his special treatment concept for the TimeWaver Frequency system over a number of years. This treatment concept can be applied in almost all chronic and acute diseases.

Nuno Nina's systemic method of therapy is very effective on multiple levels for your patients' treatment. His therapy in the TimeWaver Frequency includes over 1,000 indications and symptoms with specific frequencies.

### **Systemic therapy** according to Nuno Nina

- **Clear and comprehensible therapy protocol**
- **Extensive training in professional seminars**
- **Easily reproducible execution**
- **Automatable**
- **Easily delegable method**
- **Over 15 years of clinical experience worldwide**
- **More than 45,000 treated patients**

**Note:** Science and orthodox medicine do not acknowledge the existence of information fields, their medical and other importance and the applications of TimeWaver systems because of the lacking scientific evidence in accordance with orthodox medicine. Nuno Nina's systemic therapy, which is a form of alternative medicinal, bioenergetic balancing, is also not recognized by science and orthodox medicine.



### Information field controlled frequency therapy

It is often difficult for the therapist to determine which frequencies are needed. In the US, expert conferences on this issue have been taking place for years. Here, the TimeWaver Frequency offers a unique opportunity: the information field controlled frequency therapy.

### The right frequency in real time

According to Nuno Nina's model, each frequency has a different effect, and after only a few minutes the patient's condition may change during the therapy, it is, therefore, important to analyze the most suitable frequencies. For the patient's benefit, the TimeWaver Frequency permanently determines the individual frequencies in **real-time**, automatically adapting the therapy to the changed needs.

### Timely

With the **resonance-analysis** function, the system analyzes the duration of the specific frequency, which is precisely adapted to the patient, and continuously checks the progress of the applied frequencies. At the right time, the system automatically changes to the next frequency and applies it until it is no longer needed.

### Perfect for your practice

TimeWaver Frequency is a first-class system for your practice: Nuno Nina's treasure of experience, his 130,000 gold frequencies, along with the successfully applied therapy protocol of his clinics, are unique and the most essential part of the TimeWaver Frequency system.





## Using the information field

### Using the information level

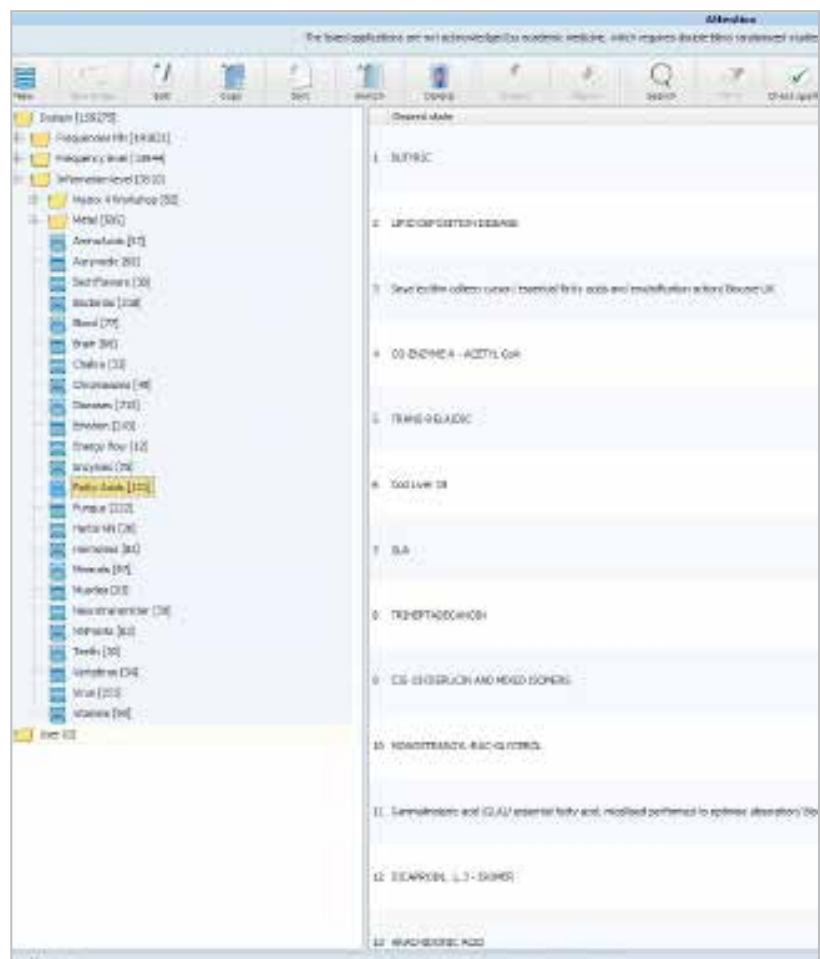
The **Information level** module allows you to analyze the backgrounds and possible links between diseases in the information field. It intends to optimally prepare the patient for the frequency therapy and is an elementary component of the TimeWaver Frequency system.

This way you can see which frequencies are suggested for the specific treatment, and apprehend the potential links between diseases found in the information field. This should enable you a targeted therapy of your patients with the appropriate frequencies.

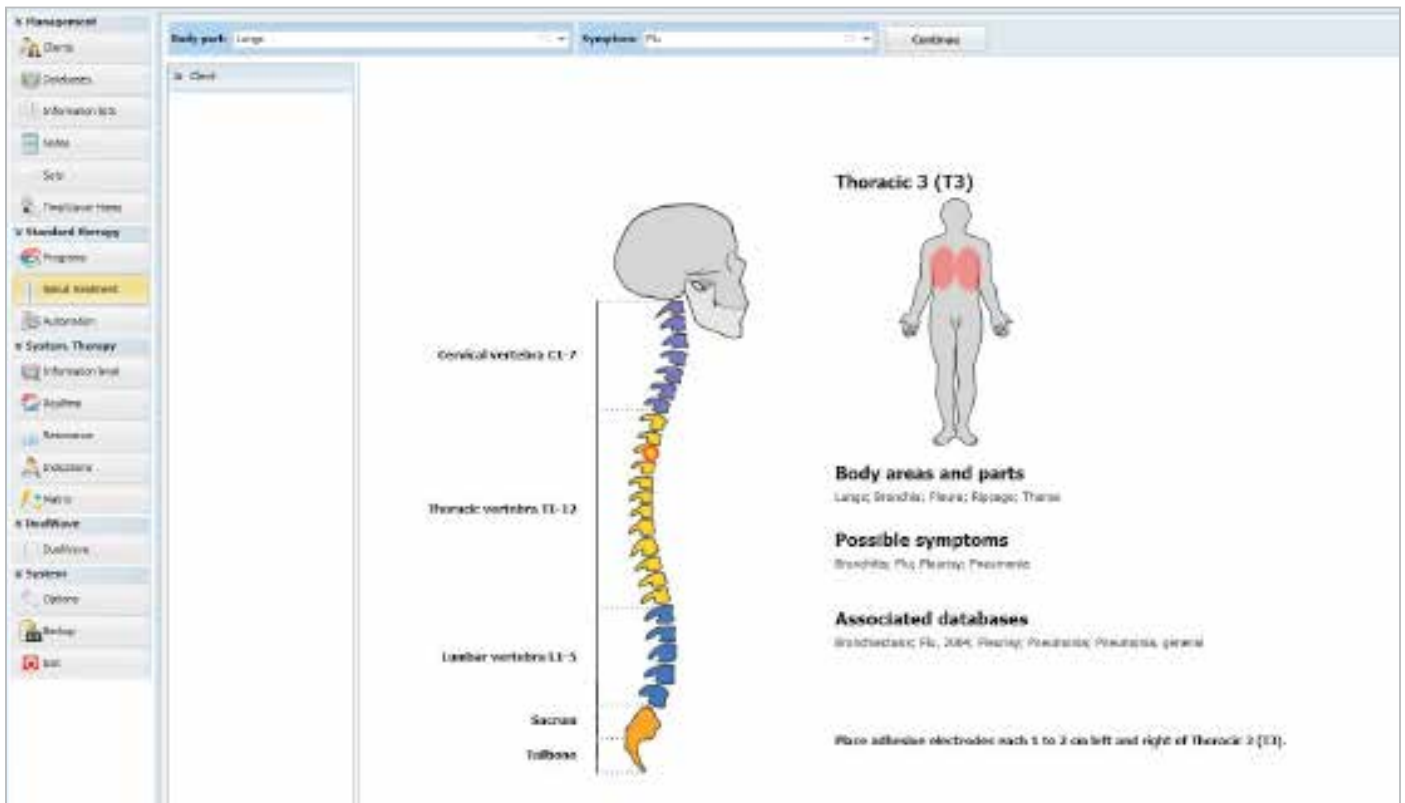
### Concentrated knowledge

The information level in the TimeWaver Frequency includes an extensive database regarding different levels in the information field. These include, among others, various metabolic processes, psychosomatic coherences, teeth, viruses or even neural processes.

Furthermore, the TimeWaver Frequency analyzes in the information field, for example, what herbs, minerals or vitamins could be a good supplement to the treatment, and, parallel to the frequency therapy, sends this information to the information field.







## The vertebrae as a mirror of the body

With many diseases, interrelationships with problems of the spinal column can be identified. The **Spinal treatment** is the result of our longstanding experience in complementary medicine. According to this model, distinct psychological and somatic indications are assigned to the individual vertebra. You can select these indications and treat them directly at the vertebrae.

This function is particularly well suited for sports physician, orthopaedists, chiropractors, physiotherapists or as a support with Dorn-Breuß therapy.



## Frequencies for 1,000 indications

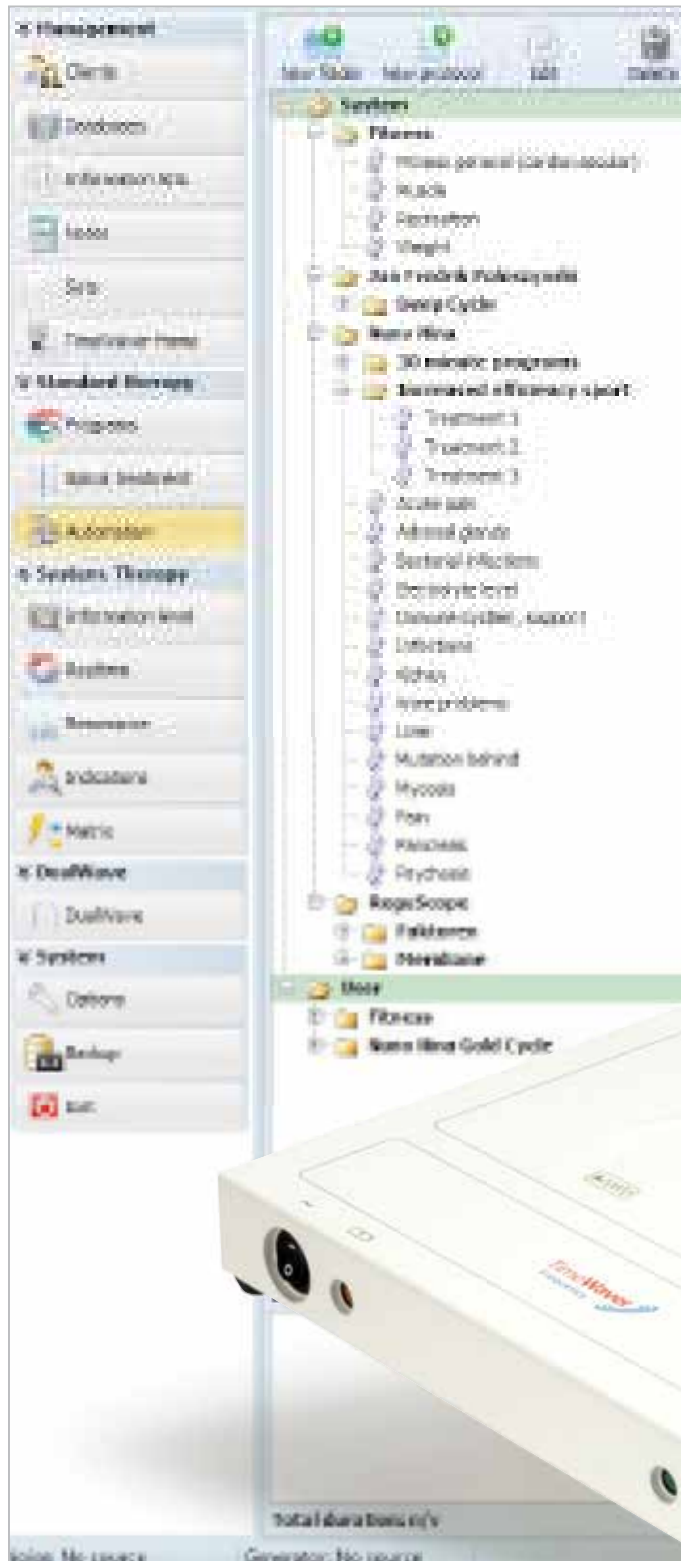
In the **Indications** module you can analyze relevant frequencies for disorders or symptoms. In addition to Nuno Nina's know-how, here you can find a total of more than 150,000 frequencies for over 1,000 indications and symptoms, all of which are easily retrievable with search function.

## The important post-treatment

After the treatment, the **Matrix module** allows you to do complete systematic scan of the patient. This module aims to get a quick overview of body areas which still need further regulation. This should give you valuable advice on how to continue your personal therapy strategy.



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## Like an **independent** therapist

Get an almost independently working "therapist" into your practice with the TimeWaver Frequency system!

With the intelligent functions of the TimeWaver technology, the entire treatment process can be automated and compiled for an individual, patient specific usage. This saves you a lot of time and allows you to treat several patients in parallel.

The use of systemic therapy according to Nuno Nina lasts for up to an hour, for the duration of which your patient can sit back and relax.

The system independently processes different therapy protocols through the automation function, whereby you, as a therapist, can easily monitor the treatment status.

## Technology made for **people**

In our view, all the described functions, as well as Nuno Nina's immense knowledge and his mature therapy protocol, make this system truly unique. Give yourself and your patient a treat.



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# Information field controlled frequency therapy





## Experiences from orthodox medicine

### The **integrated** programs

Besides Nuno Nina's method, TimeWaver Frequency includes programs about numerous pain symptoms and mental illnesses, such as depression, anxiety, aggression, stress, addictions or concentration promotion.

### **Frequency therapy** in the TimeWaver Frequency

Neurological or cardiovascular diseases and numerous other indications, can also be treated in a supportive way. These forms of frequency therapy are substantiated by many case studies, as you will see at the end of this brochure.

### **Support and application** for a large number of indications

#### **Pain**

- headache/migraine
- knee disorders
- shoulder-arm-syndrome/  
cervicobrachial syndrome
- gout
- joint pain
- back pain
- sciatica
- muscle pain
- neuropathic pain
- pain treatment in case of  
bone fractures
- pain in osteoporosis
- menstrual pain

#### **Psyche**

- depression
- states of anxiety
- aggression
- insomnia
- improvement of the ability  
to concentrate
- addiction treatment
- learning disability
- stress/burnout

#### **Infections**

- Herpes Labialis
- shingles
- acne

#### **Brain/nerves**

- memory
- tinnitus
- stroke
- multiple sclerosis
- epilepsy
- Parkinson's
- Alzheimer's
- neuritis

#### **Wounds/injuries**

- wound treatment
- strains
- suppression of scar  
interferences

#### **Internal medicine**

- diabetes
- liver diseases
- ulcers of the stomach and  
duodenum

#### **Cardiovascular system**

- blood pressure regulation
- encouraging the blood flow

#### **Skin**

- cellulite
- skin smoothing
- psoriasis

## Pain treatment

- chronic or acute pain, myalgia, fibromyalgia
- headache, migraine
- knee arthrosis, degenerative diseases of the knee joint
- joint pain
- pain in the jaw joint
- pain in general
- back pain
- muscle pain
- menstrual pain

Rather than a disease, pain is a warning sign, which shows us the harms at certain parts of our body. If it causes further disease symptoms, however, pain can also become an independent problem. These can be, for example, muscular tension caused by wrong protective posture, or mental problems with long-lasting chronic pain.

Therefore, pain treatment is one of the most important disciplines in modern medicine with a lot of room for additional research and discovery, all of which makes the frequency treatment with the TimeWaver Frequency and the TimeWaver Home systems even more valuable.



The gentle TimeWaver Frequency treatment intendeds to increase the ATP production and balance the electrolytic balance on the cellular level, both with acute and chronic pain. This intends to relax muscles and nerves. There is a lot of knowledge about the different frequencies and pulse intensities for pain therapy, which is well documented and integrated into the easily applicable TimeWaver Frequency programs. The programs can be applied locally with adhesive electrodes, intensive electrodes or through electrostimulation of the cortex (cranial electrotherapy stimulation or transcranial electrotherapy stimulation).

## Treatment of mental illnesses

- depression
- anxiety
- stress
- aggression
- insomnia
- lack of concentration
- learning disability (in case of Alzheimer's)
- nicotine withdrawal
- burnout

In contrast to almost all other diseases, mental illnesses often can not be documented and evaluated. Normally your diagnosis must be based on the description of the circumstances and the progression of the disease; however, such illnesses are not directly observable upon initial patient assessment. Furthermore, the wide variety of symptoms and disease patterns make the detection and treatment of mental illnesses particularly complex, as disorders can occur in many different areas, such as with interpersonal skills, memory performance, emotions, activity and motivation, perception and much more.



The severity level is important too, from occasional sleep disturbances to cases where independent life is no longer possible. A standard treatment often includes antidepressants only. In some cases, the patients could perceive mood improvement in the course of the micro-current treatment. It is assumed that the effect is based on the brain stimulation in creation of neurotransmitters, such as Dopamine, or through the building of electrolytic equilibrium in the tissue. Furthermore, in individual observational studies positive results have been obtained through targeted cortex manipulation by way of transcranial stimulation.

**Note:** The application of TimeWaver systems and the herein mentioned reports and case studies are not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards.

## Injuries

- wound healing, burns
- bone fractures
- edema

Injuries or traumas are all harms caused by external forceful impact, i.e., wounds, tissue damages and bone fractures. Wound healing cycle consists of blood coagulation, immune response, and tissue regeneration.

According to the US physician and orthopedist Robert O. Becker, the body regulates the wound healing and the healing of injuries through electrical currents (analogous nervous system). By changing the electrolytic conditions in the injury area, wound



healing can be accelerated in many cases, which is also the case with poorly healing fractures or scars.

## Cardiovascular system

- blood pressure regulation
- improvement of blood circulation

To supply each corner and every cell with vital oxygen, the blood, our life force, is pumped from the heart via the blood vessels through the body. Nutrients, neurotransmitters and components of the immune system, are also taken where they are needed through our cardiovascular system.

Diseases of the cardiovascular system are therefore among the greatest threats to our health and are together with cancer probably the most common causes of death.



TimeWaver Frequency offers specific programs intended to support a healthy blood pressure regulation.

## Internal medicine

- diabetes mellitus
- high blood pressure
- chronic wounds
- liver diseases (hepatitis, liver cirrhosis etc.)
- stomach ulcers and duodenum

There are very diverse application areas of frequency therapy with TimeWaver Frequency. Among others: they intend to support a healthy pH balance and the eliminating organs, stimulate the neurotransmitters and the hormonal balance, support a healthy intracellular and extracellular environment, improve the protein synthesis and the ATP production, support both systematic and symptomatic treatment



and the improvement of the protein synthesis, as well as a symptomatic and a systemic treatment.

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## Infections

- shingles
- cold sores (herpes labialis)

Infections are caused by microorganisms, such as bacteria, fungi or viruses. The most important "weapons" against infections are a strong immune system and medicaments, and with bacterial infections antibiotics are usually applied. Unfortunately, there are many known problems with antibiotics due to side effects and resistances.

With infectious diseases the TimeWaver Frequency system can be used complementary, or it can support the treatment if there is no effective medication.

By applying appropriate currents and frequencies, as shown in individual case observations, the skin's pH value can be changed. With a pH level lower than 2, viruses can no longer spread be-

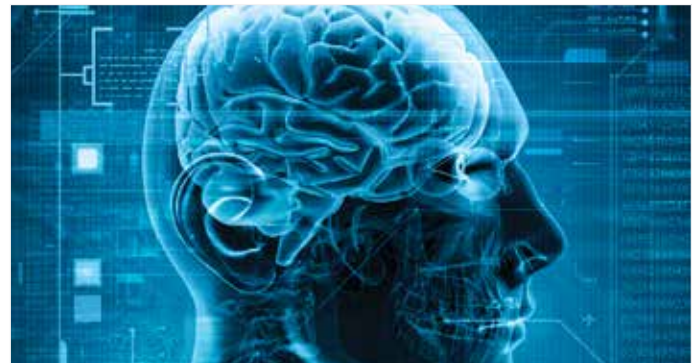


cause the environment becomes unsuitable for pathogens' continued existence. It is being suggested that pro-inflammatory cytokines are suppressed and analgesic and anti-inflammatory cytokines are stimulated. The first encouraging observational studies were noticed in cases of shingles and cold sores (herpes labialis).

## Neurological diseases - brain and nerves

- memory improvement with Alzheimer's
- tinnitus
- stroke
- Parkinson's
- neuritis
- epilepsy
- multiple sclerosis

Neurology (from the Greek "neuron" for "nerve") concerns itself with the nerve diseases, i.e., brain, spinal cord and nerve tracts, the control center and signal distribution. Many symptoms are related to the central nervous system and the autonomic nervous system, and given that both are electricity based, TimeWaver Frequency applies low intensity currents. In individual cases even



with serious diseases, such as stroke or Parkinson's, symptoms improvements with, for instance, the motoric function or the word recognition could be achieved, for which TCES and CES offer many possibilities.

## Skin treatments

- skin infections
- acne
- psoriasis

Our skin measures about 2 m<sup>2</sup>, weighs 10 kilograms and accomplishes many functions: it protects the body, regulates our temperature and humidity, and fulfills important metabolic functions.

In individual observational studies, positive results have been documented in the treatment of cellulitis, skin smoothing and scar tissue balancing.



## 6 in 1: Six therapeutic methods in one system



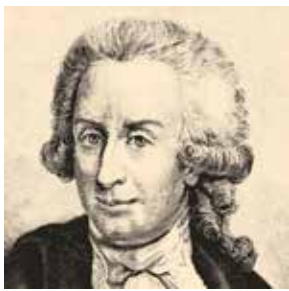
### Further integrated frequency therapy application options

In addition to Nuno Nina's unique information field guided frequency therapy, the TimeWaver Frequency system offers additional therapy approaches, for which numerous databases and complete programs are provided, as, for example, the well-known standard frequency therapy. In its databases, this frequency therapy includes the frequencies we assign to parasites, fungi, toxins, other stresses and diseases, as well as frequencies relating to different organs.



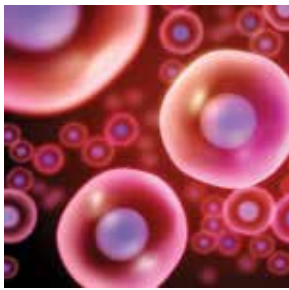
### Frequency therapy (FT) in case of pain of the musculoskeletal system

With frequency therapy for pain management, acute and chronic pain can be treated with low intensity currents and selected frequencies and precise electrode placement, both locally and systemically throughout the body. Additional application areas are ailments of the joints and movement apparatus, such as degenerative spine disorders, along with arthrosis and various muscular diseases.



### Cranial electric stimulation (CES) in mental illnesses

You can use cranial electric stimulation with the TimeWaver Frequency system. Positive observational studies have been noted with, for example, anxiety, sleep disorders, alcohol and drug withdrawal, as well as with individual depression cases. The application is carried out by means of special ear electrodes which is simple and fast. CES has proven to be helpful in the concomitant treatment of chronic diseases.



### Galvanic Microcurrent Therapy (GMCT)

This form of low intensity current therapy has been a recognized electrotherapy method since the 19th century. The low intensity direct current should stabilize the cell's electric level and promote endogenous regeneration and self-healing. Among other things, application for GMCT are with rheumatism, nervous and joints aches, circulatory and metabolic complaints, and even wound healing processes. Favorable appraisals have been observed with anxiety and depression cases. This method can be used with fibromyalgia, chronic degenerative diseases of the musculoskeletal system or diabetes.



### Transcranial electric stimulation (TCES)

Having its origins in the beginning of the last century in France, this therapeutic method has been researched and further developed in the former Soviet Union since the forties up to our time. The therapeutic spectrum of this method intendeds to stimulate the endogenous opiate activity and the regulation of cortical excitability with fine currents through the cranium in order to treat functional disorders in the cortex. It includes, among other things, various pain therapies, epilepsy, support of anesthesia, ulcers of the gastric mucosa, and hip or knee osteoarthritis.



### Energy and meridian therapy according to TCM

Based on the teachings of Traditional Chinese Medicine (TCM), according to which certain body points and meridians possess physiologically reduced electrical resistance, frequency therapy treatments with specially selected frequencies are applied at certain meridian points. As seen from the TCM perspective, meridians represent electrical conductors, similar to muscle fiber and bloodstream.



# The TimeWaver electrodes



## Hand electrodes for the systemic therapy

Hand electrodes are suitable for many treatments, for the frequency modulated low intensity currents can flow unswervingly through the entire upper body. They are mainly used for Nuno Nina's systemic therapy, and the patient can sit or lie relaxed for the duration of therapy.



## Ear and head electrodes

Ear and head electrodes are particularly useful in cranial electro stimulation for the treatment of mental disorders, such as depression and addiction, and in transcranial electro stimulation, a therapeutic method that directly or indirectly stimulates the cortex. This method is used as a support in neurological illnesses, such as Alzheimer's, Parkinson's, multiple sclerosis or stroke.



## Adhesive electrodes for local therapy

Differently sized adhesive electrodes are ideal for the local treatment of different symptoms. Whether for pain in the affected areas, on the mastoids behind the ear for cranial stimulation, or for an extensive treatment on the chest and back, the adhesive electrodes are applicable with many standard programs.



## Intensive stick electrodes

Intensive stick electrodes are used as a special form of therapy for severe joint, eye, headache or sinusitis disorders. Even at the smallest neural points and sensitive body parts, pain can be treated using special attachments applying a short stimulation around the painful area.

**Note:** The herein mentioned possible applications (MST, CES, GMCT, TCS), along with energy and meridian therapy on the basis of traditional Chinese medicine (TCM), are all not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards. The application can, therefore, be seen as treatment option only. The usage of TimeWaver Frequency and a possible relevant physiological effect for a patient, has to be determined under the treating therapist's supervision.



Made for people

## TimeWaver Home: The professional patient device

The TimeWaver Home system is a compact treatment system for an individual information field controlled frequency therapy. It combines all the advantages of frequency therapy with the possibilities of the information field technology.

With its wide range of functions and numerous programs, the TimeWaver Home is a great addition to your daily practice. Create individualized programs and lend the TimeWaver Home to your patients, whereby you can strengthen the commitment of your patient and the therapy can be continued either at home or on the go

- **Professional medical technology (small and handy)**
- **Easy to use: only three buttons**
- **23 programs plus many new programs**
- **The 7 Nuno Nina programs**
- **Room for therapist's individual programs**



## A strong combination

TimeWaver Frequency and TimeWaver Home are a perfect combination for your practice and your patients. The automated operation and user-friendliness, enable you to treat several patients simultaneously and individually.

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### The programs in the **TimeWaver Home**

Although so versatile and capable, the TimeWaver Home system is easily operated by anyone using "only" three buttons. In addition to its programs for a wide range of indications, it also provides special compilations for energetic-systemic treatment based on Nuno Nina's treatment plans that support many other therapies:

**Pain:** pain in general, joints, back, sciatica, headache, migraine, tooth, jaw, menstrual pain

**Brain, Psyche:** anxiety, depression, learning support, stress, sleep disorders, nicotine addiction

**Skin:** wound treatment, acne vulgaris, cold sores (herpes labialis)

**Energy:** scar treatment hand-to-hand application

### **Nuno Nina's Gold Cycle** in the TimeWaver Home

Just as with TimeWaver Frequency, where the entire gold frequencies and the comprehensive treatment plans of Nuno Nina are contained, a compilation of its most important applications is also permanently integrated into the TimeWaver Home as automations. The entire intelligence of the TimeWaver Home system comes into effect in the 7 programs of **Nuno Nina's gold cycle**.



### The TimeWaver **supplements**

Therapy with the TimeWaver Home systems can be combined with the TimeWaver enzymes and plant-based supplements, as used daily in Nuno Nina's clinics. There the patient is recommended to take the TimeWaver supplements once yearly, even outside of the treatment. Depending on the purpose of the treatment and the therapeutic plan we additionally recommend:

- **Wave Pure**
- **Wave Being**
- **Wave Hepar**
- **Wave Renal**

### Good **water**

With each TimeWaver application we recommend to drink a lot of water, as, according to our experience, certain treatments can assist the release of various substances.



## “Digital Homeopathy”



Using the TimeWaver Home system you can easily use homeopathic remedies, Bach flowers, Schuessler salts or other information every day. The entire program group contains vibrational patterns of more than 50 information media. These can be simply vibrated on a glass of water or empty globules. The compilation of information remedies "Digital Homeopathy" integrated in the TimeWaver Home corresponds to a well-equipped homeopathic medicine chest. In case of need, you can quickly create your desired homeopathic remedy.

<b>Magnesium phosph.</b>	<b>Rhus toxicodendron</b>	<b>Apis</b>	<b>Arsenicum album</b>	<b>Bryonia</b>	<b>Cocculus</b>
<b>Nux vomica</b>	<b>Aconitum</b>	<b>Arnica</b>	<b>Belladonna</b>	<b>Chamomilla</b>	<b>Eupatorium</b>

## “Digital Bach Flowers”



Developed by the British physician Dr. Edward Bach about 80 years ago, the use of Bach flowers is one of the best known and easily applicable procedures in complementary medicine. He previously concentrated on homeopathy. However, Bach flowers have nothing to do with homeopathy and are not part of phytomedicine or phytotherapy. The use and "vibrating" of Bach flower essences with the TimeWaver Home is very simple and convenient, similar to "Digital Homeopathy".

<b>Agrimony</b>	<b>Chicory</b>	<b>Holly</b>	<b>Oak</b>	<b>Star of Bethlehem</b>	<b>Wild Oat</b>
<b>Aspen</b>	<b>Clematis</b>	<b>Honeysuckle</b>	<b>Olive</b>	<b>Sweet Chestnut</b>	<b>Wild Rose</b>
<b>Beech</b>	<b>Crab Apple</b>	<b>Hornbeam</b>	<b>Pine</b>	<b>Vervain</b>	<b>Willow</b>
<b>Centaury</b>	<b>Elm</b>	<b>Impatiens</b>	<b>Red Chestnut</b>	<b>Vine</b>	<b>RSQ (Rescue)</b>
<b>Cerato</b>	<b>Gentian</b>	<b>Larch</b>	<b>Rock Rose</b>	<b>Walnut</b>	
<b>Cherry Plum</b>	<b>Gorse</b>	<b>Mimulus</b>	<b>Rock Water</b>	<b>Water Violet</b>	
<b>Chestnut Bud</b>	<b>Heather</b>	<b>Mustard</b>	<b>Scleranthus</b>	<b>White Chestnut</b>	

## “Digitale Schuessler Cell Salts”



Schuessler cell salts have long been known as mineral salt preparations in homeopathic doses. This therapy method traces back to the homeopathic physician Wilhelm Heinrich Schüßler (1821–1898) and intends to treat disorders in the cells' mineral balance. The information contained in the Schuessler cell salts is stored in the TimeWaver Home and can be used like "Digital Bach Flowers" or "Digital Homeopathy".

<b>Calcium fluoratum</b>	<b>Natrium chloratum</b>	<b>Kalium chloratum</b>	<b>Magnesium phosphoricum</b>
<b>Calcium sulfuricum</b>	<b>Natrium sulfuricum</b>	<b>Kalium sulfuricum</b>	<b>Ferrum phosphoricum</b>
<b>Calcium phosphoricum</b>	<b>Natrium phosphoricum</b>	<b>Kalium phosphoricum</b>	<b>Silicea</b>

**Note:** The TimeWaver systems, the existence of information fields and the herein mentioned applications are not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards. Homeopathy, Bach flowers and Schuessler salts are also not recognized by science and orthodox medicine.





## Scientific research

### Microcurrents in modern research

In 1991 Dr. Bert Sakmann and Dr. Erwin Neher received the Nobel Prize in Physiology & Medicine<sup>1</sup> for their investigations of the permeability of micro currents into the human cell membrane. Together with the theories of Becker<sup>2</sup> and Nordenstrom<sup>3</sup>, this has further strengthened the status of micro currents in medical science.

In Dr. Becker's<sup>2</sup> book, "The Body Electric", this process is explained in more detail. Nordenstrom<sup>3</sup> demonstrated that a small voltage in damaged cells can restore a normal physiological state.

### The milieu in the cell

Therefore, it is necessary to make the cell's milieu or the extracellular space, electrically neutral. If it is acidic, it has too little free negative charge carriers, which weakens the negative electrical potential of the cell. The cell membrane voltage can decrease.

### Cell and cell communication

According to biophoton research<sup>4</sup>, the electromagnetic fields are the key to cellular communication, and the electrical frequencies are the language of cellular communication. Based on this theory and using appropriate frequencies, current intensities and signal forms, we aim to support the cell membrane voltage, the ATP production of the cell, the protein synthesis and the cell membrane transport with the TimeWaver Frequency and the TimeWaver Home.

<sup>1</sup> **Internet sources:** <http://www.bio-pro.de/magazin/thema/00186/index.html?lang=en&artikelid=/artikel/03313/index.html>; [http://nobelprize.org/nobel\\_prizes/medicine/laureates/1991](http://nobelprize.org/nobel_prizes/medicine/laureates/1991)

<sup>2</sup> **Becker, R. O.:** The Body Electric. New York, William Morrow & Co. Inc. 1983

<sup>3</sup> **Nordenstrom, B.:** Biologically Closed Electrical Circuits, Nordic Medical Publications. Uppsala. 1983.

<sup>4</sup> **F. A. Popp:** 2006, Biophotonen - Neue Horizonte in der Medizin (Haug);

<sup>4</sup> **M. Bischof:** 1995, Biophotonen - Das Licht in unseren Zellen (Zweitausendeins)

**Note:** The TimeWaver Frequency system, the herein mentioned applications, theories and case studies are not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards

## Currents and frequencies

There are numerous studies on frequencies in the microcurrent range and their desired effects in the body and cell. Among other things, Jeffrey S. Mannheimer<sup>5</sup> researched their possible effects on the human organism and their effects in various diseases. The purpose of this research was to positively influence ATP production and protein synthesis, the acid-base balance, the influence on neuro-transmitters, detoxifying effects, detox, redox values, intra- and extracellular regulation and other parameters. Mannheimer's dissertation is being discussed by the scientific community.

## Effects of microcurrents on the cellular level

In his doctoral dissertation Mannheimer<sup>5</sup> writes that there are findings that low-frequency alternating currents may achieve a great effect in the field of cellular signal transmission. This can be seen in the following areas:

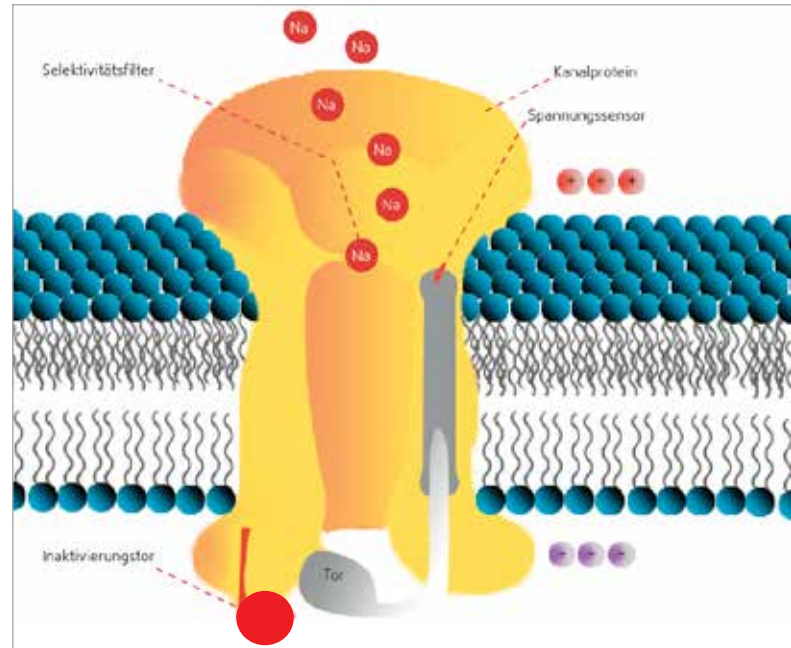
- **Ion channels of the cell membrane**
- **Bone cells; bone growth**
- **Cell transcription and microfilaments**
- **Activity of lymphocytes**
- **Weakness of the immune system**
- **Neuroendocrine modulation**
- **ATP synthesis and protein synthesis**
- **Wound healing**
- **Bacterial and viral influences**
- **Fibroblastic activity (new formation of connective tissue)**
- **DNA synthesis**
- **Problems with insulin binding**
- **Calcium absorption**

<sup>5</sup> Jeffrey S. Mannheimer; Seton Hall University; The Effect of Microcurrent Stimulation on ATP Synthesis in the Human Masseter as Evidenced by <sup>31</sup>P Magnetic Resonance Spectroscopy (2005), dissertations, paper 1544; <http://scholarship.shu.edu/dissertations/1544>

<sup>6</sup> L. M. Jacob: 2012; Dr. Jacobs Weg des genussvollen Verzichts, die effektivsten Maßnahmen zur Prävention und Therapie von Zivilisationskrankheiten, Editions Marco Pietteur SPRL

<sup>7</sup> Bok Y. Lee et al.: 2010; Ultra-low microcurrent in the management of diabetes mellitus, hypertension and chronic wounds: Report of twelve cases and discussion of mechanism of action; International Journal of medical sciences; 7(1): S. 29-35.

<sup>8</sup> Ngok Cheng et al, 1982; Harry Van Hoof; Emmanuel Bockx; Michel J. Hoogmartens; Joseph C. Mulier; Frans J. De Ducker; Willy M. Sansen; William De Loecker; The Effects of Electric Currents on ATP Generation, Protein Synthesis, and Membrane Transport in Rat Skin; Clinical Orthopaedics and Related Research, 1982 Nov-Dez;(171): S. 264-72

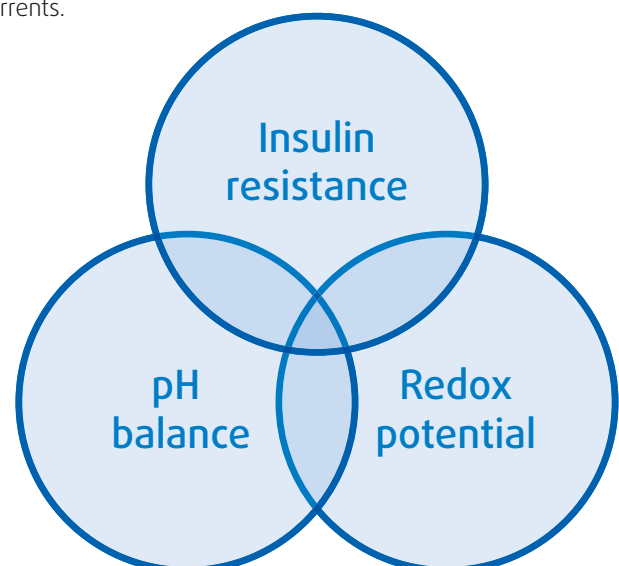


## Causes of diseases of affluence

In his nutritional scientific book "Dr. Jacobs Weg"<sup>6</sup>, Dr. med. Ludwig Jacob points towards the possible causes of many diseases of affluence:

- **Disbalance of the pH value in the extra- and intracellular space**
- **Oxidative and nitrosative stress**
- **Reduced redox potential**
- **Hyperinsulinaemia and insulin resistance**

Studies of Bok Y. Lee<sup>7</sup> suggest that these factors can be positively influenced by appropriate microcurrents and frequencies. Ngok Cheng<sup>8</sup> and other scientists even observed an increase in ATP production and protein synthesis as well as an improvement in membrane transport and wound healing in their research on electrical currents.



## Studies and orthodox medicine

You might wonder about the notes in this brochure. This is a legal necessity to protect consumers against misleading or suggestive advertising, which either can not be checked due to a lack of professional knowledge or that may suggest a certain success. For this reason, we must add the respective notes to our sources of information. But you should not think that, as stated in the notes, no studies exist: This is not the case.

There are many studies, case collections and individual case reports regarding the indications mentioned on these pages. These suggest the possible efficacy of the microcurrent- or respectively frequency therapy. In some cases, these studies are even placebo-controlled, randomized double-blind studies. These are the basis for an approval as a medical device and define the intended use of the TimeWaver systems, but they do not meet the gold standard defined by orthodox medicine. For this reason, we would like to briefly explain the specific differences in the assessments of the studies.

## The gold standard as the highest measure

What is the difference between the studies and case collections mentioned and the evidence recognized by orthodox medicine? In orthodox medicine the so-called gold standard is the basis that requires that, besides the criteria mentioned (placebo-controlled, randomized, double-blind study), at least two studies on a particular subject must exist, that there are no studies stating anything to the contrary and that the efficacy of the studies is accepted and mentioned in specialist literature.

There are quite a number of reputable studies regarding the mentioned fields of application that merely do not meet this high gold standard.

There are also treatments in many areas of orthodox medicine that also only refer to studies of the simpler standard mentioned above or to individual case reports or empirical medicine if there are, for example, no studies on certain diseases in accordance with this gold standard.

## Pain treatment



### Chronic or Acute Pain, Myalgia, Fibromyalgia

**Chronic:** Stephen I. Zimmerman, R. P. T., Fred N. Lerner; Biofeedback and electro-medicine: Reduce the cycle of pain-spasm-pain in low-back patients; American Journal of Electromedicine; 1989 Jun, S. 108-120

**Jerry T. Holubec;** Cumulative Response from Cranial Electrotherapy Stimulation

(CES) for Chronic Pain; Practical Pain Management; 2009 Nov-Dez (n=525)

**Acute:** Rockstroh G, Schleicher W, Krummenauer F; The advantage during a stationary follow-up-treatment applying microcurrents on patients after implantation of a knee totalendoprosthesis - a prospective randomised clinical case study; Rehabilitation 2010, 49: p. 173-179

**Pain relief in fibromyalgia (GFT):** Roizenblatt et al.; Site-specific effects of transcranial direct current stimulation on sleep and pain in fibromyalgia: a randomized, sham-controlled study. Pain Practice: The official Journal of the World Institute of Pain; 2007; 7: S. 297-306

**Fregni et al.;** A randomized, shamcontrolled, proof of principle study of transcranial direct current stimulation for the treatment of pain in fibromyalgia; Arthritis and Rheumatism; 2006, 54: S. 3988-3998

**Daniel L. Kirsch;** Cranial Electrotherapy Stimulation in the Treatment of Fibromyalgia; Practical Pain Management, Electromedicine; Sept. 2006; S. 60-64

**A. S. Lichtbroun, M. M. Raicer, R. B. Smith;** The treatment of fibromyalgia with cranial electrotherapy stimulation; Journal of clinical rheumatology; 2001 Apr;7(2): S. 72-8; discussion 78

### Headache, Migraine

**Tension headache:** Seymour Solomon, Arthur Elkind, Fred Freitag, R. Michael Gallagher, Kenneth Moore, Bernard Swerdlow, Stanley Mal-kin; Safety and Effectiveness of Cranial Electrotherapy in the Treatment of Tension Headache; Headache-The Journal of Head and Face pain; July 1989, Vol. 29, Nr. 7, S. 445-450

**D. L. Kirsch;** Electromedical Treatment of Headaches; Practical pain management, Electromedicine; 2006 Nov/Dez, S. 58-65

**Migraine:** P. Brotman; Transcranial Electrotherapy, Low-intensity transcranial electrostimulation improves the efficacy of thermal biofeedback and quieting reflex training in the treatment of classical migraine headache; American Journal of Electromedicine; 1989 Sep, S. 120-123

**A. Antal, N. Kriener, N. Lang, K. Boros, W. Paulus;** Cathodal transcranial direct current stimulation of the visual cortex in the prophylactic treatment of migraine; Cephalalgia; 2011 Mai; 31(7): S. 820-8. Epub 2011 Mär 11

### Knee Arthrosis / Degenerative Knee Joint Disorders

**L. E. Bertolucci, T. Grey;** Clinical comparative study of microcurrent electrical stimulation to mid-laser and placebo treatment in degenerative joint disease of the temporomandibular joint; Cranio: the journal of craniomandibular practice, 1995 Apr; 13(2): S. 116-120

### TMJ Pain

**Degenerative disease of the temporomandibular joint:** Bertolucci LE, Grey T; Clinical comparative study of microcurrent electrical stimulation to mid-laser and placebo treatment in degenerative joint disease of the temporomandibular joint; Cranio: the journal of craniomandibular practice, 1995 Apr; 13(2): 116-120

**Note:** The TimeWaver systems with its applications, as well as the herein mentioned case reports and studies as scientific evidence are not accepted by orthodox medicine because of lacking scientific evidence in accordance with orthodox medicine standards. The herein mentioned case reports and studies have not been conducted with the TimeWaver systems, the underlying principles are nonetheless the same.



## Arthralgia

**L. E. Bertolucci, T. Grey;** Clinical comparative study of microcurrent electrical stimulation to mid-laser and placebo treatment in degenerative joint disease of the temporomandibular joint; *Cranio: the journal of craniomandibular practice*, 1995 Apr; 13(2): S. 116-120

## Pain in general

**Postoperative: G. Rockstroh, W. Schleicher, F. Krummenauer;** The advantage during a stationary follow-up-treatment applying microcurrents on patients after implantation of a knee totalendoprosthesis - a prospective randomised clinical case study; *Rehabilitation* 2010, 49: p. 173-179

**T. M. Sarhan; Doghem;** Effect of microcurrent skin patch on the epidural fentanyl requirements for post operative pain relief of total hip arthroplasty; *Middle East Journal of Anesthesiology*; 2009; S. 411-415

**Others: Fregni et al.;** A sham-controlled, phase II trial of transcranial direct current stimulation for the treatment of central pain in traumatic spinal cord injury; *Pain*; 2006; 122: S. 197-209

**M. D. Soler, H. Kumru, R. Pelayo, J. Vidal, J. M. Tormos, F. Fregni, X. Navarro, A. Pascual-Leone;** Effectiveness of transcranial direct current stimulation and visual illusion on neuropathic pain in spinal cord injury; *Brain: A Journal of Neurology*; 2010 Sep, 133(9): S. 2565-77. Epub 2010 Aug 4

**Kaya, Kamanli et al.;** Direct current therapy with/without Lidocaine Iontophoresis in myofascial pain syndrome; *Bratisl Lek Listy*; 2009; 110 (3), S. 185-191

## Back Pain

**Joseph S. H. A. Koopman, Dorien H. Vrinten MD, Albert J. M. van Wijck;** Efficacy of microcurrent therapy in the treatment of chronic nonspecific back pain: a pilot study; *Lippincott Williams & Wilkins*; 2009

## Muscle Pain

**D. Curtis; S. Fallows; M. Morris; C. McMakin;** The efficacy of frequency specific microcurrent therapy on delayed onset muscle soreness; *Journal of bodywork and movement therapies*; 2010 Juli; Elsevier

## Mental Diseases



### Depression

**P. S. Boggio; S. P. Rigonatti; R. B. Ribeiro; M. L. Myczkowski; M. A. Nitsche; A. Pascual-Leone; F. Fregni;** A randomized, double-blind clinical trial on the efficacy of cortical direct current stimulation for the treatment of major depression; *International Journal of Neuropsychopharmacology*; 2008 Mar, 11(2): S. 249-54; Epub 2007 Jun 11

**Fregni et al.;** Treatment of major depression with transcranial direct current stimulation; *Journal of The International Society for Bipolar Disorders*; 2006; 8: S. 203-204

**Marshall F. Gilula; Daniel L. Kirsch;** Cranial Electrotherapy Stimulation Review: A Safer Alternative to Psycho-pharmaceuticals in the Treatment of Depression; *Journal of Neurotherapy*; 2005, Vol. 9(2), S. 7-26; The Haworth Press

**Improvement of working memory in depression: Fregni et al.;** Cognitive effects of repeated sessions of transcranial direct current stimulation in patients with depression; *Depression and Anxiety Journal*; 2006; 23: S. 482-484

## Anxiety States

**Ray B. Smith; Frank N. Shiromoto;** The Use of Cranial Electrotherapy Stimulation to Block Fear Perception in Phobic Patients; *Life Balance International, Current Therapeutic Research*; 1992, Vol. 51, Nr. 2, S. 249-254

## Stress

**Ronald R. Mellen et al.;** Cranial Electrotherapy Stimulation (CES) and the Reduction of Stress Symptom in a Sheriff's Jail Security and Petrol Officer Population: A Pilot Study; *American Jails*, 2008 Nov/Dez, 22, 5, Docstoc, S. 32

## Aggression

**A. Childs;** Cranial electrotherapy stimulation reduces aggression in a violent retarded population: a preliminary report; *The Journal of Neuropsychiatry and clinical Neurosciences*; 2005 Herbst; 17(4): S. 548-51

## Insomnia

**Marshall F. Gilula; Daniel L. Kirsch;** Cranial electro therapy (CES) in the Treatment of Insomnia: A Review and Meta-analysis; *Journal of Neurotherapy*; 2005, Vol 9(2), S. 7-26; the Haworth Press

## Lack of Concentration

**S. Southworth;** The family institute and Associates; A study of the effects of CES on attention and concentration; *Integrative physiological and behavioural science*; Jan-Mar 1999, Vol. 34, No. 1, S. 43-53

## Learning Disability (in Alzheimer's)

**Improvement in word recognition: Ferrucci et al.;** Transcranial direct current stimulation improves recognition memory in Alzheimer disease; *Neurology*; 2008 June 4; epub ahead of print

## Withdrawal from smoking and other addictions

**William S. Eidemann;** Control of cigarette cravings with cranial electrotherapy stimulation; *Townsend letter*; 2009, June

## Infectious Diseases



### Shingles

**C. McMakin;** Non-pharmacologic treatment of shingles; *Mai* 2010; *Practical Pain Management*; S. 24-29

### Herpes Labialis

**N. Schürer, M. Bock;** Lowering lesion surface pH in acne: A new treatment modality for Herpifix®; *Journal of Dermatological treatment*; 2009; 20:1, S. 27-31

**G. Yosipovitch; H. I. Maibach;** Skin surface pH: a protective mantle; Department of Dermatology, UCSF Medical Center, San Francisco, CA, USA

**H. Lambers; H. Pronk; S. Piessens; E. Voss;** Natural human skin surface is on average below 5; *Sara Lee Household and Bodycare Research*; The Hague; NL

## The Effect of Microcurrents on Cytokines

**C. McMakin;** 2005 retrospective clinical trial; At 54 patients with fibromyalgia after cervical whiplash of the cervical spine, a reduction of serum concentration of inflammatory cytokines: interleukin 1, interleukin 6 and tumor necrosis factor alpha of substance P has been observed. In addition, there was an increase in the release of beta-endorphins and cortisol.

## Neurological Diseases



### Stroke

**Motor function improvement: Boggio et al.;** Repeated sessions of noninvasive brain DC stimulation is associated with motor function improvement in stroke patients; *Restorative Neurology and Neuroscience*; 2007; 25: S. 123-129

**Reaction times improvement: Hummel et al.;** Effects of brain polarization on reaction

times and pinch force in chronic stroke; *BMC Neuroscience*; 2006, 7: S. 73

### Parkinson

**F. Fregni, P. S. Boggio, M. C. Santos, M. Lima, A. L. Vieira, S. P. Rigonatti, M. T. A. Silva, E. R. Barbosa, M. A. Nitsche;** Noninvasive cortical stimulation with transcranial direct current stimulation in Parkinson's Disease; 2006, *Movement Disorders*, Vol. 21, Nr. 10, S. 1693-1702

**Pain in Parkinson: H. D. Rintala; G. Tan; P. Willson; S. Bryant Mon; E. C. H. Lail;** Feasibility of Using Cranial Electrotherapy Stimulation for Pain in Persons with Parkinson Disease; *Research Article, SAGE-Hindawi access to research, Parkinson's Disease 2010 Vol, 2010 Article ID 569154 S. 1-8*

**Parkinson (pain; rehabilitation): J. A. Williams, MA; M. Imamura; F. Fregni;** Updates on the use of non-invasive brain stimulation in physical and rehabilitation medicine; *Journal of Rehabilitational Medicine*; 2009; 41: S. 305-311

### Memory Improvement in Alzheimer's

**Ferrucci et al.;** Transcranial direct current stimulation improves recognition memory in Alzheimer disease; *Neurology*; 2008 June 4; epub ahead of print

### Tinnitus

**C. H. Chouard, B. Meyer, D. Maridat;** Transcutaneous electrotherapy for severe tinnitus; *Acts Otolaryngol*; 1981; 91: S. 415-22

**M. Engelberg, W. Bauer;** Transcutaneous electrical stimulation for tinnitus; *Laryngoscope* 1985; 95: S. 1167-72

**Ronald L. Steenerson, Gave W. Cronin;** Treatment of tinnitus with electrical stimulation; *Otolaryngology - Head and Neck Surgery*; 1999 Nov; Vol. 121, S. 1-4

**F. Fregni et al.;** Transient tinnitus suppression induced by repetitive transcranial magnetic stimulation and transcranial direct current stimulation; *European Journal of Neurology*; Sept. 2006; Vol. 13(9), S. 996-1001

### Neuritis

**Neuropathic pain: Soler, H. Kumru, R. Pelayo, J. Vidal, J. M. Tormos, F. Fregni, X. Navarro, A. Pascual-Leone;** Effectiveness of transcranial direct current stimulation and visual illusion on neuropathic pain in spinal cord injury; *Brain: A Journal of Neurology*; 2010 Sep, 133(9): S. 2565-77. Epub 2010 Aug 4

### Epilepsy

**D. M. Durand; M. Bikson;** Suppression and control of epileptiform activity by electrical stimulation: A review; *Proceedings of the IEEE*; Juli 2001, Vol. 89, Nr. 7, S. 1065-1082

**F. Fregni et al.;** A controlled clinical trial of cathodal DC polarization in patients with refractory epilepsy; *International League Against Epilepsy*; *Epilepsia*, 2006, 47(2): S. 335-342; Blackwell Publishing, Inc.

**M. A. Nitsche; W. Paulus;** Noninvasive Brain Stimulation Protocols in the Treatment of Epilepsy: Current State and Perspectives; *Neurotherapeutics: The Journal of the American Society for Experimental NeuroTherapeutics*; April 2009; Vol. 6, S. 244-250

### Multiple sclerosis

**Ray B. Smith;** The use of cranial electrotherapy stimulation in the treatment of multiple sclerosis; *The original internist*, Sep 2002, Vol. 9, Nr. 3, S. 25-28

## Skin diseases



### Skin Infections

**G. Yosipovitch; H. I. Maibach;** Skin surface pH: a protective mantle; *Department of Dermatology, UCSF Medical Center, San Francisco, CA, USA*

**H. Lambers; H. Pronk; S. Piessens; E. Voss;** Natural human skin surface is on average below 5; *Sara Lee Household and Bodycare Research; The Hague; NL*

### Acne

**N. Schürer; M. Bock;** Lowering lesional surface pH in acne: A new treatment modality for Herpifix®; *Journal of Dermatological treatment*; 2009; 20:1, S.27-31

**G. Yosipovitch; H. I. Maibach;** Skin surface pH: a protective mantle; *Department of Dermatology, UCSF Medical Center, San Francisco, CA, USA*

**H. Lambers; H. Pronk; S. Piessens; E. Voss;** Natural human skin surface is on average below 5; *Sara Lee Household and Bodycare Research; The Hague; NL*

### Psoriasis

**A. Philipp; G. K. Wolf; B. Rzany; H. Dertinger; E. G. Jung;** Interferential current is effective in palmar psoriasis: an open prospective trial; *European Journal of Dermatology*; 2000, 10: 195-8

### Idiopathic Hyperhidrosis

**E. Hölzle, et al.;** Guideline of the German Society of Dermatology: recommendations on tap water iontophoresis; 11/11/2008

## Injuries



### Pain Reduction

**In bone fractures: Mustafa Oncel, Sureyya Sencan, Hakan Yildiz, Necmi Kurt;** Transcutaneous electrical nerve stimulation for pain management in patients with uncomplicated minor rib fractures; *European Journal of Cardiothoracic Surgery*; 2002; S. 13-17; Elsevier

### Wound Treatment, Burns

**M. O. Ullah;** A study to detect the efficacy of microcurrent therapy on pressure ulcers; *Proceedings of Pakistan Academy of Sciences*; 2007; 44(4): S. 281-287

**S. Young; S. Hampton; M. Tadej;** Study to evaluate the effect of low-intensity pulsed electrical currents on levels of oedema in chronic non-healing wounds; *Journal of wound care*; 2011 Aug, Vol 20, Nr. 8, S. 368-373

**Pamela E. Houghton, Cynthia B. Kincaid, Marge Lovell, Karen E. Campbell, David H. Keast, M. Gail Woodbury and Kenneth A. Harris;** Effect of Electrical Stimulation on Chronic Leg Ulcer Size and Appearance; *Physical Therapy: Journal of The American Physical Therapy Association*, 2003 Jan, Vol. 83 Nr. 1, S. 17-28

R. Karba, D. Semrov, L. Vodovnik et al.; DC electrical stimulation for chronic wound healing enhancement. Part 1. Clinical study and determination of electrical field distribution in the numerical wound model; *Bioelectrochemistry and Bioenergetics*; 1997; 43: S. 265-270

P. J. Carely, S. F. Wainapel; Electrotherapy for acceleration of wound healing: low intensity direct current; *Archives of Physical Medicine and Rehabilitation*; 1985; 66: S. 443-446

## Oedema

S. Young; S. Hampton, BSc; M. Tadej; Study to evaluate the effect of low-intensity pulsed electrical currents on levels of oedema in chronic non-healing wounds; *Journal of wound care*; 2011 Aug, Vol. 20, Nr. 8, S. 368-373

## Cardio-vascular



### Hypertension

A. Vlasov, A. Safronov, V. Vladimirsky, A. Vladimirkaya, M. Umnikova; Efficiency of dynamic electroneurostimulation in patients with arterial hypertension; *Ural state Medical Academy, Yekaterinburg, Russia*; 2006; S. 1-2

V. I. Podzolkov; T. S. Mlnikova; I. A. Suvo-rova; L. I. Churganova; S. P. Starovoitova;

Cranial electrostimulation - a new nondrug method of treating the initial stage of hypertension 1992; *Terapeuticheskii Arkhiv*; 64(1): S. 24-27

Josef Kowarschik; *Physical Therapy*; Vienna, Springer Verlag, 2. edition, 1957, pp. 119 and p. 30

## Internal Medicine



### Diabetes Mellitus, Hypertension, Chronic Wounds

Bok Y. Lee, Noori AL-Waili, Dean Stubbs, Keith Wendell, Glenn Butler, Thia AL-Waili, Ali AL-Waili; 2010; Ultra-low microcurrent in the management of diabetes mellitus, hypertension and chronic wounds: Report of twelve cases and discussion of mechanism of action; *International*

*Journal of medical sciences*; 7(1): S. 29-35

### Liver Diseases (Hepatitis, Cirrhosis, etc.)

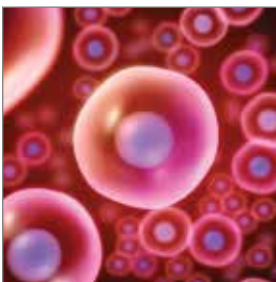
D. N. Jemeljanov; A. V. Tumarenko; 2009; Transcranial Electro Stimulation in the treatment of chronic diffuse liver diseases; *Volgograd State Medical University, Volgograd Russian Academy of Sciences, I.P. Pavlovés Institut of Physiology; Centre of Transcranial Electro Stimulation (TSS)*; essay collection „Transcranial electro stimulation, clinical studies“, Bd. 3, ed. Prof. Dr. V.P. Lebedeva, Sankt-Petersburg 2009, p. 124-134.

### Ulcers of the Stomach and Duodenum

V. P. Lebedev, Ya. S. Katsnelson, Yu. D. Zilber, M. V. Stepanova M. S., Transcranial electrostimulation of the brain opioid structure, in the treatment of ulcerative disease, of the stomach and the duodenum; *Uritski City Hospital No.18, Leningrad, USSR Sovetskaya Meditsina*, 1990; no. 1, pp. 30-33.

## Further studies, case reports and publications

### Measurements of ATP production, protein synthesis, membrane transport and wound healing with microcurrents



\*Ngok Cheng et al, 1982; Harry Van Hoof; Emmanuel Bockx; Michel J. Hoogmartens; Joseph C. Mulier; Frans J. De Ducker; Willy M. Sansen; William De Loecker; The Effects of Electric Currents on ATP Generation, Protein Synthesis, and Membrane Transport in Rat Skin; *Clinical Orthopaedics and Related Research*, 1982 Nov-Dez; (171): S. 264-72

Vgl. Wolcott et al.; Accelerated Healing of Skin Ulcers, *Medical Journal* July 1969

Carly et al.; *Archives of Physical Medicine*, July 1965

Jeffrey S. Mannheimer; Seton Hall University; The Effect of Micro-current Stimulation on ATP Synthesis in the Human Masseter as Evidenced by <sup>31</sup>P Magnetic Resonance Spectroscopy (2005), dissertations, paper 1544; <http://scholarship.shu.edu/dissertations/1544>

\*These study results suggest, according to the involved scientists, the following possible effects in the microcurrent application:

- Increased ATP production
- Increased protein synthesis
- Improvement in membrane transport
- Improvement in wound healing

R. O. Becker; *The Body Electric*. New York, William Morrow & Co. Inc. 1983

B. Nordenstrom; *Biologically Closed Electrical Circuits*, Nordic Medical Publications. Uppsala. 1983.

F. A. Popp; 2006, *Biophotonen - Neue Horizonte in der Medizin* (Haug)

M. Bischof; 1995, *Biophotonen, Das Licht in unseren Zellen* (Zweitausendeins)

Internet-Quellen: <http://www.bio-pro.de/magazin/thema/00186/index.html?lang=en&artikelid=/artikel/03313/index.html>;

[http://nobelprize.org/nobel\\_prizes/medicine/laureates/1991](http://nobelprize.org/nobel_prizes/medicine/laureates/1991)

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