

stress managing

The bio-electrochemistry is a new way in medical science.



The Future is here.

stress managing

EMOST DEVICE & THERAPY – The Future is here

presented by Attila ERDŐFI-SZABÓ Ph.D., chairman

Dear Reader!

Chronic stress, anxiety, sleep disorders, and other neurological disorders afflict an estimated 160 million in the European Union and another 80 million in the USA. The risk is escalating, must find efficient procedures.

The bio-electrochemistry is a new way in medical science (*Nobel Prize*).



As a culmination of our biophysical-electrochemical research, we have created a special device that opens new horizons in the treatment of disorders related to nervous system overload.

The device builds on the processes of sleep to restore harmonious function to the mechanisms regulating the nervous system, as well as to the various organs of the body.

The apparatus contains all of our knowledge and experience, placed on the market in a standard system held together with know-how and training. The unit possesses an outstanding price/value ratio and is a cinch use.

Together with the previous version, 122 therapy units are in operation, and thousands of users have provided positive feedback from many different fields, from respected institutions, including the *Hungarian National Institute for Medical Rehabilitation General Department of Amputation*, other rehabilitation clinics and sanatoriums throughout Europe. According to the experience of medical experts in Russia's prestigious *Medical Radiology Research Institute* (Obninsk, Science Academy of Russia) our device multiplies the natural regeneration of mesenchymal stem cells many times, which in their opinion will help Astronauts to reduce the inherent risks of the first journey to the Mars.

Our goal is to spread the word about this device and the technology which will help millions of patients worldwide to live in a better, healthier world.

short information

The Company:

Our company, BioLabor Biophysical and Laboratory Service Ltd. has got several years' professional experience and also a kind of conservative approach to life. We have gathered skilled colleagues to organize a team in which people can not only look after the patients but are sufficiently open to cutting-edge technologies as well. Our staff and company proprietors work in different areas of healthcare and are outstanding representatives of general practitioners, internists, surgeons, military doctors, natural therapeutics, pharmacists, haematologists, university teachers, scientists, and every colleague has been using our own-produced technology with success in their daily routine for years.

The Company's function:

- a) Scientific work, education, development of EMOST therapy
- b) Service of EMOST therapy
- c) Manufacturing of EMOST Redox devices
- d) Clinical laboratory: serology, mycology, virology, bacteriology
- e) Factory medical services
- f) 7/7 Customer service, operation

Indications of procedure:

Regular health maintenance in chronic cases, neuro-vegetative based diseases, neuroendocrine and neuro-immunological based diseases, central nervous system diseases, and psychosomatic based diseases.

We could effectively treat diseases such as:

stress, latent fear, anxiety, panic attacks, psychic stress related (mental) diseases, epilepsy, depression, sleep disorders, cardiovascular diseases, chronic shortness of breath, phantom limb pain and amputee rehabilitation, rehabilitation of Post-Traumatic Stress Diseases.



short information

The new cybernetic procedure, Electro Magnetic Own Signal Therapy

In our procedure the body heals by itself (EMOST know-how). We are able to connect the body's regulators in such a way (EMOST know-how), that allows the system to regenerate itself by using its own resources.

The method utilizes a connection of bidirectional communication (EMOST know-how) between skin cells and the nervous system, because the skin is sophisticated sensory organ, mediates infinite numbers of stimulus. The equipment uses signals (EMOST know-how) via free nerve endings of skin, uses the autonomous and central nervous system's signal ways. It works continuously interactive contact (EMOST know-how) by the body under treatment, over 40-55 minutes, it can parallel and continually refine (EMOST know-how) the body's self-controlling and self-regulation processes.

Benefits of procedure:

The EMOST personal Electro-Magnetic Own Signal Therapy helps to adjust and regulate directly the basic physiological and psychical flows via bio-electrochemical re-synchronisation and re-calibration (EMOST know-how).

Outcomes:

- a) composure (+15-30%)
- b) return of optimism (+40-70%)
- c) faster recovery (+15-50%)
- d) ability to concentrate improves (+25-50%)
- e) increased perception (+3-25%)
- f) improved performance (+3-25%)
- g) increase of efficiency (+10-15%)
- h) increased accuracy of judgement (+15-25%)
- i) faster reaction time (+3-15%)
- j) improved stress tolerance (+40-70%)
- k) harmonic genital life
- l) tranquillity of mind, a feeling of ease
- m) improved vitality (+15-40%)



short information

Basic information to patient:

Long of treatment 40-55 minutes, optimal numbers of treatments would be five, six, optimal periods in cure once a week, recommended repeat 1-2 years (EMOST know-how), price/treatment is 80 EUR, 95 USD, 10,000 HUF, cure is cca. 400 EUR/disease.

Basic information to service:

The device is high-tech and easy-to use, personal production, selling directly, automated (EMOST know-how), well-indicated, no chemical input, its principle is the body's non-defence mechanism, doesn't use any artificial electric- and electromagnetic signals under sessions, happens personal electro-chemical balancing only under session (EMOST know-how), this natural based signal can guarantee extreme low risks, because it works under the natural range of the body (EMOST know-how).

Warranty two years, operation 15000 hours, exclusive education for using not needed but helps the biological basics of mechanism in the technical understanding, this needs 20 hours.

Codes of competence of health professions (6/2012.(II.14) HU/EU):

9400 preventive- and public health care, 8717 complementer electrophysiological care, 5704 physiotherapy, 5722 electro-physiotherapy, 8046 reflexzone therapy, 6400 general medical care, 0100 general internal medical care, 0903 rehabilitation of neurology. EMOST Redox 1.1 medical device certified (2011-2013) € 1979, directive 93/42/EEC,

The device: favourable price in treatments and in device investment. The general numbers of patients per day would be six, which would mean 30 people per week, who comes weekly, summa 5-6 times.

The EMOST is a currently unique method at some problematic illnesses, and this procedure may unique of the World in functional sophistication and quality.

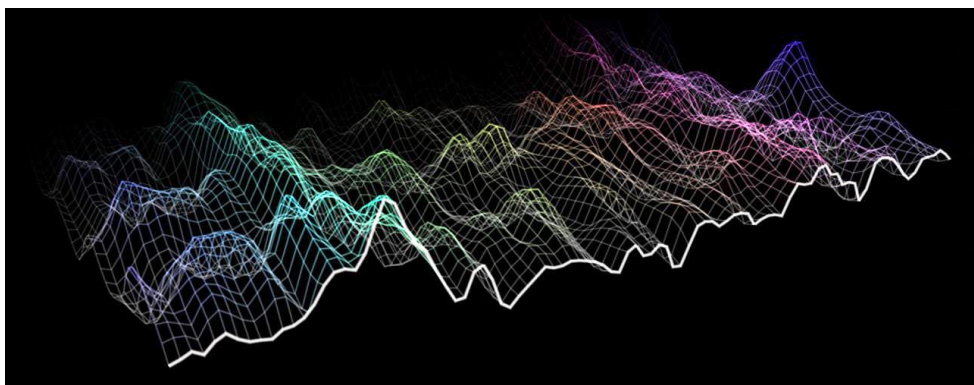


short information

Used personal own signal, how to conceptualize it?

I am myself, an individual being, a unique identity! As proof of that, we can see that our fingerprints remain unchanged throughout our lives, while our signature, our handwriting, may change depending on our temporary state, although our identities can still be recognized in them.

Personal signals also contain changing and unchanging elements. The permanent elements are genetic characteristics, propensities, imprints, inherent behavioural patterns, while the temporary elements are the results of momentary emotional and biological processes. When changing the emotional status, or beginning illness, changing (higher or lower) the intensity of personal electro-chemical, electro-magnetic signals too.



The EMOST like a bio-engineer

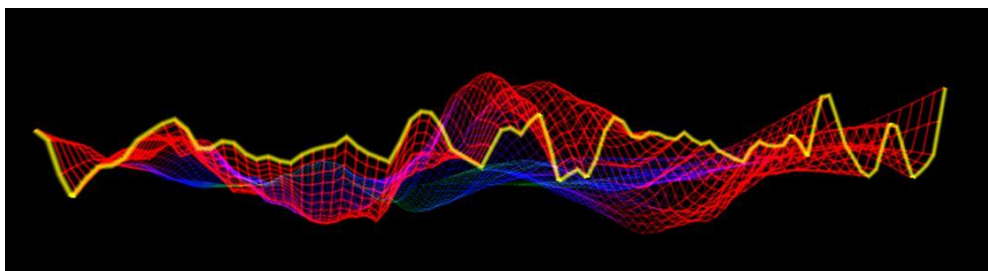
The Electro-Magnetic Own Signal Therapy (EMOST) indicates the systematic diversion (extra-sense detection) and thematic recirculation (EMOST know-how) of extremely low intensity, electric- and electro-magnetic live personal signals (similarly to ECG and EEG signals, may potentials) of subjects skin, which belong to the person's various biological, physical and psychical processes.

The device detects internal signals of body, some signals selecting (EMOST know-how) out of this conglomeration, and makes variations of chosen signals (EMOST know-how). The real-time modulation (EMOST know-how) is extrem-low intensity amplification or attenuation of selected signal-sequence, as an sound-engineer doing with equalizer for better sonority.



short information

The original signal and those variations (EMOST know-how) transmittings back on skin (feedback method), than the skin sensors detects internal signals out of external surface. The nervous system detect and sensing, controlling those immadiately as information and coherency natural based energy, than utilizes them according to healing and energy benefit.



The EMOST modulated signals are live, actual, effective, unchanged analogues non-linear, non-digitalized, real-based, natural-based (EMOST know-how).

The Electro-Magnetic Own Signal Therapy is a new concept in medical science, which was until now a missing link in health sciences. With our apparatus we are capable of identifying the permanent and temporary elements of the individual's own signal in a unique way, then synchronizing them once again, thus restoring their health balance.

How does this EM Own Signal therapy resolve a particular sector's problem?

- safe method of sensitive intervention in the case of nervous system based diseases
- does not cause personality disorder
- no side effects* (extremely low risks only)
- simple and effective procedure, helps the chemical agents therapy and psychotherapy too
- automatized, well-indicated, user-frendly, easy-to-use (EMOST know-how).



short information

Security

The BioLabor is a proven, unified franchise type system. It holds its ground and is the market maker at home, in Hungary, and internationally. Making its technology easy-to-use and free of hard adverse effects, BioLabor suits the wellness and medical environment. Our unified and developed ready-to-use BioLabor system offers an opportunity for service, with which, after training, you will be able to give effective treatment for an improvement of the general state of health with your own staff.

We have partnerships with the followings:

National Institute for Medical Rehabilitation, Hungarian Army Independent Health Insurance, Independent Armed Forces Trades Union Congress, National Police and Armed Forces Training Centre, Hungarian Civil Servants Union, National Athletic Association, Golden Hearth Foundation, some national and private clinics and rehabilitations centres, some discreet contract with politics and staff training centres, and HQ of International Bodyguard and Security Services Association (IBSSA), we have almost 100 franchise partners in Hungary.

More informations: publications, documents etc. look at:

www.emost-med.com

Look forward to seeing, best regards,

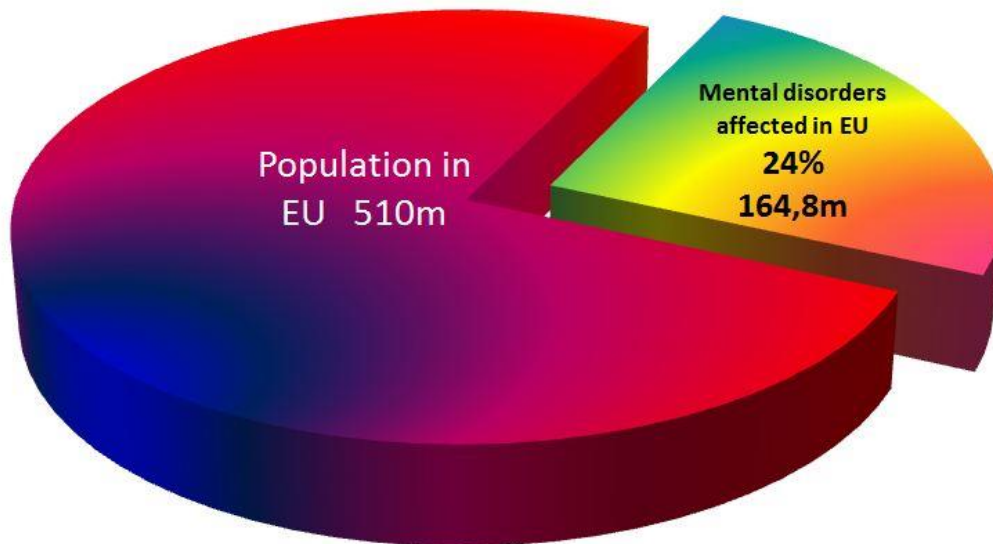


Attila ERDŐFI-SZABÓ Ph.D., (pronunciation: Attila RDFE-XABO)

Our scientific publications:



Some datas of neurological (brain) and neurological associated disorders in Europe



Mental disorders: OCD (2,9m), Eating Dis. (1,5m), cannabis dependence (1,4m), psychotic dis. (5m), personality dis (4,3m), PTSD (7,7m), conduct dis. (2,1m), alcohol dependence (14,6m), somatoform dis. (20,4m), ADHD/Hypercin dis. (3,3m), dementia (6,3m), unipolar depression (30,3m), insomnia (29,1m), anxiety dis. (29,1m)

Rates of total cost of disorders in Europe in year 2010 *WHO data

Olesen J, Gustavsson A, Svensson M, Wittchen HU, Jönsson B; CDBE2010 study group; European Brain Council.

■ brain and neurological ■ cardiov., cancer, diabetes ■ other

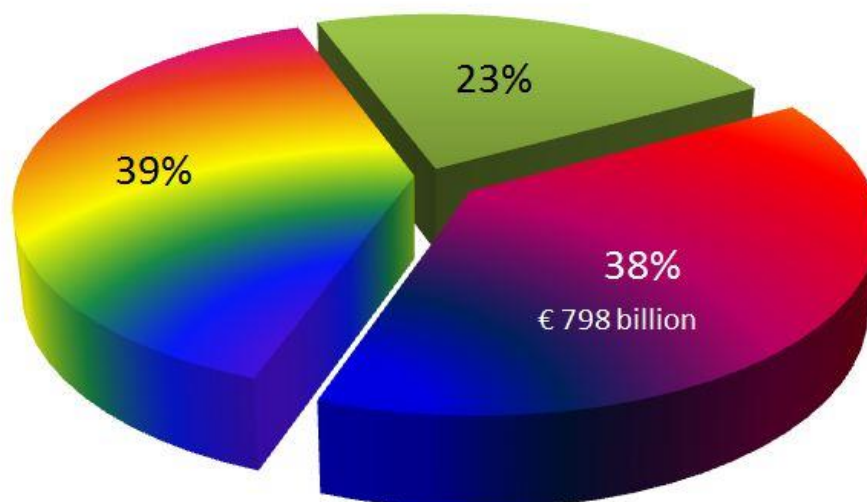


Table 1 Number of subjects affected and cost of brain disorders in Europe by diagnostic group and selected specific diagnoses

Disorders	Estimated number of subjects affected (millions)	Cost per patient (€PPP 2010)				Total costs (million €PPP 2010)			
		Direct health care costs	Direct non-medical costs	Indirect costs	Total	Direct health care costs	Direct non-medical costs	Indirect costs	Total
Addiction	15.5	1782	873	1572	4227	27 685	13 569	24 430	65 684
Alcohol dependence	14.6	1689	922	1671	4281	24 596	13 430	24 336	62 361
Opioid dependence	1.0	3176	143	98	3416	3089	139	95	3323
Anxiety disorders	69.1	670	2	405	1077	46 267	144	27 969	74 380
Agoraphobia	8.8	337	0	760	1097	2959	0	6675	9634
GAD	8.9	988	0	226	1214	8786	0	2014	10 800
OCD	2.9	555	0	225	779	1617	0	656	2272
Panic disorder	7.9	844	0	661	1505	6670	0	5224	11 894
PTSD	7.7	1064	19	0	1082	8241	144	0	8385
Social phobia	10.1	721	0	476	1196	7277	0	4806	12 083
Specific phobia	22.7	472	0	378	850	10 717	0	8595	19 312
Brain tumor	0.2	13 387	0	8203	21 590	3208	0	1966	5174
Child/Adolescent disorders	5.9	439	3156	0	3595	2601	18 724	0	21 326
ADHD	3.3	477	304	0	781	1555	992	0	2546
Autism	0.6	1255	26 006	0	27 261	695	14 413	0	15 109
Conduct disorder	2.1	166	1569	0	1735	352	3319	0	3671
Dementia	6.3	2673	13 911	0	16 584	16 949	88 214	0	10 5163
Eating disorders	1.5	400	48	111	559	593	70	164	827
Anorexia	0.8	710	80	188	978	583	65	154	803
Bulimia	0.7	15	8	15	38	10	5	10	25
Epilepsy	2.6	2461	625	2136	5221	6503	1653	5644	13 800
Headache	152.8	59	0	226	285	9039	0	34 475	43 514
Medicine overuse headache	8.3	305	0	1986	2291	2533	0	16 503	19 037
Migraine	49.9	84	0	286	370	4181	0	14 282	18 463
Other headaches	10.2	33	0	24	57	333	0	249	582
Tension type headache	84.4	24	0	41	64	1991	0	3441	5433
Mental retardation	4.2	6970	3364	0	10 334	29 204	14 097	0	43 301
Mood disorders	33.3	781	464	2161	3406	26 016	15 437	71 952	11 3405
Bipolar disorder	3.0	622	560	6002	7183	1860	1675	17 956	21 491
Major depression	30.3	797	454	1782	3034	24 156	13 762	53 996	91 914
Multiple sclerosis	0.5	9811	8438	8725	26 974	5295	4554	4709	14 559
Neuromuscular disorders	0.3	7133	5641	17 278	30 052	1834	1450	4442	7726
ALS	0.1	11 240	11 559	4665	27 463	596	613	247	1457
CIDP	0.0	15 507	2746	3759	22 012	223	40	54	317
GBS	0.0	51 682	0	2319	54 001	342	0	15	358
MMN	0.0	15 507	2747	3759	22 012	40	7	10	57
Muscular dystrophies	0.1	1320	5547	30 186	37 053	177	744	4050	4972
Myasthenia gravis	0.0	9124	779	1111	11 014	375	32	46	453
PDN	0.0	15 507	2746	3759	22 012	80	14	19	113
Parkinson's disease	1.2	5626	4417	1109	11 153	7029	5519	1386	13 933
Personality disorders	4.3	773	625	4929	6328	3342	2701	21 301	27 345
Antisocial PD	2.0	561	0	2737	3297	1118	0	5458	6576
Borderline PD	2.3	956	1161	6809	8925	2224	2701	15 843	20 769
Psychotic disorders	5.0	5805	0	12 991	18 796	29 007	0	64 920	93 927
Sleep disorders	44.9	441	0	348	790	19 796	0	15 630	35 425
Hypersomnia	3.1	820	0	458	1278	2562	0	1430	3992
Insomnia	29.1	153	0	0	153	4465	0	0	4465
Narcolepsy	0.1	1851	0	3784	5635	170	0	347	516
Sleep apnea	12.5	1008	0	1109	2117	12 599	0	13 853	26 452
Somatoform disorder	20.4	468	0	570	1037	9547	0	11 622	21 169
Stroke	8.2	5141	2035	599	7775	42 352	16 769	4932	64 053
Stroke (incident)	1.3	13 850	5534	1616	21 000	17 570	7021	2050	26 641
Stroke (prevalent)	7.0	3556	1399	413	5368	24 782	9748	2882	37 412

Table 2. (Continued)

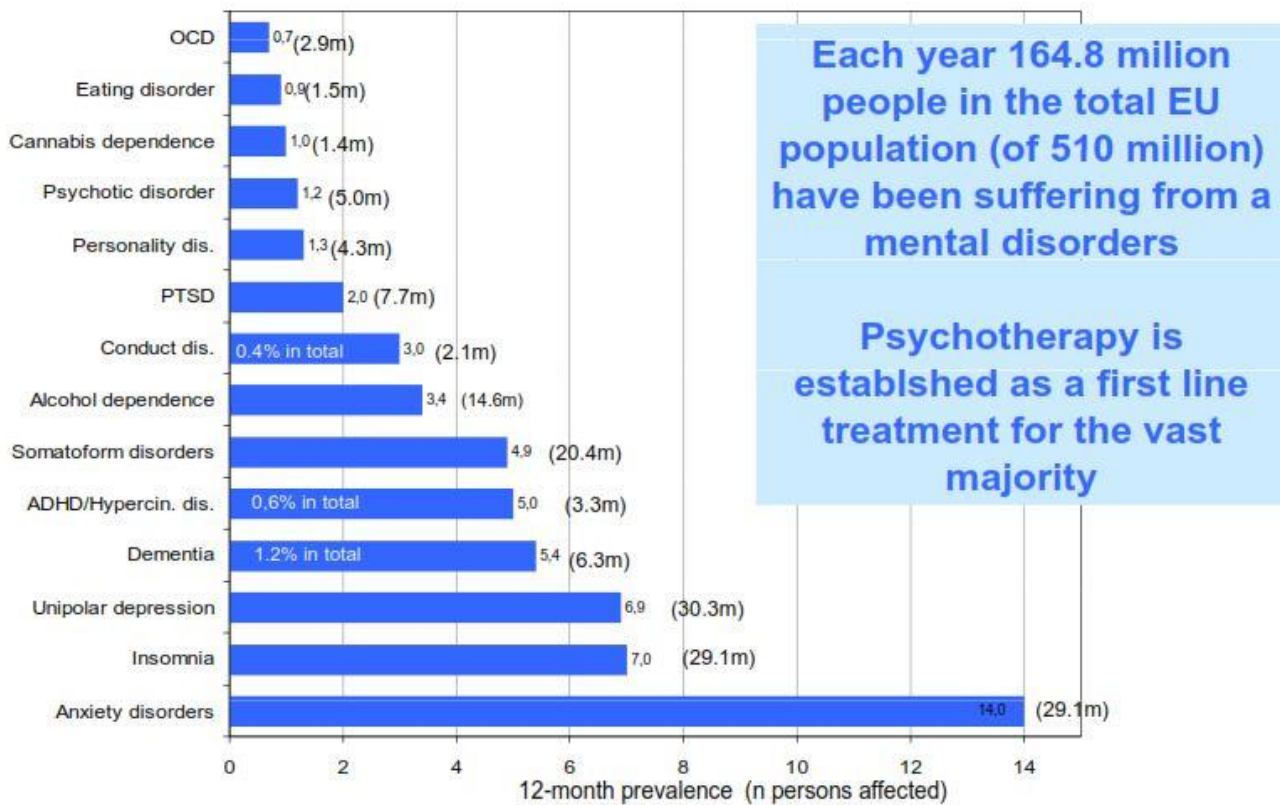
Disorders	Estimated number of subjects affected (millions)	Cost per patient (€PPP 2010)			Total costs (million €PPP 2010)				
		Direct health care costs	Direct non-medical costs	Indirect costs	Total	Direct health care costs	Direct non-medical costs	Indirect costs	Total
Traumatic brain injury	3.7	2697	893	5219	8809	10 106	3348	19 560	33 013
Trauma (incident)	1.2	4158	52	4156	8366	5023	62	5021	10 106
Trauma (prevalent mod/sev)	2.5	2002	1294	5725	9020	5083	3285	14 539	22 907
Total	Number of diagnoses 380.1					296 374	18 6250	315 101	797 725

GAD, generalized anxiety disorder; OCD, obsessive-compulsive disorder; PTSD, post-traumatic stress disorder; ADHD, attention deficit hyperactivity disorder; ALS, amyotrophic lateral sclerosis; CIDP, chronic inflammatory demyelinating polyradiculoneuropathy; GBS, Guillain-Barré syndrome; MMN, multifocal motor neuropathy; PDN, paraproteinemic polyneuropathies; PD, personality disorder.

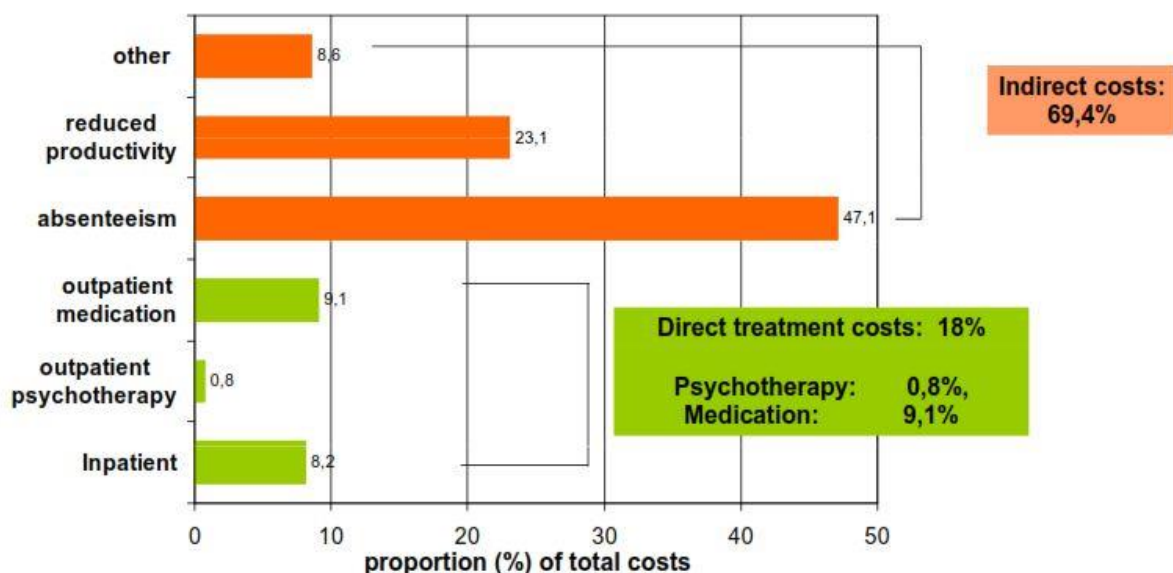
Table 1. Source: [Olesen J, Gustavsson A, Svensson M, Wittchen HU, Jönsson B; CDBE2010 study group; European Brain Council. Collaborators \(70\) The economic cost of brain disorders in Europe. Eur J Neurol. 2012 19\(1\):155-62](#)



Mental Disorders in the EU by prevalence (estimated number affected)



What are the major cost components of mental disorders?



Wittchen & Jacobi 2011

**Neurological based disorders (WHO data based estimate: 27%)
of total population**




**Neurological based disorders (WHO data based estimate: 27%)
of total population**



E.M.O.S.T.
THE
ELECTRO-MAGNETIC OWN SIGNAL THERAPY



CE
1979 
EMOST Redox 1.1 MEDICAL DEVICE

presented by
Dr. Attila Erdőfi-Szabó Ph.D.
Biophysicist, developer of EMOST method
doctor of Medical- and Health Sciences
www.biolabor-med.com
2011/2012

ELECTROMAGNETIC OWN SIGNAL TREATMENT

2012


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2012

PROLOGUE

 The body refreshes itself every day: you go to bed tired in the evening, and then you get up in the morning "recovered", IE even from the most exhausted state you get much better by "something" while energy was not taken. How does it happens? We deal with this neuro-vegetative process.

Dr. Attila Erdőfi-Szabó Ph.D., Chairman

If it seems that traditional and alternative methods are inefficient for healing, and even the natural healing procedures and dietary supplements fail, you should pay attention to the initial phase of a natural regeneration, your self-healing ability, or the lack thereof.

Several studies showed that the extremely low frequency and electromagnetic fields affect the passing of the neuronal action potential and can mimic the effects of the synaptic neurotransmitters. Although the extremely low frequency and electromagnetic fields can only create micro-volt size changes in the neuronal membrane potential, as a result of the signal mounting processes this can significantly influence the passing of the physiological action potential.

The computer-based method we apply in BioLabor, which regulates the patient's own control processes, was developed in house. It has helped over forty thousand people over a five-year period. It is based on natural self-regeneration, the improvement of the body's self-healing ability through cellular electro chemical balancing.

We use the human body's own, natural, electro- and electromagnetic impulses (similarly to ECG and EEG signals) which belong to the person's various biological processes. Our unique signal processing method is able to keep up with the pace of biological events, and instead randomly selecting certain moments, it can parallel and continually refine the body's self-regulation.

The Electromagnetic-Own-Signal-Treatment (the EMOST™ method) indicates the systematic diversion (extra-sense detection) and thematic recirculation of extremely low intensity, electric- and electromagnetic radiation that is based on the recorded natural, non-linear bioelectric and bio-electromagnetic signals (may potentials) of subjects. It influences the natural self-checking processes (regulation/adaptation) and the balance control of the electro-chemical processes (modulation of free radicals and antioxidants, redox processes as well as neurotransmission, and potentials/action potentials status) via the electro-chemical processes of the impulses and cellular receptors and free nerve endings. The detected non-linear own signals are processed in analog manner, then selected and reflected on the skin's surface. The state-of-the-arts EMOST method helps adjust and regulate directly the basic physiological flows of the body, organs and cells.

The EMOST™ method can potentiate the cellular metabolism, detection and immune processes in a natural way through the electric- and electromagnetic signals coming from the body's own range. By doing that it helps the biochemical homeostasis to recover, and helps for the neurovegetative system in signal transmission and signal recognising.



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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The Company:

1. Scientific work, education, development of EMOST therapy
2. Clinical laboratory: serology, microbiology, tumourmarker etc., screening tests, electro-somatography
3. Factory medical services
4. Manufacturing of BioLabor EMOST Redox medical devices, service of EMOST therapy countryside, and sale of BioLabor franchise in Europe.
5. 7/7 Customer service, operation (since 2005, close to 70 BioLabor Health Center in 13 counties, and close to 40.000 satisfied customers with the BioLabor EMOST method).

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1. Supplement: Definitions

a, Physical Concepts

Atom: the smallest part of the chemical element that is not further divisible by chemical processes (MTA -Hungarian Science Academy's Explanatory Dictionary). An atom is the smallest quantity in chemistry that still preserves the chemical characteristics of the element. Atoms therefore are the fundamental components of molecules and the material.

Electron: the negatively charged elementary particle of the atom that is orbiting the nucleus, the elementary particle of electricity (MTA Explanatory Dictionary). The electrons together with the nucleus form chemical particles, and are responsible for the chemical bonds.

Ions: ion is an atom, or a molecule (atom group), that has an electric charge. The negative charged ion, in other words anion is such an atom or a molecule that has a surplus of one or more electrons; cation on the other hand is a positive charged ion that has a deficiency of one or more electrons the same way as in the original particle. The process along which ions are created is called ionization.

Frequency: The number of periods per one second. Frequency, density. Hungarian Science Academy (MTA)

Periods: regularly recurring sections of a certain phenomenon. (MTA Explanatory Dictionary).

Frequency of an electronic wave: the number of waveforms of electrical signals repeated per one second.

Magnetism: the characteristic of certain materials, atoms, molecules where electrons moving in the same direction generate a magnetic field between the materials.

Electricity: A physical process in which electric charges, their movements and effects can be found.

Electric charge: it is the characteristic of certain subatomic particles (namely the electron's and the proton's) that gets in touch with the electromagnetic field and attractive and repulsive forces occur between them. It is the fundamental feature left over in a few basic elements, which determines the extent to which it participates in the electromagnetic interaction, one of the fundamental interactions. The electrically charged material creates an electromagnetic field and the external electromagnetic field influences its movements.

Electric field: it operates between two electric charges similar to gravity between two objects. An essential difference between the two things is that gravity affects all objects, while the electric field comes into being only among electrically charged objects, on the other hand the force of the electric charges can also be repulsive. The force magnitude is inversely proportional to the square of the distance between the two charges, and is directly proportional to the size of the multiplied charges.

Electricity: it is the result of the flow of electrically charged particles. The particles can be positively or negatively charged. Examples for electricity can be the flow of electrons in metals (or in other conductive materials), or the power created in the electrolytes when charged ions flow in the liquid. The particles themselves are relatively slow physically, however, the electric field that creates the movement is practically moving at light speed.

Direct current (DC): when charged particles move only in a given direction.

ELECTROMAGNETIC OWN SIGNAL TREATMENT

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Electromagnetic interaction: the physics of the electromagnetic field. The electromagnetic field is the field which fills up the entire space created by the electric and magnetic fields. While the electric field is the result of the charge causing static electricity (that creates electricity in an electric conductor), the magnetic field comes from the movements of the electric charge (like the current in a conductor) and is manifested in the magnetic force similar to the permanent magnets. The change of the magnetic field creates an electric field called electromagnetic induction.

Electromagnetic power: It is the effect of the electric field on the particles of an electric charge. This type of force is one of the four fundamental forces of nature. The other three are the following: *1)* the strong nuclear force converging the nucleus, *2)* the weak nuclear force responsible for certain types of radioactive decay *3)* the gravitational force. All interactions (forces) between physical objects are the ultimate consequences of these 4 fundamental forces, however, the electromagnetic force is responsible for basically all the phenomena in our everyday lives, except for gravitation. All forces can be traced back to the electromagnetic force that affects the electrically charged protons and electrons of the atom., All chemical processes occur through the forces of the interactions of the electron's circulation.

Electromagnetic radiation: oscillating electric and magnetic field exceeding perpendicularly to each other that spreads in the space in the shape of a wave delivering energy and impulses with light speed. Its quantum are the photons. The electromagnetic radiation between the wavelength of 380 NM and 780 NM is visible to the human eye that's why we call it visible light. All the electromagnetic radiation can be arranged according to frequency (wavelength, energy), that is when we can get the electromagnetic spectrum. The physics of the electromagnetic radiation is described by electrodynamics.

Band-path filter: such an electric circuit, which operates in the pre-determined frequency range of electricity.

The ranges of the applied band-path filters via EMOST: 1-10Hz, 10-100Hz, 100-1kHz, 1kHz-10kHz, 10kHz-100kHz, 100kHz-1MHz, as 1-1.000.000 signal/sec.

Wave: state changes of a system that is periodic in time and/or space, IE has regular intervals. Apart from the electromagnetic wave, waves spread in some kind of a medium. They deliver energy without the constant motion of the material of the medium to the direction of propagation, thus the wave delivers energy resulting from motion coming from a stable point, but no mass.

Interference: a physical phenomenon that occurs if two coherent waves meet with different sources, IE waves whose phase difference is constant. As a result points come into being in space in which waves greatly strengthen each other, and also points in which waves greatly weaken each other (depending on what kind of phase difference the two waves arrive with at the individual points).

ELECTROMAGNETIC OWN SIGNAL TREATMENT

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b, Biological definitions

Homeostasis: Physiological concept, the ability to adapt to the external and internal changing conditions of the living organisms by which they can ensure their relative biological stability. Under the dynamic permanence and stability of the internal conditions we mean the proper nutrition-supply, the necessary quantity and quality of the respiratory gases, thermoregulation, the proper quantity and quality of the body fluids, volume, ion composition, pH, temperature, osmotic pressure, and the presence of all the protection modes, and the proper operation of all these. These components are ensured by the self-sustaining living organisms with the help of the hormonal and nervous system, collectively known as self-regulating operations.

Potential: The process of assisting the establishment of homeostasis.

Receptor: the organism or cells of the nervous system developed to collect stimuli. (MTA Explanatory Dictionary).

Free-radicals: Chemically very reactive atoms and molecules, which serve dominant signal roles in the physiological and pathological condition of the body. Free radicals are atoms or molecules that contain an unpaired electron on their external shells (having magnetic momentum), tend to form pairs and absorb more electrons from other molecules.

Signal process: It is a reflexive process based on stimulus perception and stimulus creation, under which we mean the organization and the operation of the subsystems, and the organization of the sub-systems with each other. This retrospective process is completed in atomic, molecular, cellular, electric- electromagnetic and electro-chemical ways in which the stimulus detection and the stimulus triggering have also a stimulus transmitting role.

Self regulation: it is a continuous regulation based on the control of the operations and the signal processes in order to have an overall homeostasis of the organization.

2. Bio-electrochemical knowledge to get a better understanding of the EMOST effects

"The cell membrane and its environment cannot be considered to be a balanced, closed system and the behavior of the individual ions are not independent. In resting position there is an ion flow maintained by constant electrochemical potential drops between the two sides of the cell membrane in a way that each ionic current density compensates one another. The ion concentration difference is constant between the outer and inner space, which is possible to maintain only with the help of the opposite direction active transport, i.e. operating the Na⁺ / K⁺ pump. The process continues until the ionic current created by the electric field is balanced with the diffusion current of the opposite direction.

An electric double layer is formed at the time of the dynamic balance so that the electric field and the opposite charge flows caused by the concentration differences can keep the balance with one another. „On the way” to the balance every state equals to a quasi-state characterized by the electrical neutrality of both sides - one by one - and also the temporary state between the distribution of the concentration and the ionic current.

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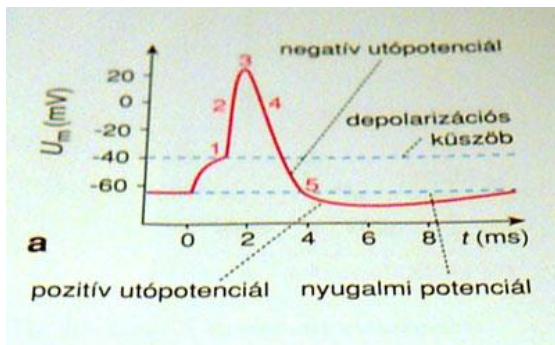
2012

This balance is temporary, because it is true that the sum of the ionic currents is zero, but this is not fulfilled in the flow of certain ions one by one. Therefore the ion distribution changes over involving a change in the diffusion potential (Medical Biophysics, 3rd edition, p. 290, Medicina Publishing House).

We can further increase or decrease the resting membrane potential in a regulated way with the direction of the power (in absolute terms). The membrane gets hyperpolarized or depolarized accordingly. Regardless of the current direction, under the threshold response signals are obtained that are proportional with the power of the effect.

Above the threshold - in case of a depolarizing effect, the nature of the response sign is different from the previous one, and its size is independent from the fact of how much the inducing effect exceeds the threshold. This is the typical response of the so-called "Action potential" which characterizes the cell membrane excitability. (Medical Biophysics, 3rd edition, p. 290, Medicina Publishing House).

If the charge carried by the depolarizing currents (i.e. the proportional rate of the depolarization expressed in $mV \cdot s$) exceeds a certain threshold, the depolarization becomes independent of the size of the current pulse. The resulting voltage signal with ms duration is the action potential, which circulates with constant amplitude in the nerve or muscle fibers. The typical stages of the action potential during its course can be well-separated (Medical Biophysics, 3rd edition, p. 294 III.34a. Fig.)



The voltage change during the action potential in the function of time and the change of the status of the voltage-sensitive ion channels in each section

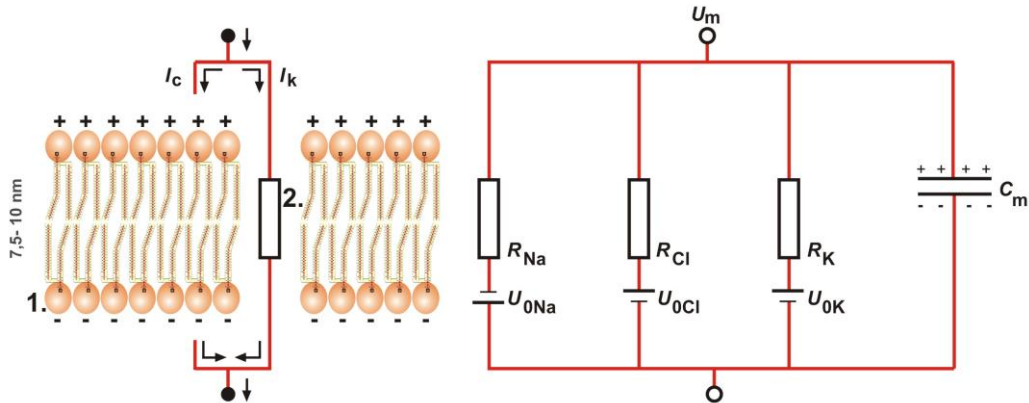
1. Opening of Na^+ -channels
2. Opening of K^+ channels
3. Inactivating some of the Na^+ channels
4. Further outflow of K^+ , total closing of Na^+ channels
5. Closing of K^+ channels

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The electric model of the cell membrane (Medical Biophysics. 3rd edition, p. 292 III.32. Fig.)

Extra-cellular space



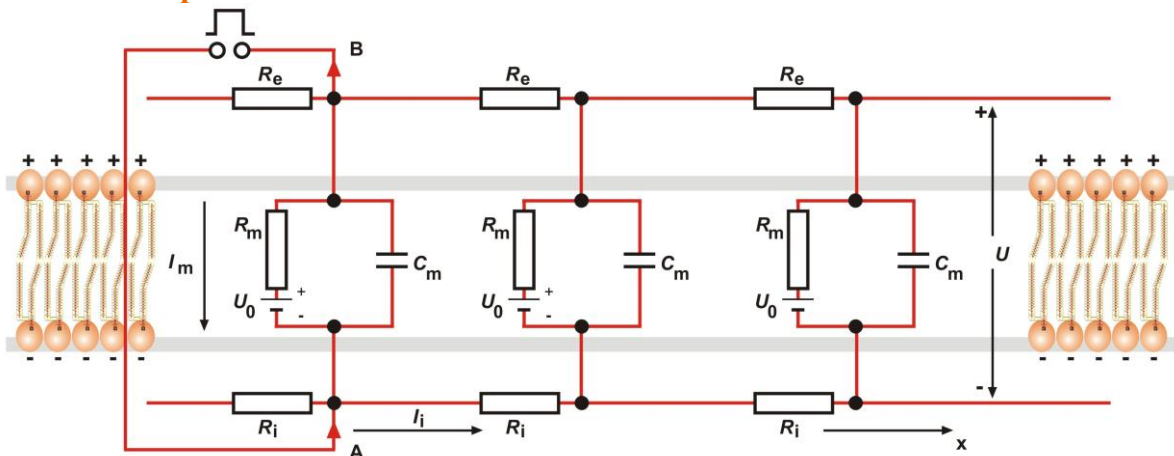
Intra-cellular space

1. Lipid double layer: capacity
2. Ion channel: resistance

The electric model of the membrane. The membrane can be described with transverse resistance (R_{Na} , R_{Cl} , R_K), with capacity (C_m) and with electric power (U_{0Na} , U_{0Cl} , U_{0K}).

The further improvement of the electric model of the cell membrane to interpret the effects of the pulse to the membrane (Medical Biophysics. 3rd edition, p. 293. III.32. Fig.).

Extra-cellular space



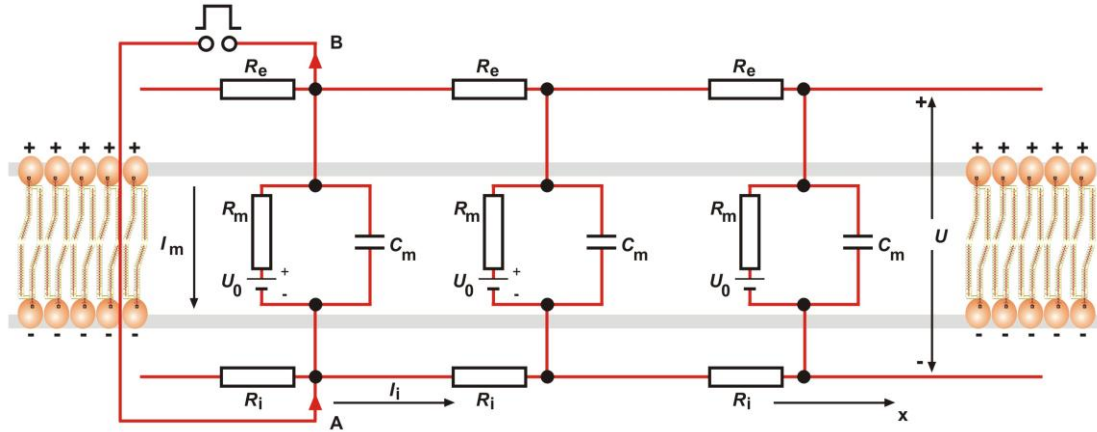
Intra-cellular space

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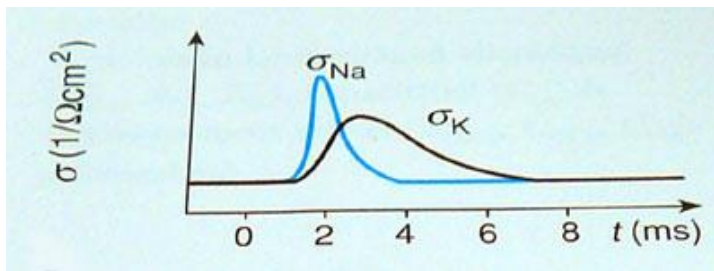
The electric model modified by Hodgkin, which regards the specific changing conductivity of the ion channels as opposed to the constant R_m (Medical Biophysics. 3rd edition, p. 295. III.35. Fig.).

Extra-cellular space



Intra-cellular space

In the course of the stimulated state, the permeability of the membrane changes with regard to Na^+ and K^+ ions for consideration of individual ions (Medical Biophysics. 3rd edition, p. 294 III.34b. Fig.).



The typical changes of the specific conductivity of the voltage-sensitive Na^+ and K^+ channels during the action potential

During the membrane depolarization we arrive at a critical depolarizing value, when the voltage-controlled Na^+ channels begin to open. The increased Na^+ permeability constant shifts the membrane potential value toward the equilibrium potential of the appropriate distribution of the Na^+ , in accordance with the Goldman-Hodgkin-Katz equation leading to further depolarization. As a result, large amounts of Na^+ ions flow towards the intracellular space in accordance with the concentration drop. The presence of Na^+ ions shifts the negative potential of the intracellular space toward zero, therefore, the depolarization increases.

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This Hodgkin-cycle is a typical example of a positive feedback when a change in the system's operation reacts to the system itself in a way that it increases the primary change rate. The cell next to the fully open Na⁺ channels would travel toward the so-called "resting" state if the open state of the channels was a stable conformation. However, it does not occur as the Na⁺ channels are automatically deactivated. In an inactive state, the channels do not hold the stimulus threshold of the cells, which is infinitely large, and the cell cannot be irritated in such a refractory state.

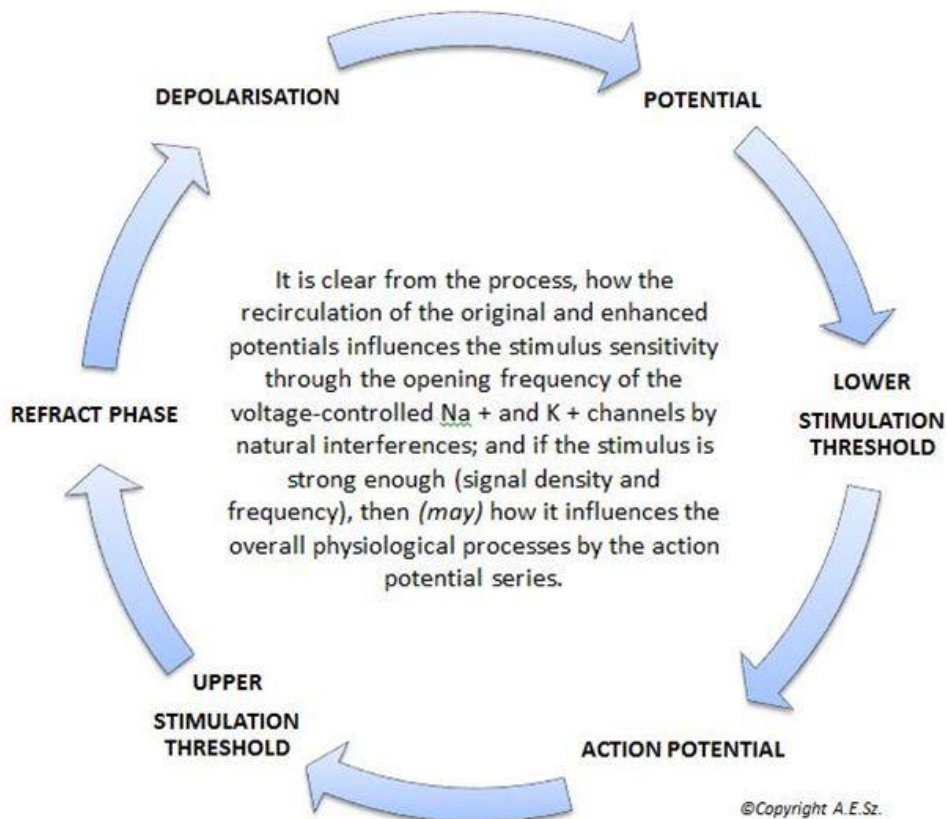
The K⁺ channels are created by the depolarization by opening the Na⁺ channels, however, these channels begin to operate with a delay compared to the Na⁺ channels. In such circumstances, the Na⁺ permeability reduces even more while the K⁺ permeability increases. The active pump pumps K⁺ ions into the cell, and pumps Na⁺ ions out of the cell. As a result of all these processes the original resting state returns and due to delayed closure of the K⁺ channels a transient hyper-polarization occurs. The mechanism, which restores the resting potential, functions on the basis of the principle of negative feedback. After the closure of the K⁺ channels, the Na⁺ channels get into a simple closed state from an inactivated state. In this state, the cell can be irritated again, but its stimulus threshold is higher than at rest (relative refractory phase) (Medical Biophysics. 3rd edition, p.295, 296).

If the Na⁺ channels open as a result of the depolarization in a definite part of the cell membrane, then the action potential is developed. As the cell membrane is surrounded on both sides by the principal electrolyte, the local electro gradient changes and spreads to all directions. The amplitude of the changes decreases rapidly as the distance increases due to the resistance of the medium during its spread, so we could expect that the action potential is a local phenomenon induced in a well-defined place (i.e. it is greatly diminishing during expansion). If that was really the case, the action potential would be inadequate to help the information flow between the remote parts of the body. In fact, the action potential can spread along the membranes of the neurons (including the axon membrane as well) without any weakening. The required strengthening ("relay station features") is provided by the opening of the voltage-controlled Na⁺ channels. Depolarization might occur according to the rules of exponential decay (see III/4.3.2.) controlled by the space-constant in the adjacent regions of the place of the action potential.

This depolarization can reach such an extent in the close regions compared with the 90mV potential at rest, that the value of the membrane potential can reach -30-40 mV (depolarization threshold). This value is sufficient to open the voltage-controlled Na⁺ channels. Given that the closing of the Na⁺ channels is followed by a 1 ms long inactivated state, during which the channels are not able to be opened, the action potential spreads in one direction only (not "backwards"!). As a result of the cessation of the refractory state, the depolarization wave is at a distance that its effect does not reach the stimulation threshold. In case of irritable mammalian cells, the velocity of the action potential can drop between 1 m /s and 30 m/s (Medical Biophysics. 3rd edition, p.296, 297).

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Sense organs are such units of the body, which collect information from the outside world, as well as information from the inner state of the body, and convey this information to the central nervous system. Information is collected by millions of microscopic structures, called receptor cells. These can be found in almost every part of the body, in the skin, in the muscles, in the joints, in the inner organs, in the walls of the blood vessels, and in the specific sense organs, like the eye or the inner ear. Receptors are generally "specialized" to a specific stimulus effect, i.e. a certain wavelength range of the light, molecules of defined shapes, vibration or even temperature. In a stimulated state, the neuron connected to the receptor cell begins to "burn", i.e. electrical impulses and a series of action potentials are generated. The nerve fiber transmits the information in the way described above to the spinal marrow and also to the brain. Most of the action potential series gets to a special part of the cerebral cortex through metastases, where certain stimuli can be found separately in different places. The final processing of the information is the responsibility of the associative cortical areas (Medical Biophysics book. 3rd edition, p.301, 302.).

The receptors found in the skin can be considered analogue signal converters, which transform the sensed stimulus into an electro signal, a change in the membrane-potential. It is the so-called receptor- or generator potential. The receptor nerve transforms the stimuli over the threshold into a series of action potentials, the frequency of which is the function of the receptor potential. This "frequency-coded" pulse-sequence runs along the axon until it reaches the sensory center of the cortex (Medical Biophysics 3rd Edition, p. 303).

ELECTROMAGNETIC OWN SIGNAL TREATMENT

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BIOLABOR *Emost Redox 1.1*

The EMOST™ method influences the subject's basic electrochemical, physiological processes by conducting, selecting, expanding, transmitting and redirecting the subject's own, different signal density potential and action potential.

The conducted action potentials buried in noise with different signal density (signal density/sec, means frequency) are supplemented by their amplified / attenuated (-20 dB, 60 dB) and harmonic (5 MHz) versions (further enhanced potency) and then they get re-circulated on the skin surface in a thematic way. If the stimulus is below the stimulation threshold or the relative threshold is high, or sensitivity to stimuli is decreased, the stimulus is not able to elicit action potential and the stimulus remains without reaction.

The recirculation of the original and enhanced potential affects the opening frequency and the stimulus-sensitivity of the voltage-controlled Na⁺ and K⁺ channels. If the stimulus strength is sufficient (signal density, frequency), then the action potentials, which are thus not confined to the direct location of the stimulation but spread in the whole tissue, get to the spinal cord through metastasis, or to the cortical association areas where certain stimuli are formed separately, then they get processed.

The nerve impulse (pulse, action potentials), the electro-negativity wave spreading from the initial part of the axon, moves rapidly along the surface of the membrane (axolemma). Stimulation alters the Na⁺ ion permeability of the membrane and Na⁺ ions flow in the axon. This transport consumes energy, which is provided by the adenosine triphosphate (ATP). The number of positive ions on the outer surface of the axolemma rapidly decreases to zero. As a result the membrane potential drops to zero too, i.e. it gets depolarized. A typical resting potential is -80 mV in a way that the surface of the outer membrane is electro-positive compared to the internal surface; the action potential is about +40 mV in a way that the outer surface of the membrane is electro-negative compared to the inner surface.

The action potential in the thinner axons may be less than 40 mV. The negatively charged part of the outer surface of the axolemma affects the adjacent positively charged part of the axolemma as a stimulus, and the adjacent action potential at rest transforms into action potential in less than 1 ms. In this way, the action potential passes along the nerve fibers, exactly to their end. As the action potential moves along the nerve fibers (axons, dendrites), the entry of Na⁺ ions into the axon ceases and the axolemma permeability relative to K⁺ ions increases. Then K⁺ ions flow to the outer surface of the axolemma, so the resting membrane potential is restored.

The discharge begins on the axon hill, then through the axon, reaching the end of it as it arrives in a synapse, where it leads to the creation of new neurotransmitter molecules and by contacting the dendrites of the neighboring cells it can induce their firing. This process continues until the stimulus reaches a specific cell (such as a muscle moving cell in case of an efferent signal sequence).

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The electrical signal is conducted through the cell body and the axon strings. Insulation is produced by special glial cells (Schwann cells) covering the axon. In case of the central nervous system the oligodendrocytes produce the insulation and they do the maintenance as well. The conducting consists of a series of discharges of the pieces after they are fully charged. The charge transfer takes place from gap to gap with a series of bounces, through the so-called saltatorial conducting. (Thus, if the original potential is not high enough, or there is a large loss due to the failure of insulation, then the signal or instruction is not received, which causes a disease of the body, e.g. Amyotrophy lateralsclerosis).

After a nerve stimulus passes the nerve fiber while the axolemma is depolarized, a second stimulus, even if it is strong will not be able to generate a stimulus in the nerve (refractory period). The neurons of the nervous system form a functional conducting field while connected to each other. Where two neurons are in close proximity and a functional relationship appears between them, a synapse is created. A chemical neurotransmitter is released on the presynaptic membrane of the synapse, through which the synaptic gap connects to the specific receptors of the postsynaptic membrane, and stimulates (or prevents) the next neuron (dendrite) and creates a stimulus shift at the effector endings of the peripheral nervous system.

All the neurotransmitters playing the role of opening and closing channels of the neuron wall have different effects and characteristics. The catalyst, stimulating ones, such as acetylcholine, the ones with glutamate and serotonin compounds mostly effect the state of the Na⁺, K⁺ and Ca²⁺ cations' channels; while the GABA and glycine compounds that are mainly blockers and inhibitors have an effect on the Cl⁻ anion channel. The latter two play the main role in the neurons of the brain.

As an effect of the action potential, the content of the vesicles gets into the intracellular space, and activates the glutamatereceptors in the postsynaptic cell (e.g. NMDA-receptor). Glutamate is the anion of an amino acid, the Glutamic acid (abbreviated as Glu or E). It has a single, negative charge, it is stored in the vesicles, the presynaptic cell of the neural synapses, and it plays a crucial role in the removal of the nitrogen, it gets deaminated, and as a result an oxidative reaction is created, which is catalyzed by a glutamate dehydrogenase enzyme. Glutamate is the most common excitatory neurotransmitter in the nervous system. It is fundamental in the systematic responses to stress; therefore in its absence the body's immune reactions are impaired. It plays a key role in many metabolic and immunological processes, also the most important energy source for rapidly dividing cells, such as the enterocytes, lymphocytes. It reduces the production of the inflammatory mediators and enhances that of the antiphlogistic ones, and it also enhances cellular immunity. In addition, it increases the barrier function of the intestinal tracks, and a major role is assumed in the process of learning and memory formation.

The nerve stimulus reaches the spinal cord through the afferent neurons. The afferent fibers form a synapses in the spinal cord, (for example) with the large alpha motor cells, - located in the anterior horns of the gray matter of the spinal cord, and the nerve stimulus spreads further along the efferent motor fibers, then it stimulates the work muscle fibers at the motor end plate (neuromuscular junction).

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It is clear from the process -by natural interferences, how the recirculation of the original and enhanced potentials influences the stimulus sensitivity through the opening frequency of the voltage-controlled Na + and K + channels; and if the stimulus is strong enough (signal density and frequency), then how it influences the overall physiological processes by the action potential series.

Conclusion



The special analog signal processing of the EMOST™ equipment allows much more length of the detected electromagnetic and regenerated electromagnetic signal information than in the digital (signal loss, signal distortion) cases. The EMOST™ method seems to be able to potentiate cellular communication, the control processes and the operation of the biochemical homeostasis in a natural way by reflecting the electric- and electromagnetic impulses coming from the body's own range, all without the use of any artificial electric- and electromagnetic radiation, and the risks thereof.

On the basis of the experiments so far (see own Bibliography) one of the likely impacts of the EMOST™ method works through the potentiation and balancing of the bio-electro-chemical / redox processes and through intensifying the cellular communication.

EMOST – EM Own Signal Therapy



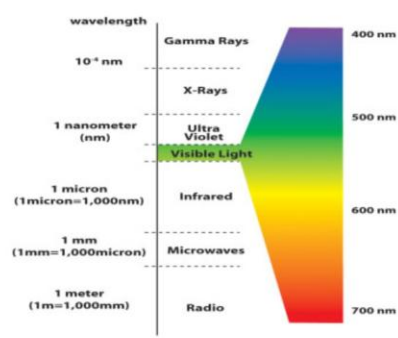
The biological basics



Light is very strange. Sometimes it is best to think of light as a series of waves. At other times, it is useful to think of light as a swarm of particles. When we think of light as particles, we call those particles of light "photons".

Photons are the carriers of all forms of **electromagnetic (EM) radiation**, not just light. The different types of EM radiation correspond to different amounts of energy per photon. **Gamma ray** and **X-ray** photons have the most energy, **radio frequency photons** have the least energy, while **ultraviolet**, **infrared**, and **visible light** photons have intermediate energies.

Photons travel at the speed of light, which is 299,792,458 kilometers per second (about 186,282.4 miles per second)! **Photons don't have any mass, nor do they carry an electrical charge**.



Visible light is one way energy uses to get around. Light waves are the result of vibrations of electric and magnetic fields, and are thus a form of **electromagnetic (EM) radiation**. Visible light is just one of many types of EM radiation, and occupies a very small range of the overall **electromagnetic spectrum**. We can, however, directly sense light with our own eyes, thus elevating the role of this narrow window in the EM spectrum because of its significance to us.

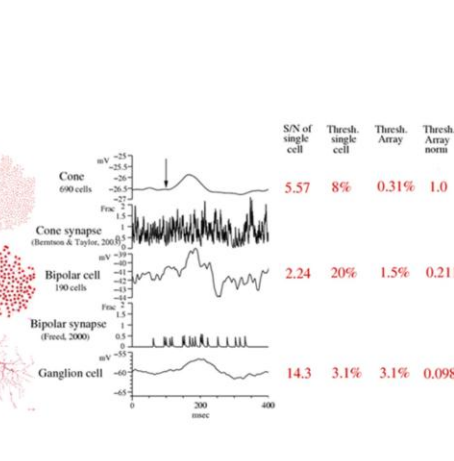
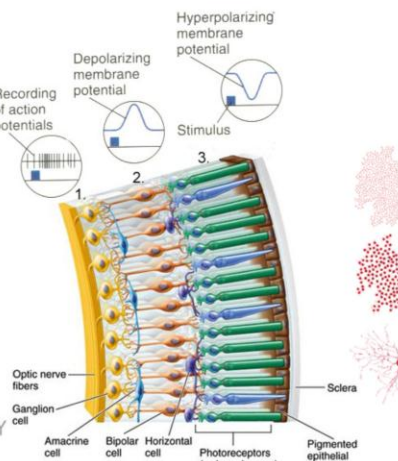
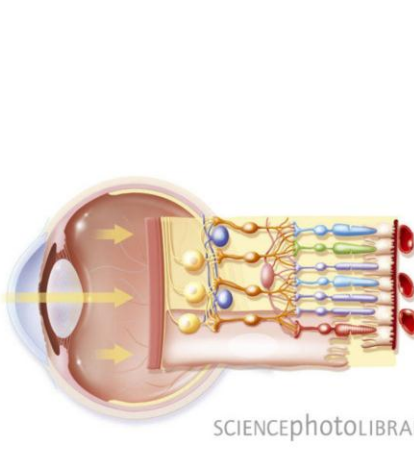
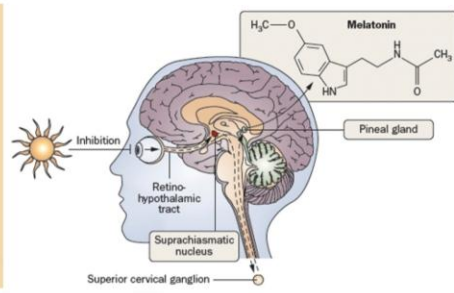
Light waves have **wavelengths** between about 400 and 700 nanometers (4,000 and 7,000 Å). Our eyes perceive different wavelengths of light as the rainbow hues of colors. Red light has relatively long waves, around 700 nm (10⁻⁹ meters) long. Blue and purple light have short waves, around 400 nm. Shorter waves vibrate at higher frequencies and have higher energies. Red light has a frequency around 430 terahertz, while blue's frequency is closer to 750 terahertz. Red **photons** carry about 1.8 electron volts (eV) of energy, while each blue photon transmits about 3.1 eV.

CLASS	FREQUENCY	WAVELENGTH	ENERGY
Y	300 EHz	1 pm	1.24 MeV
HX	30 EHz	10 pm	12.4 keV
SX	3 EHz	100 pm	12.4 keV
SX	300 PHz	1 nm	1.24 keV
EUV	30 PHz	10 nm	12.4 eV
NUV	3 PHz	100 nm	12.4 eV
NIR	300 THz	1 μm	1.24 eV
MIR	30 THz	10 μm	12.4 meV
FIR	3 THz	100 μm	12.4 meV
EHF	300 GHz	1 mm	1.24 meV
SHF	30 GHz	1 cm	12.4 μeV
UHF	3 GHz	1 dm	12.4 μeV
VHF	300 MHz	1 m	1.24 μeV
HF	30 MHz	10 m	12.4 neV
MF	3 MHz	100 m	12.4 neV
LF	300 kHz	1 km	1.24 neV
VLF	30 kHz	10 km	12.4 peV
VF/ULF	3 kHz	100 km	12.4 peV
SLF	300 Hz	1 Mm	1.24 peV
ELF	30 Hz	10 Mm	12.4 feV
ELF	3 Hz	100 Mm	12.4 feV



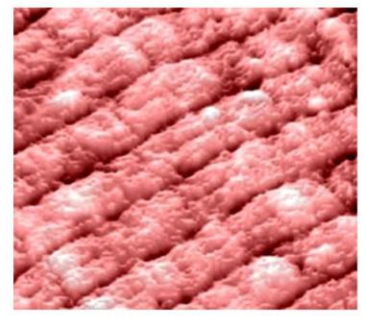
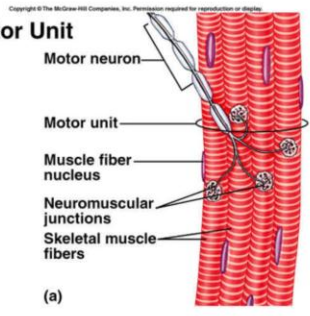
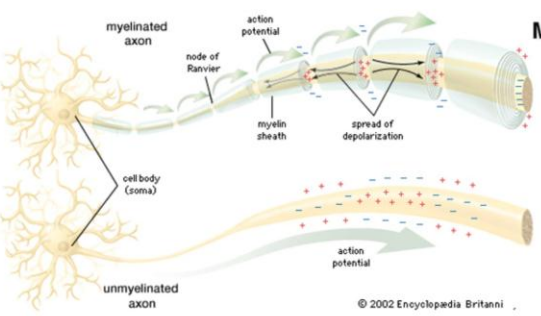
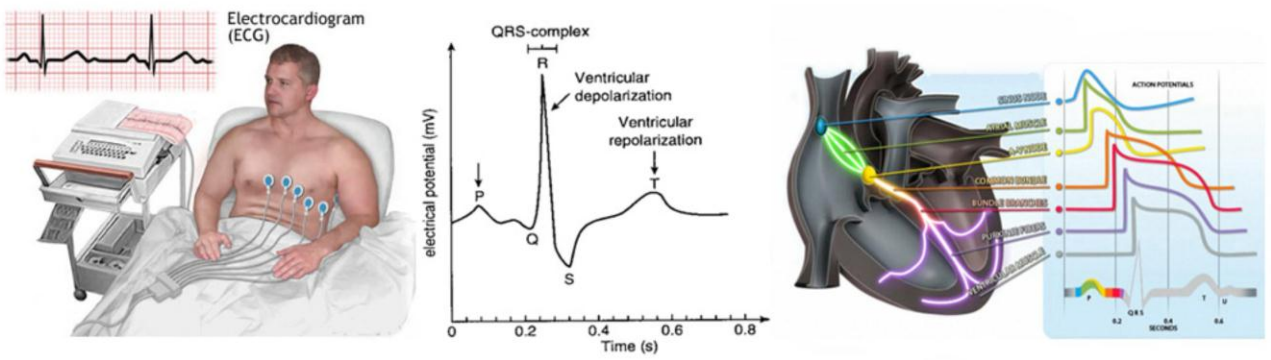
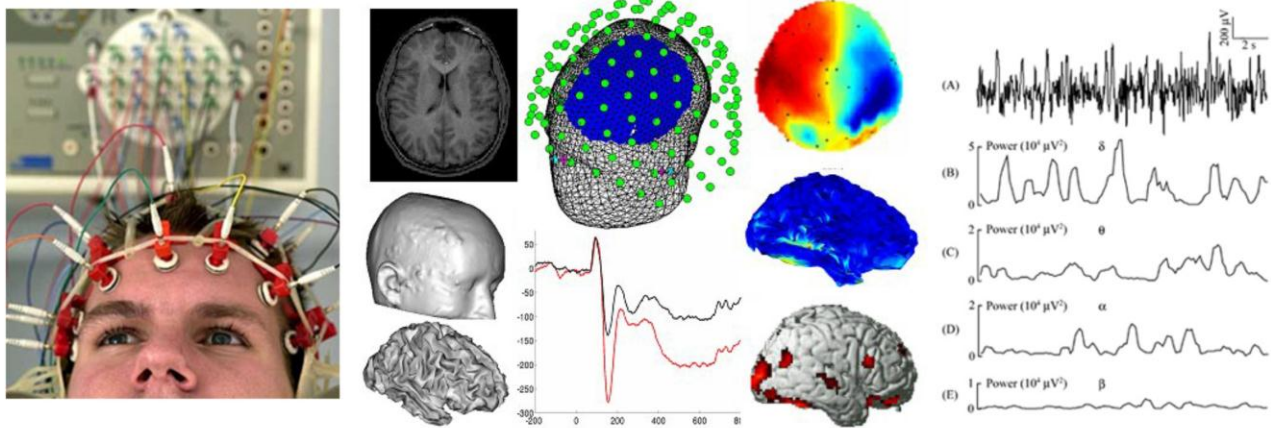
Visible light's neighbors on the EM spectrum are infrared radiation on the one side and ultraviolet radiation on the other. **Infrared radiation** has longer wavelength waves than red light, and thus oscillates at a lower frequency and carries less energy. **Ultraviolet radiation** has waves with shorter wavelengths than do blue or violet light, and thus oscillates more rapidly and carries more energy per photon than visible light does.

Light travels at the incredible speed of 299,792,458 kilometers per second (about 186,282.4 miles per second). At this amazing speed, light could circle Earth more than seven times in one second! The lowercase letter "c" is often used to represent the speed of light in equations, such as **Einstein's** famous relation between energy and matter: "E = mc²". All forms of electromagnetic waves, including **X-rays** and **radio waves** and all other frequencies across the EM spectrum, also travel at the speed of light. Light travels most rapidly in a vacuum, and moves slightly more slowly in materials like water or glass.



Own Signals

- Actions Potentials -



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A short introduction about EMOST™

Our method is called EMOST™ (Electromagnetic Own Signal Therapy)

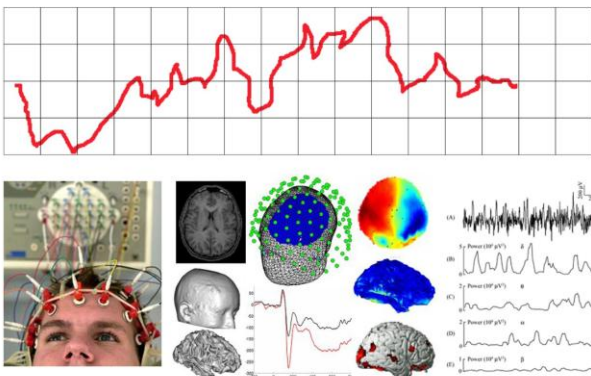


The EMOST Redox 1.1 medical device

Well, what the very special features are of our EMOST™ method compared to numerous electromagnetic devices over the world. Diverse electromagnetic curing devices over the world employ various artificial electromagnetic signals that are mainly modulated with respect to the frequency or the amplitude.

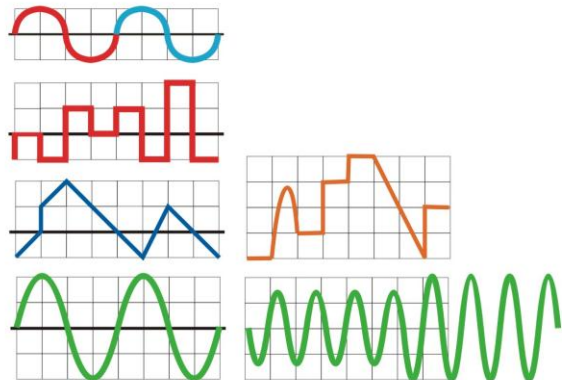
Because it is impossible to investigate the whole range of artificial electromagnetic frequencies for therapeutic applications, it seemed reasonable for us to **use non-linear own bioelectric and bioelectromagnetic signals from skin cells of patients for therapeutic applications**, which can be much more effective than the diverse, artificial electromagnetic signals. Our EMOST™ system can detect and sense non-linear, bioelectromagnetic signals (may potentials) of the patient's skin **in extrasense range** 1 to 1.000.000 signal/sec/mV.

Natural, non-linear signal (potential)



Non-linear own body bioelectromagnetic signals

Synthesized (non-natural), linear signals




Artificial electromagnetic signals

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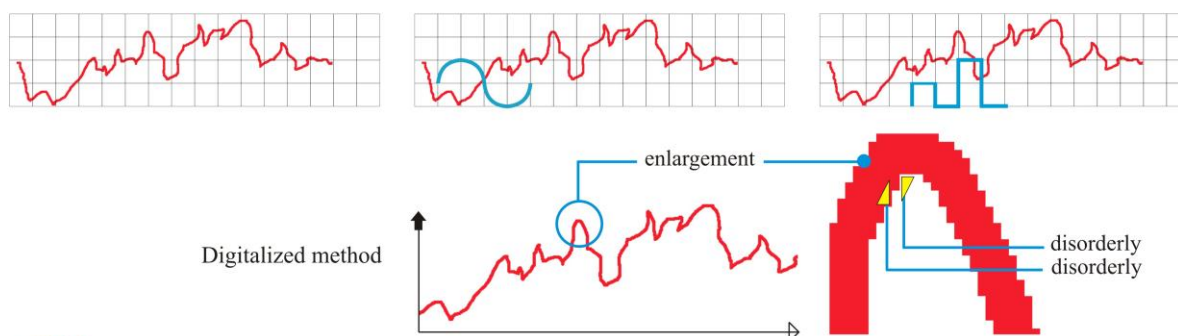
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The collected bioelectromagnetic input signals from patients' skin are processed by preprogrammed EMOST device. The patients are treated by preprogrammed signals of EMOST device (frequencies in the range of 1-1,000,000 signal/sec (Hz); intensity range between 1-10 micro Teslas, mV, via special extreme sense input/output flat electrode-antenne).

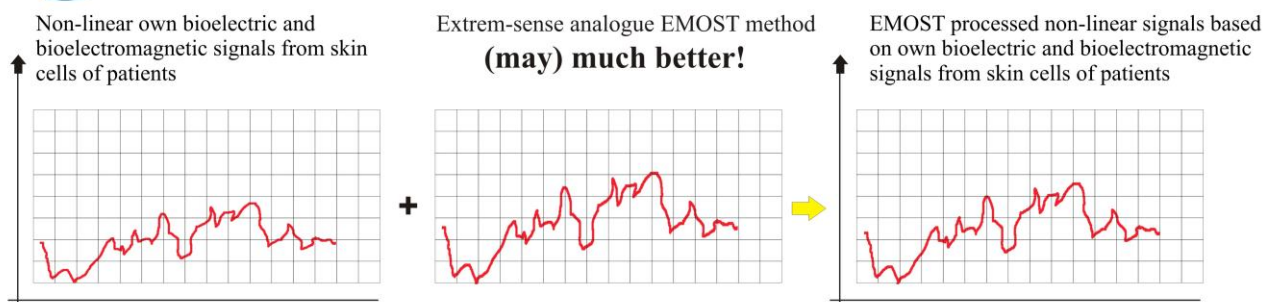
The next very special feature is of our EMOST™ method compared to many electromagnetic devices over the world that **detected own bioelectromagnetic signals from skin are processed, inside EMOST device, via analogue manner (natural based, non-digitalized!)**, which are transmitted back via a special flat electrode through different (BioLabor know-how) band/signal combinations, with some amplification (-20dB- +60dB), to the skin's surface on the opposite side, extended by the higher range (Fourier transformations) of the signal. The extended range natural based signals helps with interference for activity of potentials and action potentials. (See attached publications on CD)

 The special analogous signal process of EMOST™ device makes it possible that the information content of detected and back-transmitted electromagnetic signal is much coherenced than in digitized cases, so helps for natural potentials to be in action potentials.

Natural, non-linear signal (potential) Non-coherence, (likely) aggressive stimuli via synthesized EM signal
(may) first step in the EM therapies only, (may) high level of risk or uncalculated effects
(may) needs hard re-coordinating of the biological system




BIOLABOR *Emost Redox 1.1*



We should see that during various diseases, living cells not only demonstrate altered and impaired biochemical processes but also produce altered non-linear bioelectromagnetic complex patterns. Since each patient has a unique description concerning his/her own particular diseases, bioelectromagnetic own signals from skin cells of patients for therapeutic applications can be much more effective than the any diverse, artificial electromagnetic signals.

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 Our EMOST™ device can guarantee this specific method, because its output signals are based on the appurtenant bioelectromagnetic signals of the patients' own living systems.

Over the last 6 years, in many cases, while pharmacologic treatments were ineffective, our EMOST application was able to help patients. In addition, we perform continuously various clinical experiments by EMOST™ devices and publish them in peer-reviewed scientific journals. Consequently, the EMOST™ is a state-of-the-arts scientific medical method in self-recovering.



Our scientific publications about EMOST

- Bókkon I., Till A., Erdőfi-Szabó A. (2011) Effect of Electromagnetic-Own-Signal-Treatment on electrocardiogram and the concentration of urea, cholesterol, albumin, cortisol, creatin, TSH, CRP in serum. Under processes.
- Bókkon I., Till A., Grass A., Erdőfi-Szabó A. (2011) Phantom pain reduction by electromagnetic treatment. Electromagnetic Biology and Medicine In press
- Bókkon I., Till A., Erdőfi-Szabó A. (2011) Non-ionizing Electromagnetic-Own-Signal-Treatment. 8th European Biophysics Congress. 23-27 August, Budapest, Hungary.
- Bókkon I., Till A., Erdőfi-Szabó A. (2010) Phantom Pain Reduction by Non-ionizing Electromagnetic Treatment. International Conference of Preventive Medicine and Public Health. 19-20 Nov. Pécs, Hungary.
- Bókkon I., Till A., Erdőfi-Szabó A. (2010) Phantom Pain Reduction by Non-ionizing Electromagnetic Treatment. Available from Nature Precedings <<http://dx.doi.org/10.1038/npre.2010.4989.1>> (2010)
- Bókkon I., Till A., Erdőfi-Szabó A. (2010) Phantom Pain Reduction by Non-ionizing Electromagnetic Treatment. Hungarian Epidemiology 7/4/Suppl. p:15. Abstract
- Bókkon I., Erdőfi-Szabó A., Till A., Balázs R., Sárosi Z., Szabó Z.L., Kolonics G., Popper G. (2012) EMOST: Report about the application of low-frequency and intensity electromagnetic fields in disaster situation and commando training, Electromagnetic Biology and Medicine, In press

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Effects of the EMOST on biochemical and physiological mechanisms

- a) (the organs deep inside the body are being effected via the easily accessible surface of the skin, as a result of the cells' internal and external bioelectrochemical processes)
- b) the radiation in its natural range potentiates the subsystems of the body
- c) helps the fine modulations in the central nervous system processes
- d) affects the parasympathetic / sympathetic balance of the neurovegetative system
- e) affects the cellular signal processes (potentials, action potentials)
- f) affects the neuro-endocrin operation
- g) facilitates hormonal control
- h) helps the immune processes
- i) affects the control of free radicals and the antioxidant level (redox processes)
- j) affects the control of the acid-base balance (pH)
- k) helps the homeostasis of the body in its natural range

Example about extremely low-intensity electromagnetic radiation induced bio-chemical processes in cells: electromagnetic radiation (exposition) → changes in the structures of the membrane receptor → activation of NADPH oxidase at plasma membrane → production of super oxide radicals O_2^- → activation of calcium Ca^{2+} channels and lipoxygenase → stimulation of the arachidonic acid cascade → peroxidated lipids → extension of intracellular signals.

Some relevant references:

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ELECTROMAGNETIC OWN SIGNAL TREATMENT

2012

How output signals from EMOST device can reach to all parts of body



1. EMOST-sensor 2. skin 3. epidermis 4. dermis 5. fat 6. blood wessels 7. sweat gland
8. receptors 9. free nerve endings 10. nerve 11. neuropeptides 12. fybroblasts, keratnocytes
13. hormones 14. proteases, cytokines 15. Merkel-cells, local immun system

⚠ EMOST™ method can convey the detected and changed bioelectromagnetic patterns of effective cells to surrounding and other cells, which facilitates intercellular communication via biochemical processes, and helps in signal transmission and recognizing of neurovegetative system. Specifically, EMOST™ method can affect the length of cell membranes and the number and variety of membrane-bound receptors and signal transmission..

- I. **First signal way:** Output signals from EMOST™ via a flat electrode can influence bioelectrochemical and redox processes of blood circulation of arterial and capillary systems under the skin thus output signals can reach to all parts of our body.
- II. **Second signal way:** Output signals from EMOST™ via a flat electrode can influence terminal nerves and sensory receptor cells in the skin. Excited fibres of sensory skin receptor cells convey the EMOST™ induced signals to spinal nerves or cranial nerve, which can modify membrane and action potentials.
- III. **Third signal way:** Output signals from EMOST™ via a flat electrode can influence immune system of skin. It is less known that there is twice as much T cells in our skin than in our circulation blood. However, according to latest scientific results, the skin works as a neuro-immuno-endocrine organ.
- IV. **Forth signal way:** Output signals from EMOST™ via a flat electrode can influence terminal Merkel cells the skin, as a bipolar electro-accupuncture effect –with non-invasive. The Merkel cells modify the ATP activity. The ATP-activated sensory nerves also lead to modulation of the activity of brain-stem neurons controlling autonomic nervous system functions of gut, lung, urogenital, and cardiovascular systems—all of which have been treatment targets for traditional acupuncture procedures.

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Illustration: Third signal way:

The skin as a neuroimmunoendocrine organ. *Physiol Rev.* 2006 86(4):1309-1379

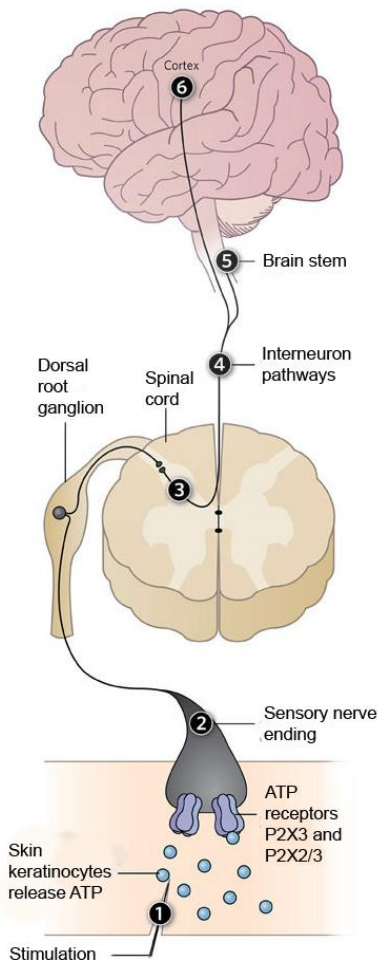
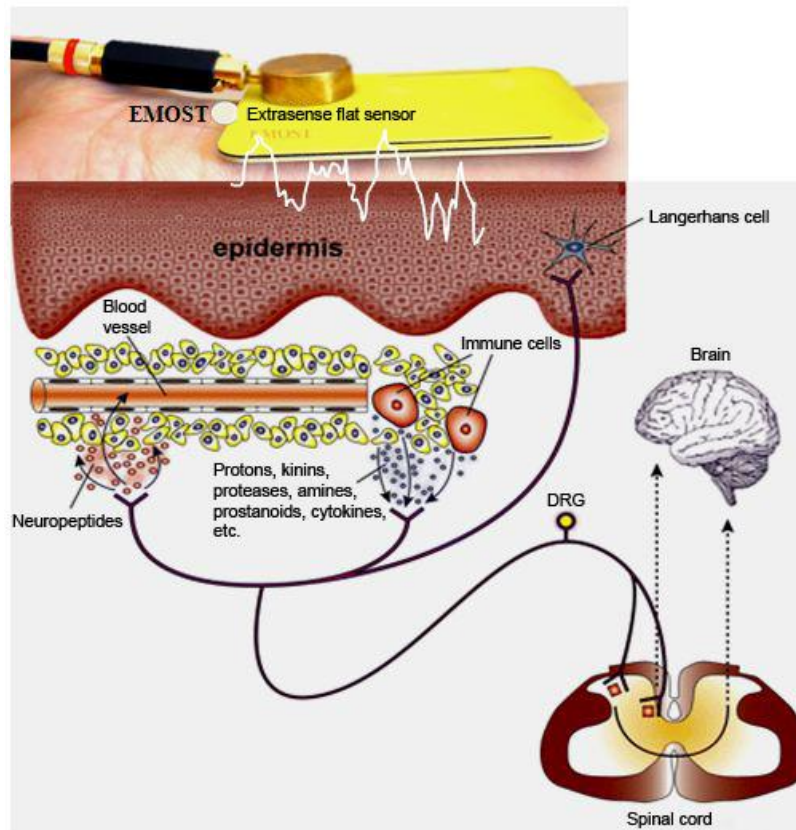


Illustration: Fort singal way:

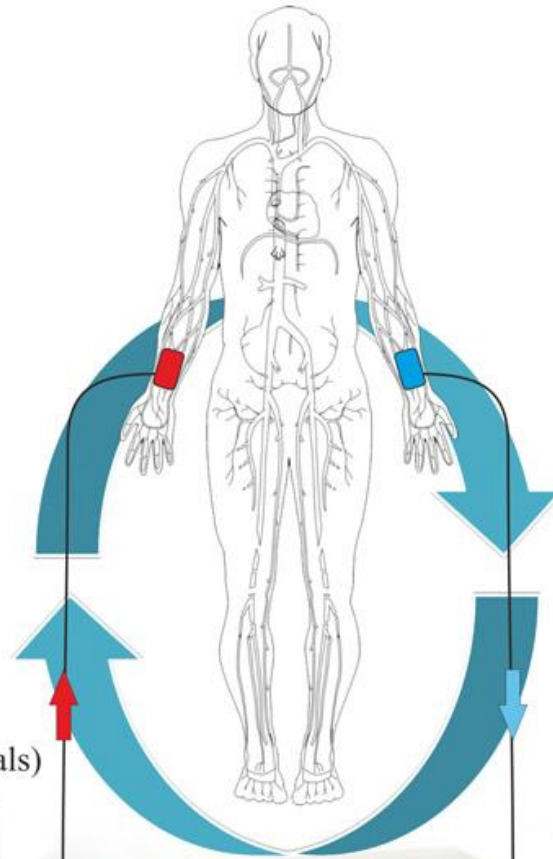
Signal leading to the release of ATP by skin keratinocytes (1). ATP binds to specific receptors located on sensory nerve endings in the skin known as P2X3 and P2X2/3 (2). The signaling message is then relayed via dorsal root ganglia to the spinal cord (3) and subsequently through interneuronal pathways (4) to the brain stem (5) which contains motor neurons that control the functions of gut, lung, heart, arteries and reproductive organs, and the signals also travel to signal centers in the cortex, delivering a message to inhibit flow (6).

<http://the-scientist.com/2011/09/01/puncturing-the-myth>

Figure source: Roosterman et al. Neuronal control of skin function:

The EMOST[®] process

transmitting the natural based extrem-low intensity analogue signals back in natural range



Transmitting back totality of signals (may versions of potentials)

Detection of natural bioelectric and bioelectromagnetic signals



Used bands of detected signals (may periods of potentials)

1. 1-10 signal/sec
2. 10-100 signal/sec
3. 100-1000 signal/sec
4. 1000-10000 signal/sec
5. 10000-100000 signal/sec
6. 100000-1000000 signal/sec

1. Band-pass

2. Amplification

-20 dB,
60 dB

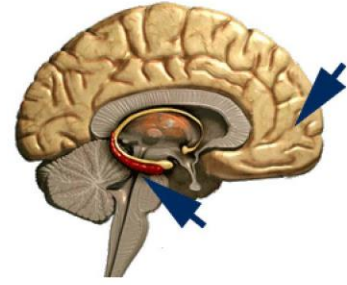
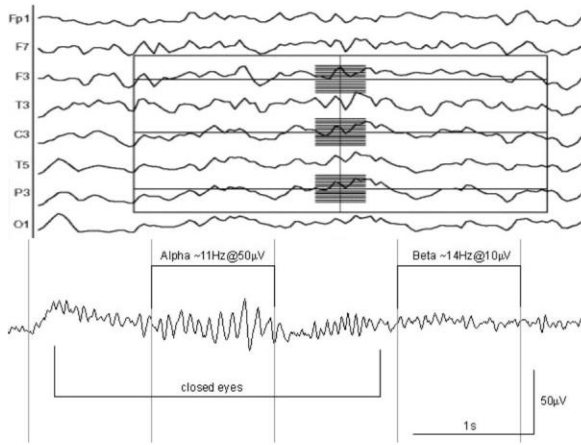
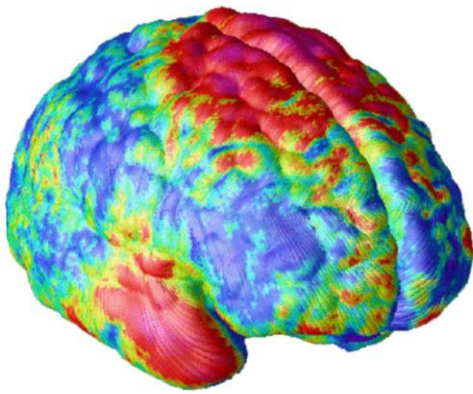
3. Expansion, and extension of variations

Fourier transform
-14 dB to 5 MHz
0,1 sec. – 102 sec

Indicatio:

combinations of signal-bands, variations of amplification and extension of variations





Probably:

Frontal lobe: also involved in emotion, and in the ability make plans, think creative, and combinations of synapses (from/to memories, experiences etc.)

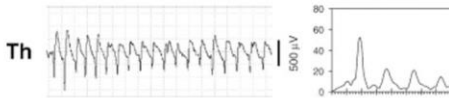
Amygdala: evaluates sensory information, determining it's importance, aggression, anxiety...

Thalamus: relay center, directs sensory messages (signaling testosterone immun function, apoptose etc.)

Hypothalamus: responsible for regulating basic biological needs: temperature, thirst, hunger etc.



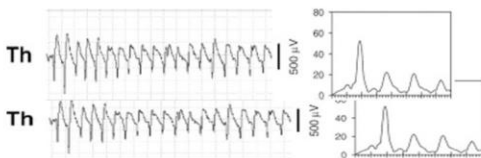
EMOST™ recognising and separating it's functional bioelectric signals in it's natural range: (from 1 Hz, potentials μV)



EMOST™ makes slightly variations of amplification (from 1 Hz, potettials μV , from -20 dB to 60 dB) via analogue (non-linear, non-digitalized) mode, and makes expansion, slightly extension of functional signal variations via Fourier lines (-14 dB, 5 MHz)



EMOST™ - the EM Own Signal therapy™ - then the variations and the original functional signal are returned through another free nerve ending zone, and helps for the neurovegetative system in signal transmission, signal recognising and electro-chemical balancing.

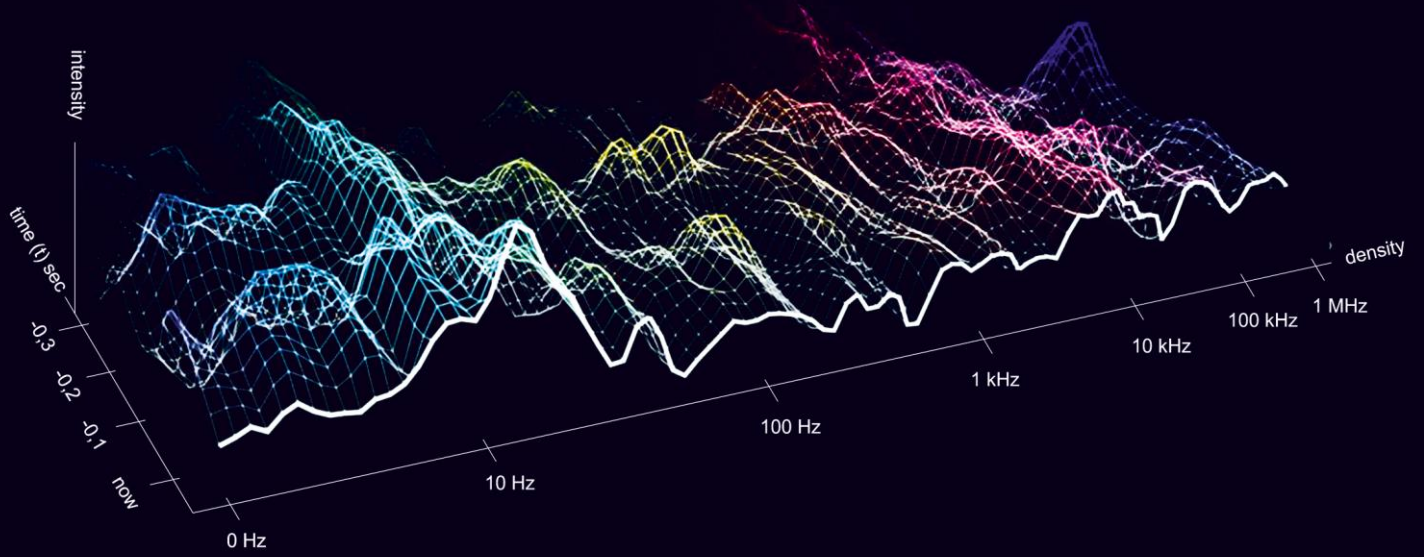


EMOST™ - the EM Own Signal therapy™ - the retransmitted own information helps re-coordinating of functional signal, and the retransmitted own functional signal energy has enough redundancy to overcome the dead point and to regain balance.

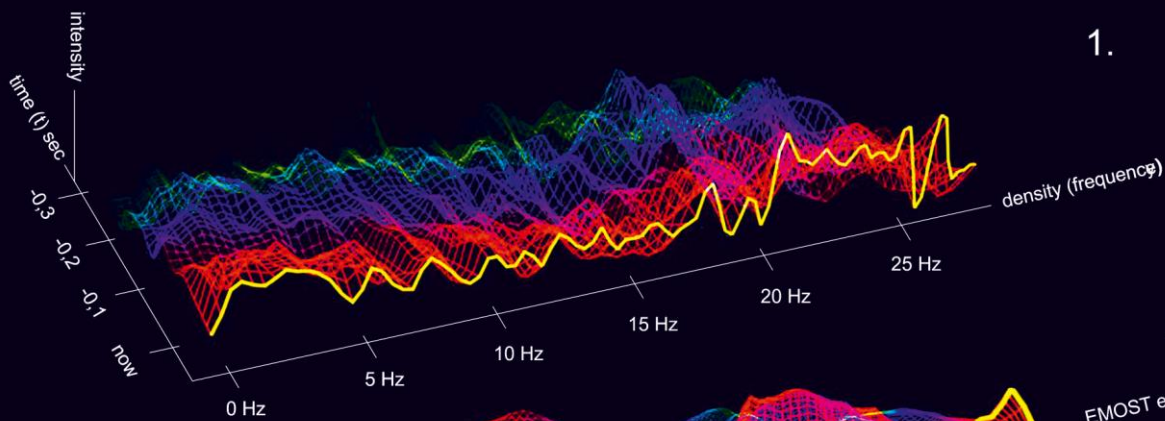


organic, personal, electro- electromagnetic own signals

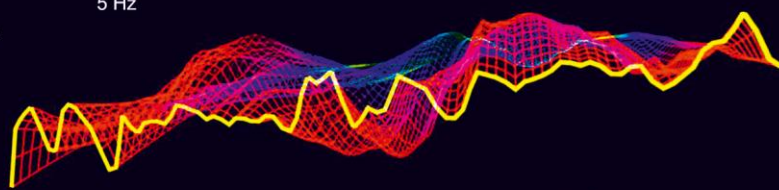
- illustration -



a range of signals

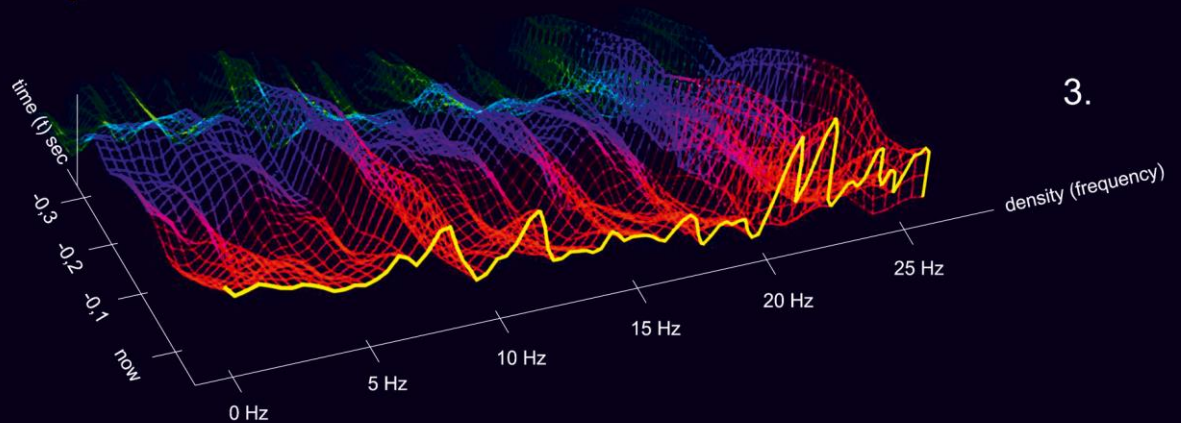


1.



2.

EMOST equalizer stimulus
analogue, real time modulation,
cybernetic process, feed-back regulation

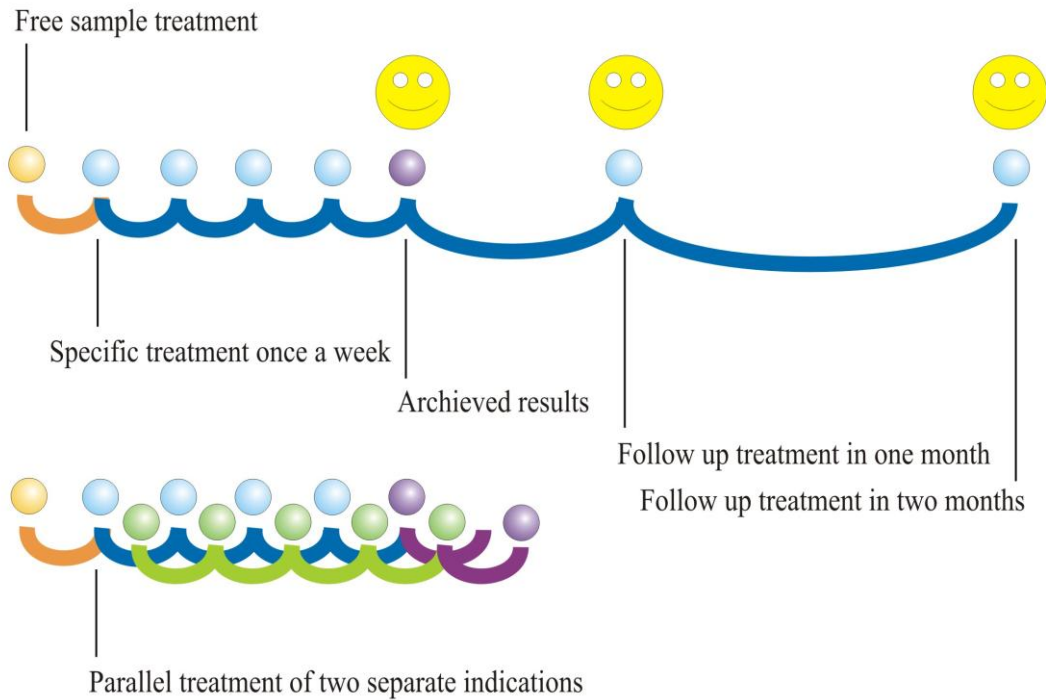


3.

ELECTROMAGNETIC OWN SIGNAL TREATMENT

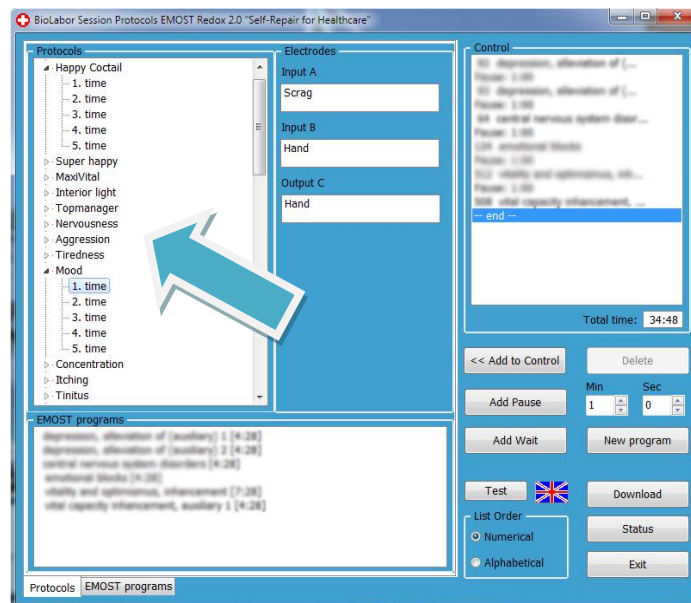
2012

How often, how many treatments or what kind of treatments can be necessary by EMOST™ in a given disease.



⚠ As the medical intervention is done by the subject's own functional signals, the body records the correction process, and **can later reproduce it on its own** (eh. immune-memory) may **in years**.

⚠ High-Tech and easy to use! The EMOST™ medical device is full self-acting and pre-programmed, just choose a treatment, than the unique device works (after seven years of testing and developing) automatically.



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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BioLabor EMOST® effectiveness according to our last years experiences

- a) regular health maintenance in chronic cases
- b) neurovegetative based diseases
- c) neuro-endocrin and immunological diseases
- d) fear, psychic stress related (mental) diseases, depression, lethargy
- e) sleep disorders
- f) central nervous system diseases, concentration, sensitivity etc.
- g) cardiovascular diseases, arhythm
- h) respiratory diseases, asthma
- i) phantom limb pain rehabilitation, amputee rehabilitation
- j) PTSD – Post Traumatic Stress Diseases rehabilitation
- k) allowance of risks in implantation
- l) skeleton and muscular-skeletal disorders
- m) stomach and intestinal diseases, irritable intestine syndrome
- n) skin and subcutaneous tissue disorders
- o) genito-urinary problems
- p) in case of injuries and fractions
- q) in case of allergic diseases on the skin

Other clinical results:

Veins, phlebitis, vascular wall, varix, venectasia (8), wound healing (6), traumatic bone (3), cardiovascular parameters (1,2), spermium activity (10), sclerosis multiplex (15), pains (5,7,14), rheuma, rheumatic pain (7,12,17), osteochondral defects (13) hypertension (9), depression, feeling blue, lethargie, distress, psychiatric diseases (1,16,18,19), cronical tiredness (19), sleeping quality (1), fibromyalgia (11,7), brain alpha activity (1,2,5), opioid system (5), oedema, collagen (4).

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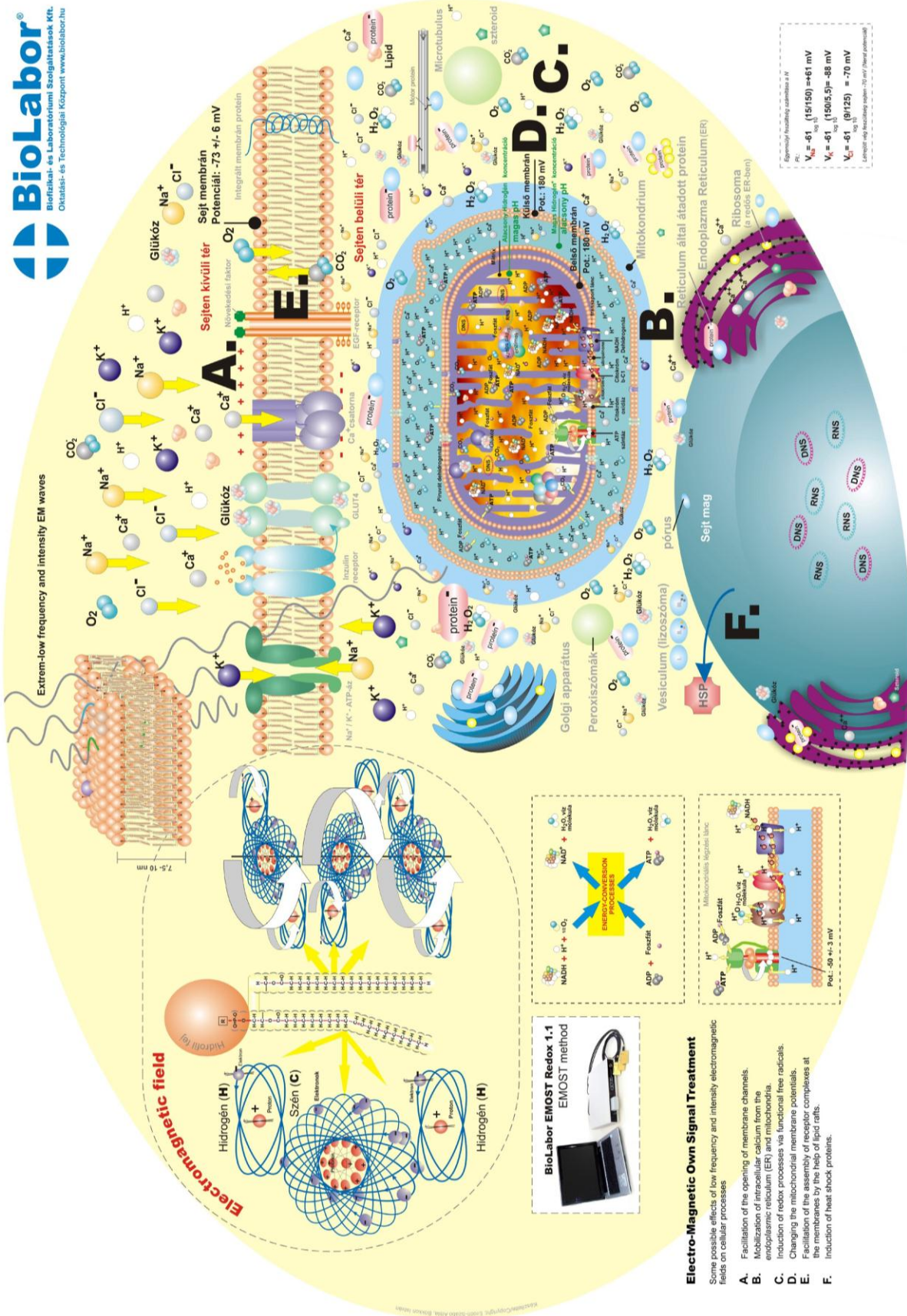
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Some possible effects of low frequency and intensity electromagnetic fields on cellular processes



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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Mission

4-Future: Quality of sleeping, incontinency, asthmatic and allergic status, mood, hyperactivities



Clinical result: successful treatment of phantom pain (and sleeping, mood) by EMOST



Post traumatic stress treatment by EMOST (original pictures ↓) after flood in Felsözsolca, Hungary



Better concentration, power, rehabilitation, well status after professional sport carriers



EMOST helps better coordination of muscles, psychical stability, vital capacity



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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No. 1

Stress related (mental) diseases treatment

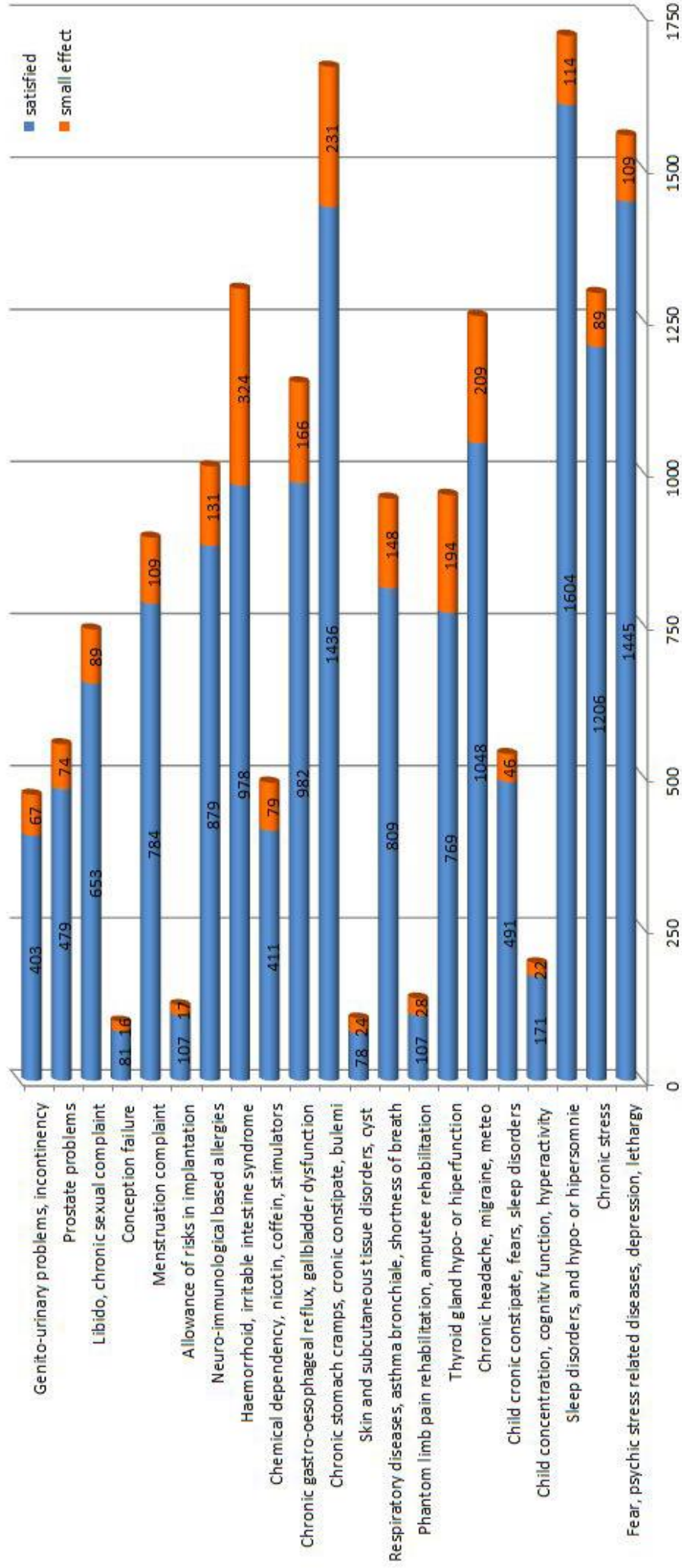


Conclusion

The special analog signal processing of the EMOST™ equipment allows much more length of the detected electromagnetic and regenerated electromagnetic signal information than in the digital (signal loss, signal distortion) cases. The EMOST™ method seems to be able to potentiate cellular communication, the control processes and the operation of the biochemical homeostasis in a natural way by reflecting the electric- and electromagnetic impulses coming from the body's own range, all without the use of any artificial electric- and electromagnetic radiation, and the risks thereof.



Results rates of EMOST treatments from developing period to medical certificate in BioLabor franchise system. (stats in CRM/14,921 courses/05-12, Dr. Attila Erdőfi-Szabó, chairman)




ELECTROMAGNETIC OWN SIGNAL TREATMENT

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EMOST Redox 1.1

USER MANUAL

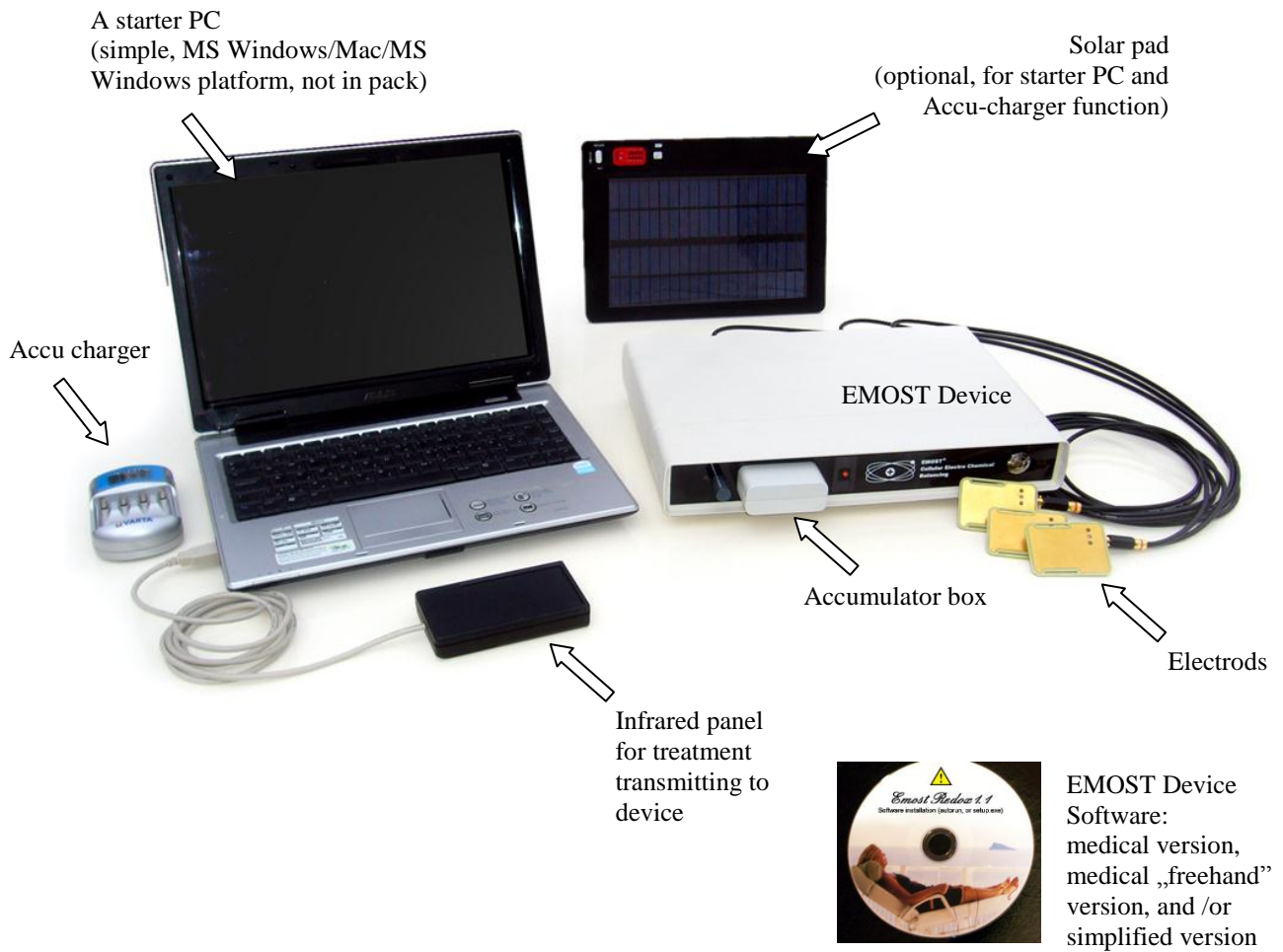


CE
1979 
EMOST Redox 1.1 MEDICAL DEVICE

ELECTROMAGNETIC OWN SIGNAL TREATMENT

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1. The EMOST™ units



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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2. EMOST™ device use

1. Choose a treatment



2. Transmitting to Device

3. The treatment works already

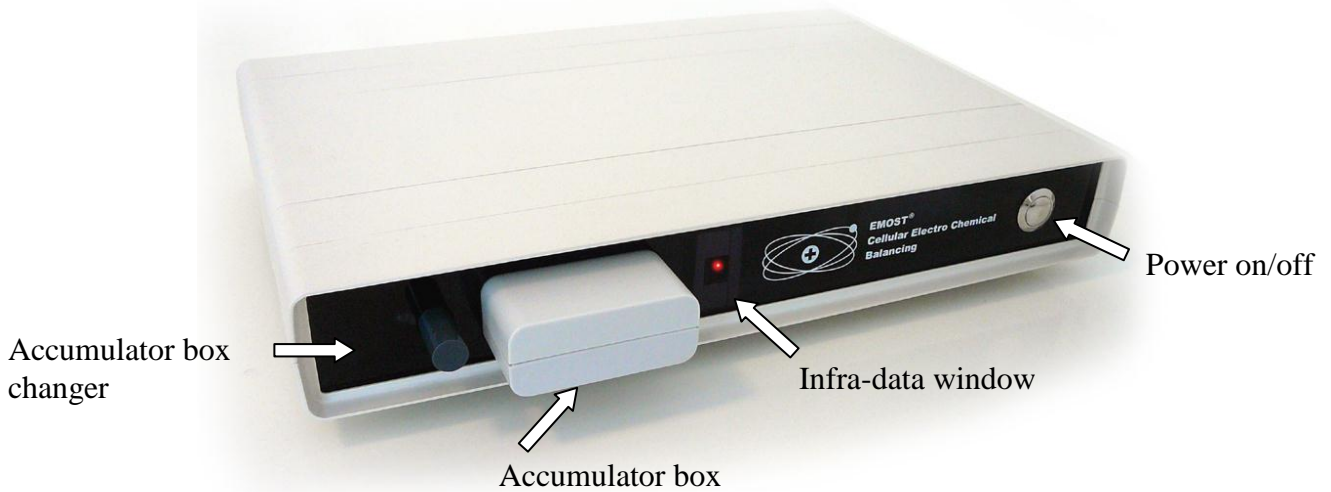


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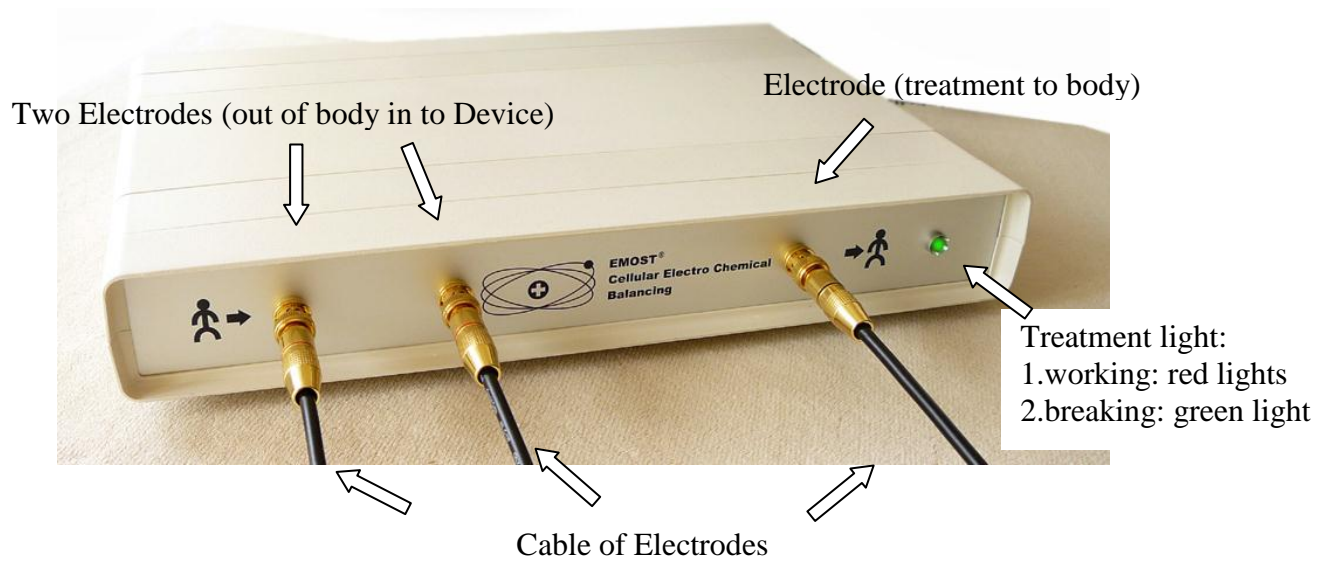
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3. Elements of EMOST™ Device

programming side



treatment side



BLUE: treatment to body

REDS: out of body in to Device



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4. Building the extrasense EMOST electrodes



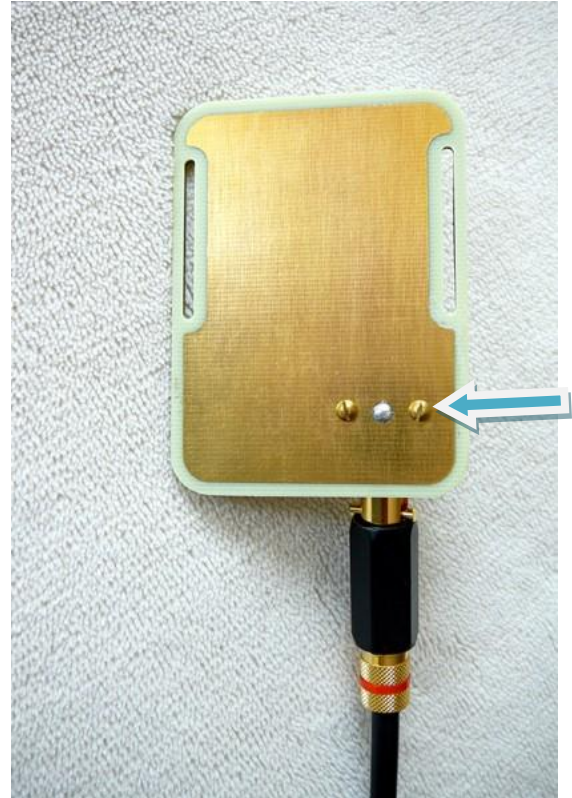
⚠ The material and functionality of electrodes are the same. For easier using: two Red-line cable are for sensing (out of body in to Device), the Black-line cable is treatment to body.

⚠ The extrasense Electrode made of layers. Take care of for good repair! Cleaning every treatment before, with NON-Iodine cleaner (vs.coloring). Controlling the contact of cable: screw the bolts easy to best stability (thermic dilatation)!

Passive side

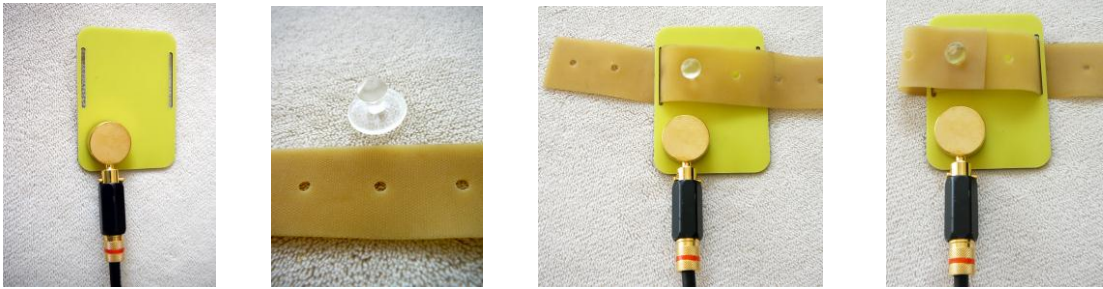


Active side (non-arsenic gold-plated flat for anti-allergic, and better hygenic status)



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6. EMOST Electrodes on skin



BLUE point: treatment to body

RED points: out of body in to Device



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7. Power of Device, the accumulators



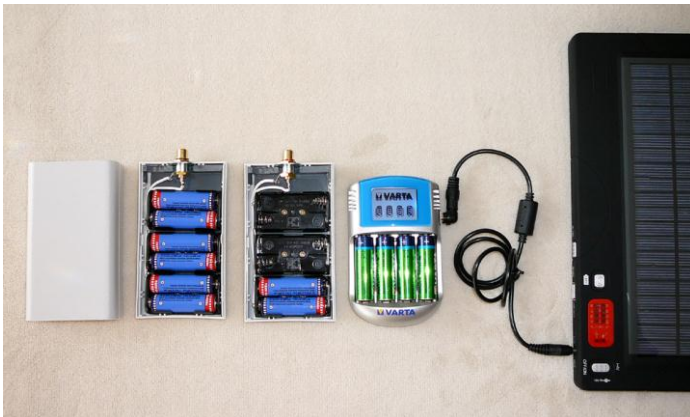
Accumulator box changing:
Push the gray bottom



Easy to charge!

6 pieces Rechargeable ACCUMULATORS
(2700 mA)

⚠ Charge with AC/Adapter!



Easy to charge, use the device by free-energy everywhere!

⚠ Charge with Solar panel. (optional)



In extreme situation you can to use by normal alcalic BATTERY too.

⚠ DO NOT CHARGE!

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8. The BioLabor EMOST Software

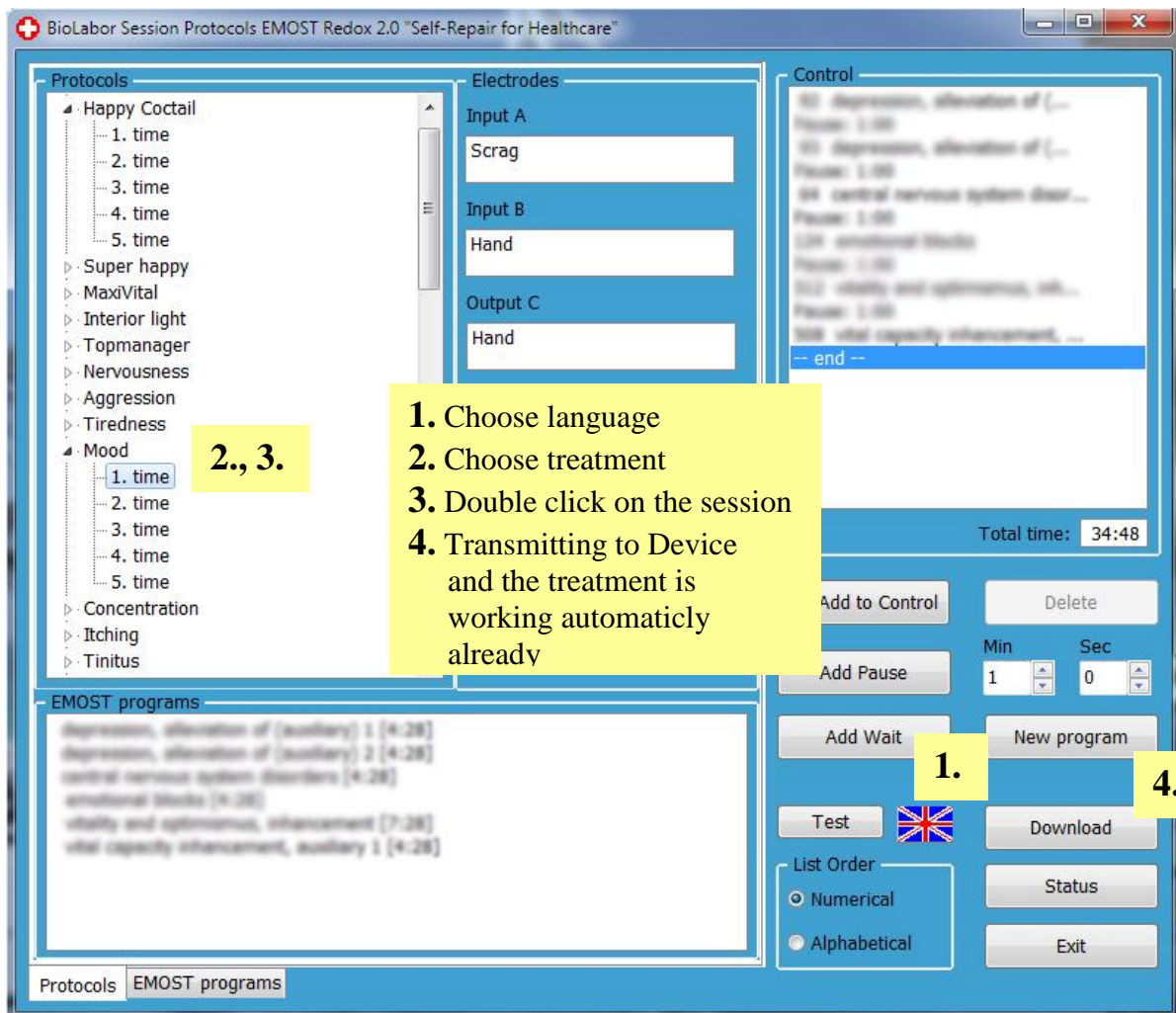


Setup.exe on CD or Download from internet (medical version, medical „freehand” version, and /or simplified version)



Icon on PC to Start the software

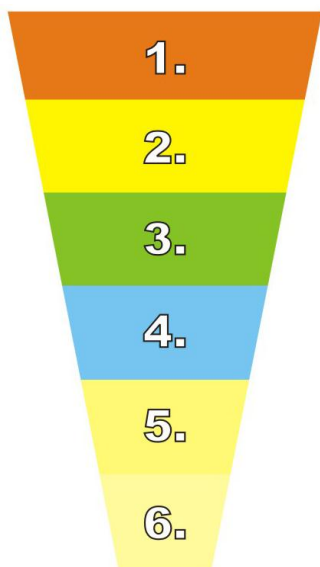
Picture: medical „freehand” software version together with simplified version



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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What does affect the result of the different treatments?



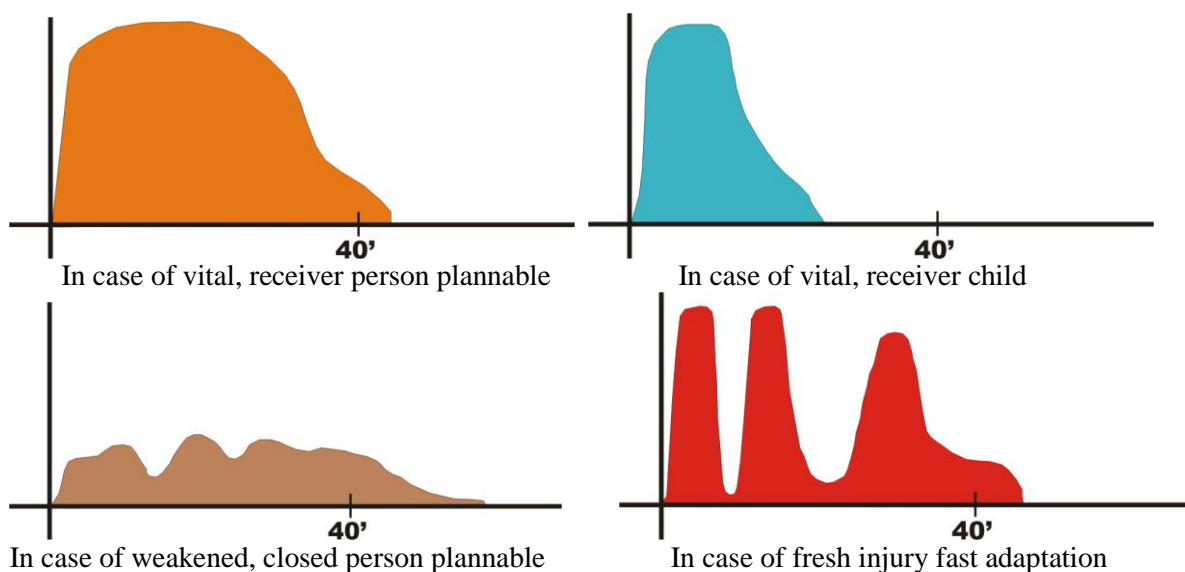
It affects the water consumption, the adaptation-ability of the organism, vitality, that is the capacity and the adaptability. The half hour long treatment is like a lesson in the school, by and by the capacity decrease, that's why the breaks between the classes help. This decrease can happen during the half hour treatment, so we place **one-one second break** between the treatment elements, we can easily turn it on, so the organism can approach, regenerate process the program.

With considering these things, when we compile the given day treatment to the patient, then we should load the program-elements from the Treatment List to the device in the same order, that it is in the chart. This order of importance is important because of another reason that is the psychological and physical state is very affective.

Example: In the case of weather sensitivity we load the 528. program to the device, then the number 73. to the second place, and so on. The supporter program-element that has role, but it's not obligatory comes to the last place.

Weather sensitivity	
528.	weather sensitivity
73.	circulatory problems, cervical and cerebral, auxiliary
344.	pain, occipital headache
492.	vegetative regulation, normalization in case of any kind of vegetative distonia
341.	pain, accompanied by cramps
64.	central nervous system disorders

Range diagram of the treatment effectiveness, more stages, during a 40 minutes treatment: (part of the syllabus)



ELECTROMAGNETIC OWN SIGNAL TREATMENT

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EMOST[®] preprogrammed, best practices treatment serieses

Aggressiveness	Internal fire - energy control, cellular ATP
Allergies, irritation	Kidney, filtration
Bacterial balance, asepticity	Cosmos - super-sensitivity
Blood components, balance, spleen	Libido increase
Blood glucose, insulin balance	Liver freshening, internal circulation
Blood pressure balance	MaxiVital – stamina
Bone density	Nervous system overload
Bowel pH	Hypo- or Hyperactive thyroid
Cell, apoptosis, periods, contol	Stomach acid, reflux process
Cyst (sist) stop – tissue, regulation	Pancreatic correlations
Concentration - attention, memory	Intestine - mucosal pH
Conception, pregnant	Periosteum
Constipation	Prostate function
Chemical dependence	Restoring - autonomic controllers
Divorce, remission, dependence	Restoring - molecular controllers
Eczema – chemical irritation	Restoring – overall controllers
Eczema – natural based	Sinus, chronic sinusitis
Eczema –psychosomatic	Skin, signal transmitting
Eczema, unknown irritation	Skin, activity of immunity
Eye cataracts - vision clarity	Sleeping, hypo- or hypersomny
Gigant – rhytm of circadian	Spleen operation
Gigant – integrated regulation	Stomach pain - upset stomach
Gigant - vegetative controllers	Super Happy - psyche/body balance
Happy-Cocktail antistress program	Supporting diet
Heart operation balance, pericardium	The correlations of hemorrhoids
Hereditary predisposition, dna-rna	Thyroid operation balance
Hormone SOS - balance of steroid	Top manager, Burn-out syndr.
Humor impaired, lethargy dissolve	Phantom pain
Immunity– antibody-elasticity	Urinary
Influenza SOS - immune balance	Virus recognition

Indications of procedure:

Regular health maintenance in chronic cases, neuro-vegetative based diseases, neuroendocrine and neuro-immunological based diseases, central nervous system based diseases.

We could effectively treat diseases such as:

fear, panic attacks, inhibition, psychic stress related (mental) diseases, epilepsy, depression, lethargy, sleep disorders, cardiovascular diseases, arrhythmia, asthma bronchial, chronic shortness of breath, phantom limb pain and amputee rehabilitation, rehabilitation of Post-Traumatic Stress Diseases, allowance of risks in implantation, chronic stomach cramps, irritable intestine syndrome, cognitive difficulties, bulimia, chronic constipation, incontinency, conception difficulties.

ELECTROMAGNETIC OWN SIGNAL TREATMENT

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9. Treatment data transmitting to Device

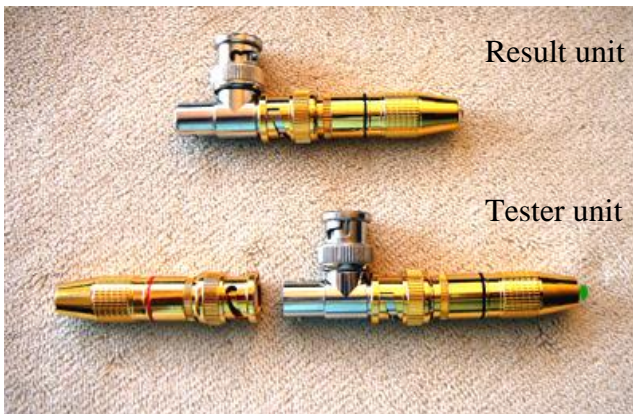


Direction:

Treatment data transmitting via Infra unit in this direction.

The distance are between units maximum 0,7 m (70 cm).

10. Testing the Device



1. Tester unit with green LED light (with mini-accumulator power –include)
2. Result unit with white/yellow light.

⚠ Take the units the Device on, push TEST button on the Software, its testing about 5 minuts.

The Device is working well, when the yellow light is pulsed.



The EMOST Redox 1.1. electro-biostimulation device

ELECTROMAGNETIC OWN SIGNAL TREATMENT

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11. Device properties

- a) -works through the surface of the skin,
- b) -temporary application (16/2006. (III. 27.) EüM 1.1.HU),
- c) -based on the principle of providing immediate feedback,
- d) -has an electro-biostimulating effect via natural based electrophysiological process
- e) -based on non-invasive treatment (16/2006. (III. 27.) EüM 1.2.HU),
- f) -extremely low intensity (its functional range is <10mikroTesla, <mV)
- g) -applies electro- electromagnetic impulses (frequency range is 1- 1.000.000 signal/sec),
- h) -internally powered, requires 7,2 V DC (direct current, 6 x 1,2V AA type batteries)
- i) -used by natural based non-linear shaped signals,
- j) -cyclical, dynamic impulse emission,
- k) -automated, pre-programmed, indicated,
- l) -marked **CE 1979** (medical device), directive **93/42/EEC**, Cert. No.: **HU11/6192-SGS**
- m) -codes of competence of health professions (6/2012.(II.14) NEMFI HU): 5704, 5722 physiotherapy/electrophysiotherapy, 6400 general medical care, 0100 general internal medical care, 0903 rehabilitation of neurology, 0500 general paediatrics, 9400 preventive- and public health care, 8046 reflexzone therapy, 8717 complementer electrophysiological care
- n) -fits the IEC-601-1-2 standard from the aspect of the electromagnetic effect, and also fits the IEC complementary standard,
- o) -belongs to the II/A group considering the potential danger in connection with the application
- p) -has extremely low risks in contra-indication (contra-indications: all the general contra-indications referring to physiotherapy, inexplicable diagnosis, individual sensitivity to the specific effect, unexplained shivers etc.),
 - a. likely is free from side effects,
- q) -can be applied independently or in combination with other devices,
- r) -is compatible with other methods,
- s) -simplified control software application does not require thorough anatomic competence or any specific preparedness,
- t) -medical control software application does require thorough anatomic competence and any specific preparedness,
- u) -it can be applied by following the Instruction Manual,
- v) -it can be used for the purpose of remaining healthy, prevention, and medicine.

Contra-indications:

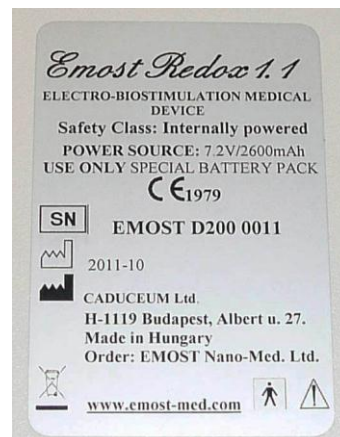
- a) inexplicable diagnosis, unclear acute disease
- b) vomiting, ventral pain,
- c) rapid pulse, vertigo,
- d) catatonic state, fainting,
- e) inability to communicate
- f) personal sensitivity to the specific process
- g) unexplained shivers

Factors influencing the efficiency of the treatments:

- a) dehydration of the body, low fluid
- b) intake
- c) abnormal nutrient deficiency
- d) abnormal constant stress
- e) constant unhealthy environment
- f) constant unhealthy lifestyle

ELECTROMAGNETIC OWN SIGNAL TREATMENT

2012



Certificate and tag

12. Datas EMOST Redox 1.1 Medical device

Type:	elektro-biostimulation, medical device
Competence:	biofeedback, electrochemical, neurology
Medical category:	electro-physiology
Range of Signals:	<10 μ T, <milliVolt, 1 Hz – 1 MHz (-3 dB)
Fourier transformations:	to 5 MHz (-14 dB)
Amplifier of signals:	-20 dB +60 dB (steps by 1 dB)
Power of device:	internally powered, 7,2 V / 2300 mAh, with 6 pieces NiMH rechargeable accumulators

Personal computer (not in pack)

Configuration:	20GB HDD, 10 MB Ram, CPU 1,6GHz, MS-Windows or MAC/MS-Windows platform
Power:	Medical type of charger

Software

Types:	medical version, and simplified version
Volume:	3MB
Language:	english, espain, hungarian, russian
Software know-how:	Dr. Attila Erdőfi-Szabó Ph.D.
Method registered in medical science:	Dr. Attila Erdőfi-Szabó Ph.D., 2011
Manufacturer:	Caduceum Ltd.
Order of manufacturing:	EMOST Nano-MED Medical Manuf. Ltd.
Exclusive distributor:	BioLabor Biophysical & Lab's Services Ltd.
Official website:	www.emost-med.com

ELECTROMAGNETIC OWN SIGNAL TREATMENT

2012

References (since 2005, in 70 BioLabor franchise points, www.biolabor.hu)

Doctors: 37 medical doctors works in this system

Therapeute: 45 natural therapeutes works in this system

Assistant: 135 franchisers works in this system

Strategic partners:

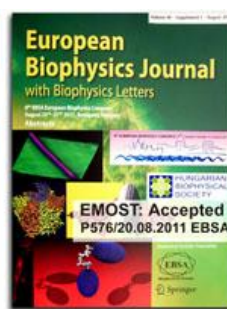
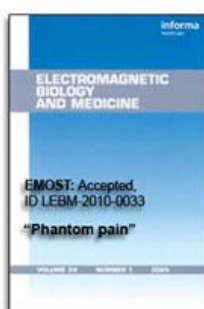
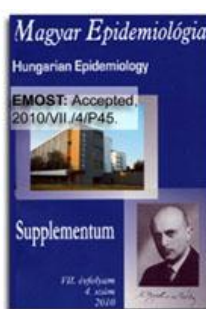
- National Institute for Medical Rehabilitation (www.oori.hu)
- Hungarian Army Independent Health Insurance (www.honvedep.hu)
- Independent Armed Forces Trades Union Congress (www.frdesz.org.hu)
- Hungarian Independent Police Union
- National Police and Armed Forces Training Center
- Hungarian Civil Servants Union
- Union of Hungarian HR's
- National Athletic Association
- Golden Hearth Foundation of Cardial Health
- Some National and Privat Clinics of Children (charity)
- Some National Public Clinics and Rehabilitations Centers
- International Tisza Cluster Association (ITCA)
- Ukrainian Transcarpatian Develop Office (Zakarpatya)

Partnerships:

- General Electric (Hungary, Veresegyház)
- Fiat Hungary
- IBM Hungary
- Some discreet contract with politics
- Some discreet contract with manager training centers
- Partnership with European Union Donau Strategy
- International Bodyguard and Security Services Association (IBSSA)



Relevant publications below attached, and all electronic version on attached CD-Rom



Take a look comparison of therapies below: