Russian Healing Blanket TMB-01

Instruction Manual

NB. Do not remove the stuck-on label from the blanket as this identifies the "outside" of the blanket. The label should be on the side away from the person or animal being wrapped in the blanket for maximum therapeutic effect ie on the outside of the blanket.

Foreword

All living beings on the Earth live in an ocean of endless streams of matter, energy and information. The rapid growth of informobioenergetics, the science of energy-informational exchanges between a person and the environment, presents a natural step in today's progression of knowledge. The fundamental and practical works on informobioenergetics - by specialists of Russia, USA, Japan, United Kingdom, Germany, India and other countries - demonstrate the growing contribution of bioenergetic applications to better personal health, safety, and physical performance, as well as to higher efficacy in saving the clinical expenditures of working time, energy and materials.

Designed by the Russian specialists, the Therapeutic Multilayer Blanket TMB-01 represents a special category of medical devices, whose action is based upon the principles of bioenergetics and knowledge of the inherent body mechanisms functioning as an integral self-regulating system.

The first fundamental works on investigating the approaches and elaborating the devices of this type had been carried out by Wilhelm Reich and his colleagues in 1930s-1950s, first in the universities of Copenhagen and Oslo, and then, after his move to the USA, in a New-York research center.

The key element of these devices is an encapsulated chamber intended to create an artificial localized ecological condition wherein the patient's body, or a part of the body, is placed. The specific properties of this chamber provide the desired activation of the body's self-regulative and self-recovering mechanisms.

Nowadays, the most extensive research in this field is carried out in the USA (Biophysical Research Laboratory, El Kerrito, California) in Western Europe (Wilhelm Reich Institute, Berlin) and in the Russian Federation (Victoria TM Research Center, Taganrog).

Unlike their western colleagues, the Russian specialists approached the problem in terms of subjecting the living organism to subtle factors of a biophysical nature. Designed in the Victoria TM's R&D Division, the Therapeutic Blanket TMB-01 became a distinctly new informobioenergetic therapeutic tool which in addition acts on the patient by his or her own infrared and extra-high frequency emissions reflected back onto the patient's body.

The Adaptive Body Activity concept implemented by TMB-01, has allowed a broad clinical utilization of informobioenergetical principles, substantial enhancement of the beneficial effect and a vast widening of the scope of activational therapy applications.

These guidelines offered for the attention of physicians and the general public is aimed at further distributing and bettering the activational approach in therapy in close cooperation with practical and research clinicians. I hope that this fruitful cooperation will open completely new opportunities in medicine within the nearest future.

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Honoured Scientist of Russia, Laureate of the National Prize of the USSR.

Contents

Introduction

These guidelines are intended for practical clinicians in receipt of a Certificate for Use of the Therapeutic Multilayer Blanket TMB-01 (TMB blanket) designed according to the patent "Method of Polyfactor Therapeutic Action on the Human Organism and the Device for its Application" from Victoria-TM Ltd.

Designed as a result of many years research and development work in the field of bioresonance therapy, the TMB blanket is manufactured under the license No.42/97-068-0046 by the Ministry of Health of Russian Federation and covered by patent No.2053804 of 02.10.1998 (State Register of Inventions), with the priority of 02.15.1997.

The Therapeutic Multilayer Blanket TMB-01 is a combination of several specific membranes that together produce the desired integral therapeutic effect. The specifically designed film membrane inside the blanket prevents the patient's own electromagnetic emissions from dissipating outwards, converts these emissions and reflects them back. This effect redistributes the charge density and exerts the therapeutic action on the biologically active points of the body surface to correct possible faults in the systems controlling the overall homeostasis within the organism.

The clinical tests performed in the leading research institutes of the RAMS had immediately shown a vast potential of TMB-01 in a great range of applications in clinical practice.

"The device exerts a beneficial effect on all patients during and following the therapeutic procedure" (from the conclusion by the Institute of General Pathology and Pathophysiology of the RAMS).

"... the therapeutic multilayer blanket meets the requirements of modern clinical practice. It is simple and convenient in operation, and produce no discomfort or dislike in a patient" (from the conclusion by the Russian Research Center of Rehabilitation and Physiology).

The extended clinical validation has proved the high efficiency of activational TMB-therapy. The statistical therapeutic results of TMB-treatment based upon the clinical application of the TMB-01 blanket procedure during the period of 1993-1997 are presented below in these guidelines.

Being light-weight and compact, with a high therapeutic efficiency, and a wide range of indications for treatment has brought about the broad popularity of the TMB-01. It is also convenient and comfortable for home treatment.

Clinical expertise in the application of TMB-treatment has demonstrated that knowledge of the effects and methodological peculiarities inherent to TMB-treatment in a particular pathology is crucial to achieve the full-scale potential of the therapeutic blanket. Therefore, we have focused these guidelines on particular applications and methods of treatment.

The necessary methodological recommendations are included in the second part of this brochure. The application methods here are described in terms of TMB-01 as a basic tool for activational therapy and rehabilitation, which is designed to considerably enhance the preventive care, treatment and following recovery in a wide range of disorders.

The authors express their hope for future fruitful cooperation with an ever-increasing range of medical specialists in the field of activational TMB-therapy. We appreciate all clinical data on the therapeutic use of TMB-01, sent to us by providers of TMB-care services or other users of TMB-01. Please send data via our contact's address outside Russia:

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Part 1. Guidelines for the use of TMB-01 in medical practice

1. Physical therapeutic factors

The therapeutic multilayer blanket TMB-01 presents a radically new therapeutic instrument to help a patient establish the proper regulation of his or her psycho-emotional and somato-vegetative functions. To achieve the functional harmonisation, a patient is introduced into the local ecological medium produced by the therapeutic blanket TMB-01.

The main effects produced by the TMB-blanket environment on the subject include:

- Complete or partial protection of a patient from external electromagnetic and electrostatic fields.
- Therapeutic exposure of a patient to his/her own extra-high frequency (EHF) electromagnetic emission reflected by TMB-01.
- Re-distribution of the patient's electrical charges over the body surface.
- Therapeutic exposure of the patient to his or her own reflected infrared emission.

1.1 Protecting the patient from the external electromagnetic and electrostatic fields.

Industrial activity of the human society has dramatically changed the environmental conditions on the Earth. A number of new, non-biological factors affect the living organisms on our planet. These factors notoriously include artificial electromagnetic and electrostatic fields known to cause or promote many pathological processes.

Broadcast radio, TV, and communication equipment present powerful sources of electromagnetic radiation. The artificial electrostatic fields arise, for instance, from the electrification of ubiquitous synthetic dielectric materials. The most profound effects on people are exhibited by the EHF radiations used throughout the world in radio-meteorology, radiolocation, nuclear physical investigations, physical therapy, etc.

The effects of radiation on the human organism depend upon the ability of the electromagnetic waves to penetrate the body:

- centimetric waves being absorbed by the skin act on the organism's reflective mechanisms due to exposure of the outer receptors.
- decimetric waves may penetrate up to 10-15 cm and directly affect the inner organs;
- metric waves easily pierce the whole body affecting primarily the CNS and peripheral nervous system.

The complete or partial protection of a patient from exogenous electromagnetic radiations and electrostatic fields has a beneficial effect on the overall conditions and functioning of the body organs and systems.

1.2 Subjecting a patient to his or her own reflected EHF-emission

The spectrum emitted by a biological object includes a series of narrow-band resonant frequency components, some of them occurring in the EHF-range, from 30 to 300 GHz. These narrow-band components are emitted due to processes occurring on the metabolic level in cells.

When the normal functioning of a cell is disturbed, the cell will radiate specific frequencies in accordance to the type and severity of the disturbance.

Within the living body, the average wavelength of EHF radiation is about 0.01 mm, which is nearly a million times shorter compared with the average in open air conditions. The ratio of EHF wavelength to the average cell diameter (5 micrometers) is small enough to allow a variety of different field configurations within a cell.

The fields in biological cells govern cellular metabolism, and define their ability to restore the proper functioning.

The spectrum of cellular EHF-emission is known to carry essential information about the changes and abnormalities in the body. What is far more valuable, however, is that this spectrum has a specific capacity to normalise the intrinsic body processes aimed to restore the proper cell activity and maintain the cellular homeostasis.

Because the normal life of an organism can only occur when there is adequate activity of single cells and proper intercellular correlations, the normalization of the processes that maintain and restore cellular functioning will lead to the normalization of rehabilitative and homeostatic controlling functions of the whole organism.

When a patient is weakened and not able to manage proper formation of protein substructures responsible for coherent bio-oscillations, or if the processes of their formation are slowed down, activational therapy based on wrapping the body in the TMB-01 can significantly help to recover this cellular function due to extra exposure of the organism to its own reflected EHF-emission.

1.3. Redistributing the electrical charge density of the body

The common feature of all biological systems is metabolism, ie the exchange of matter and energy with the environment and within the organism. Basically, metabolism comprises two kinds of balanced and interrelated processes: energy-consuming processes of assimilating substances (anabolism) and the energy-releasing processes of disassimilation (catabolism). In one way or another, all these processes are based upon bioelectricity phenomena, because the most important part is electron transfer, polarization and depolarization, formation and neutralization of charge carriers, etc. The speed and intensity of all metabolic processes in the body depend directly upon the existence and concentration of free electrical charges in the corresponding areas or single cells.

The skin surface of the body is known to store large concentrations of free charges. A well-known feature of skin is that it has a large variety of biologically active points (APs) found over the whole body surface and characterized by locally reduced skin impedance. 10mm from an AP the skin impedance increases by 15-100 times. An important observation is that an elevated electrical potential in these points is closely dependent upon the physiological and pathological changes in the body. Normally, there exists a more or less constant electrical potential gradient between the body surface and the subcutaneous tissues. The regulatory process that maintains the transcutaneous gradient is characterized by alternating currents of certain frequencies flowing through the active points. In this process, APs are acting as some sort of electricity conduits which pass the free electrical charges from or onto the body surface.

According to conventional and modern views, APs belong to a widespread network of meridians carrying energy (chi) up and down the body. The human body contains 8 “miraculous vessels”, 15 “lo vessels” and 12 “body channels”, or meridians. Each of the 12 meridians is associated with its corresponded body organ and has special branches to cross-influence other organs. The skin resistance over a meridian is always lower, and the electrical capacitance higher than in the areas outside the meridian. Thus, the fundamental function of an active point is its participating in energy balance regulation processes, mediating the charge re-distributing between the skin and associated inner organs or systems.

We estimated that the ambient charge density in the populated regions on the Earth usually varies from 0 to -$9.775 \times 10^{-9} Q/m^2$, while the inherent body charge density of a patient is normally between -2.053×10^{-9} and $-8.725 \times 10^{-9} Q/m^2$. The use of the TMB-01 produces a more uniform ambient electromagnetic environment around the patient, close to the optimal. This provides favorable conditions for the proper functioning of APs and the whole meridian system, which then cope more efficiently with possible abnormalities in the organism due to better redistribution of body bioenergetics.

1.4. Subjecting the patient to his or her own infra-red radiation

IR radiation belongs mainly to the three spectral ranges of 780-1400 nm (A band), 1400-3000 nm (B band) and 3000-1000000 nm (C band).

Another name for IR radiation is thermal or heat rays. Heat rays are emitted by the outer electrons of atoms and molecules due to their rotational and oscillating movements. Every body is a source of heat rays: the higher the body temperature the greater its thermal intensity and the shorter the wavelength.

A-band radiation penetrates the body tissues as deep as 3-4 cm (only a small part of it can reach the deeper layers). The rest of the IR spectrum (more than 1400 nm) does not even penetrate the skin, being absorbed by the water content of skin. After absorption by the tissue fluids, the IR radiation converts into the thermal energy. This causes a hyperaemic vascular response as a direct result of thermal action on thermoreceptors - whose impulses to the CNS trigger the appropriate thermoregulative mechanisms in the body. Besides the thermal action, the short-wave IR radiation may cause weak photochemical and photoelectrical effects which affect the general balance of skin sensation by changing it towards a higher tactile and lower pain sensitivity.

2. Pathogenic factors, symptoms and mechanisms of pathology, and the therapeutic action of TMB-blanket

2.1 Patient protection from external electromagnetic fields

Radio-frequency electromagnetic fields affect the human organism in different ways. The main clinical effects of RF fields are upon the nervous and the cardio-vascular systems. The clinical syndromes due to exposure to electromagnetic fields can be classified into:

- vegetative syndrome, which mainly manifest as a persistent vegetative dystonia with possible vagotonic symptoms (arterial hypotension, bradycardia, extrasystoli, vertigo, etc);
- asthenic syndrome (increased tiredness, sleepiness, headaches);
- astheno-vegetative syndrome (the symptoms of the above paragraphs may be accompanied by dysfunction of thermoregulation, sub-febrile temperature, thermal body asymmetry, hyper-hydrosis (increased sweating), progressive asthenia);
- angio-dystonic syndrome: acroparesthesia, vascular neuralgias, hypotension passing into hypertension, tachycardia. These symptoms may combine with haematology changes (leucopaenia, thrombocytopaenia), dysfunction of reproductive system, such as dysmenorrhea in women or decreased sexual potency in men;
- diencephalic (hypothalamic) syndrome, with characteristic vegetative crises of primarily sympatho-adrenal character accompanied by states of anxiety or fear.

The manifestation of the described syndromes depends upon the stage of pathological processes:

- Initial stage: mild astenia, insomnia, moderate vegetative alterations;
- Progressive stage: representation of all the syndromes including vegeto-angiotrophic and cephalgic syndromes, imbalance of the body temperature regulation, sympatheticotonic changes in the cardiovascular system often accompanied by panic attacks.

The pathogenesis secondary to exposure of human organism to electromagnetic fields involves primarily the following factors:
Direct action on body tissues, disturbance of neuro-humoral and neuro-reflectory regulation leading to altered function of the higher controlling centers.

The TMB-blanket offers complete or partial protection against external electromagnetic fields and breaks up the sequence of pathogenic alterations to let the organism actuate its own compensatory mechanisms at the levels of tissue metabolism, neuro-reflection, and humoral regulation, including the higher controlling centers in brain.

2.2. Subjecting the organism to its own UHF-radiation

Exposure of the organism to millimetric waves primarily effects the receptor proteins within cellular membranes:

- The influence upon the membrane receptor proteins is mainly due to water molecules absorbing the UHF radiation;
- Free water molecules being the direct receptors of UHF-energy give a part of the absorbed energy to the bound molecules of hydrated water;
- The primary factor that contributes to the biological effect of UHF radiation is the condition of critical protein hydration when cellular proteins go from a polyfunctional state into another, functionally active state;
- Such phase transitions of the receptive proteins determine all vital physiological processes inside a cell.

2.3. Redistribution of electrical charge over the body surface

Normally, the surface charge density over a patient's body is spread highly non-uniformly, as stated in Section 1.3. Such non-uniform distribution of free charges over the body surface defines how the different APs work within different skin areas. The APs in the "depleted areas" channel a lesser amount of electrical charge, so that they become virtually switched off from the energy balance regulation processes. Conversely, the APs of the "enriched areas" channel more charge, therefore operating under a significant functional overload. Such an unfavorable situation seriously deteriorates the regulative function of the acupuncture AP/meridian system.

When the body is wrapped in the TMB-01 blanket, the surface charge is redistributed in a more homogenous density across the body. In these conditions, APs operate under a more uniform functional load, providing a much greater efficiency of energy equilibrium regulation by the AP/meridian system.

2.4 The exposure of human organism to its own IR-emission

After absorption by the body tissues, the reflected infra-red waves are converted back into heat, which causes a vascular thermoregulative reaction. The circulatory response, thus obtained, originates from central control centers as a direct result of thermal action on thermoreceptors. The vascular response occurs in two consecutive phases, the first phase is characterised by mild transient spasms of the blood vessels and passes rapidly into the next phase of

active hyperaemia. This hyperaemic condition significantly enhances local tissue vasodilation and increases the blood supply many times. The high level of heat serves as a powerful catalyst of all biochemical processes. The infrared irradiation improves the metabolism of substances, accelerates gaseous exchange and cellular oxygenation processes, speeding up vital activities in all tissues. The pain-relieving effect of mild IR-radiation is brought about through altering the nociceptor sensitivity and by the faster removal of metabolic side-products, lowering the muscular tonus, reducing spasms, etc. The therapeutic action of the TMB-reflected IR-emission depends upon a higher metabolic rate and active vasodilation in those tissues having common innervation with the irradiated skin areas.

The local increase in leuko- and phagocytosis, as well as the higher immunobiological activity, dissolution and elimination of the metabolic by-products and higher vascular permeability determine the anti-inflammatory effect and general therapeutic action in cases of chronic and sub-acute inflammatory processes.

The IR-induced active hyperaemic condition promotes faster healing of ulcers and sluggish wounds, improves fluid exchange between the tissues and blood, and facilitates a higher release of heat by perspiration.

3. General applications

Disorders of the Cardiovascular System

Ishaemic heart disease, hypertensive disease, obliterative disorders of peripheral vessels, venous disorders.

Disorders of the Respiratory System

ARD, acute viral respiratory infections, acute and chronic pneumonias, pleurisy, lung abscess.

Diseases of the Digestive Tract

Acute and chronic gastritis, gastric and duodenal ulcers, functional disorders of the stomach and the bowels.

Disorders of the Musculoskeletal System

Arthritis, arthrosis, osteochondrosis, myositis and neuromyositis of various etiology, traumas, etc.

Metabolic Disorders and Related Involutional Alterations

Diabetes mellitus, menopause syndrome.

Brain Disorders and Traumas

Cerebral atherosclerosis, infectious encephalopathies and encephalitis, brain injury.

Disorders of the Peripheral Nervous System

Neuralgia and neuritis of the trigeminal nerve, fallopian neuritis, occipital neuralgia, brachiocervical radiculitis, intercostal neuralgia, lumbosacral radiculitis, multiple radiculoneuritis, polyneuritis, peripheral nerve injuries, etc.

Disorders of the Autonomic Nervous System

Sympathetic trunk ganglionitis, solaritis, hypothalamic syndrome, migraines, Raynaud's disease, pneumatic hammer disease, etc.

Neuroses

Neurasthenia, hysterical neuroses, etc.

Psychiatric Disorders

Schizophrenia, maniac-depressive syndrome, epilepsy, presenile psychosis, psychogenic psychosis.

4. Contraindications

Acute myocardial infarction.
Circulatory deficiency (type III).
Hemorrhagic insult.
Acute and chronic haemorrhages.
Tendency to haemorrhages.
Unconsciousness.
Coma state.
Idiopathic fever.
Frequent epileptic attacks (4-6 times per week).
High susceptibility to convulsions.
Acute hallucinosis, acute delirious psychosis.
Individual intolerance.

5. Private and clinical applications

The therapeutic blanket TMB-01 was designed for the treatment and prevention of a large range of diseases, either in outpatient or inpatient hospital situation or at home. The therapeutic blanket may be utilised either as an independent therapeutic means or in a combined therapeutic program.

As a rule, the patient should be completely wrapped in the TMB-blanket, although in some instances effects can be achieved through partial covering of a part of the body or a desired skin area (body segment). In some cases, both methods can be used during a course of therapy.

5.1. Cardiovascular applications

Ischemic heart disease with coronary insufficiency of I-III degree, including post-infarction cardiosclerosis with circulatory deficit below II degree.

The use of TMB blanket should be combined with the administration of medication. TMB-therapy may include wrapping the whole body in the blanket, or segmental covering of the skin areas associated with the sympathetic projections onto the skin, the areas of pain sensation and the region over the heart.

The purpose of the therapy is to obtain vasodilation, sedative effects, reduce the adrenergic strain on the heart, pain relief, prevent thrombus formation (anticoagulation effect), reduce the systemic vascular resistance, and, finally, improve the metabolism and function of the myocardium.

Long-term treatment is recommended, with a session duration of 15 to 40 minutes, and a course duration of 15-20 sessions. The whole number of courses is typically 4-5 per year.

Hypertensive disease of I-III degree and other hypertensive syndromes.
The aim of treatment: sedative action, reduction of the sympatheticoadrenal activity, vasodilation, hormonal balance regulation, segmental neuroreflectory stabilisation, normalisation of higher control functions of peripheral regulation.

The therapy is combined with medication. The whole body of a patient may be wrapped in TMB blanket, or a partial covering of the skin areas associated with the sympatheticoadrenal projections (or a combination of the two methods) can be used during the treatment.

Long-term treatment is recommended. A session duration is typically 30 to 40 minutes, with a course duration of 15-20 sessions. The full treatment duration is 4-5 courses per year.

Arterial hypotension in the cerebral, cardiac and combined forms.
The aim of treatment: normalization of the arterial pressure.

The treatment must be performed in prolonged courses (20 sessions minimum), because a fewer number of sessions will lead to lower AP activity. It is recommended to begin with an initial session duration of 10-15 min, adding 3-5 min per session during the whole course period, until session times reach 40 minutes.

The method of application consists in wrapping the whole body of a patient in the therapeutic blanket. A session duration is 15 to 40 min, with a course duration of 20 or more sessions. The full treatment time is 4-5 courses per year.

Obliterative disorders of peripheral vessels.
TMB blanket can be used at I and II stages of disease in the periods of functional compensation, subcompensation and non-compensation of peripheral circulation.

The aim of treatment: functional stabilisation of the higher vegetative regulative centers, improvement of the local peripheral circulation, enhancement of the rheological characterestics of the blood, reduction of vascular spasm, normalisation of the capillary permeability, establishing the anaesthetic and improved trophic effects and mild anti-inflammatory action, improvement of the metabolic exchange, normalisation of general reactions of the organism.

The methods of application include wrapping the whole body, local or segmental covering of the skin, or wrapping separate limbs with the blanket.
TMB blanket may be used independently, during remission periods, or in combination with other therapeutic means at the acute stages of the disease.

A session duration is from 15 to 40 minutes, with a course duration of 20 or more sessions. The full treatment time is 4-5 courses per year.

Varicose veins
The TMB blanket can be used within a multidisciplinary treatment or as an independent therapeutic means.

The therapeutic effects include pain relief, improvement of the rheological quality of the blood, anti-inflammatory action, and healing of the trophic venous ulcers.

The application method consists of wrapping the lower limbs, and local/segmental wrapping of the waist and lower back. A session time is 20 to 40 minutes, with a course duration of 10 to 15 sessions. The full treatment is 4-6 courses per year.

5.2. Respiratory system applications

Acute respiratory diseases, acute viral respiratory infections, asthmatic bronchitis, bronchial asthma, pneumonia, bronchiectasia, vesicular bronchiolitis, lung abscess, pleurisy, etc.
In acute cases, the TMB blanket can be used as a supplementary tool to assist another therapy. After terminating the drug administration, it can be applied to correct after-effects. In chronic disorders, the therapeutic blanket can be used as an independent treatment or as a preventative measure.

The aims of treatment: improvement of the bronchial drainage function, accelerating the dissolution of the pulmonary infiltrations and peribronchial inflammation, pain reduction, soothing the clinical manifestations and reducing the period of clinical aggravation, increasing the overall body resistance, and reducing the allergic reactions of the organism.

The methods of application include wrapping the whole body in the TMB-blanket, or local covering of the thoracic skin segments correlated with the pathological processes. A session duration is 30 to 40 minutes, with a course duration of 20-25 sessions. It is desirable to link the therapeutic courses to the seasonal aggravations of a disease.

Note! If the patient is in a highly febrile condition, the treatment should be started with a segmental application of the TMB blanket.

5.3. Digestive system applications

Acute and chronic gastritis. During remissions, for conditions of a high, preserved or diminished secretion, the TMB blanket can be used as a prophylactic tool. In subcompensation and compensation states, the TMB blanket can be proficiently used within in a multidisciplinary approach.

The application includes wrapping the whole body, and local or segmental covering of the target skin areas.

The aims of treatment: normalisation of elevated or reduced secretions, stabilising the motor activity of gastrointestinal tract, pain relief, decreasing the elevated excitability of the CNS.

During aggravations, 2-3 sessions a day of 24-26 min per session should be performed. In chronic gastritis conditions, a session duration is 30 to 37 minutes, 1-2 sessions a day. In both cases, a treatment course includes 20 sessions of TMB blanket application.

Gastric and duodenal ulcers, functional disorders of the stomach and bowels. TMB-therapy is useful at all stages of these diseases, either at the acute episodes or in incomplete or apparent remissions to prevent possible aggravation.

The purpose of treatment: pain relief, normalising the stomach secretion and evacuation, promoting the healing of ulcers and gastrointestinal inflammation, relieving the mental strain and correcting neurasthenic and depressive states.

The method of application consists in wrapping the whole body of a patient or covering the associated segments and the skin areas over the painful organs.

The treatment is conducted in long sessions. In aggravations, a treatment course of 20-25 sessions is recommended, with a session time of 30 to 40 minutes. When used for preventive purposes, the treatment course should precede the seasonal periods of exacerbation.

Warning! The use of the TMB blanket is strictly contraindicated in cases of severe peptic ulcers, acute ulcer episodes, malignant peptic tumour, internal abdominal bleeding or possibility of abdominal haemorrhage.

5.4. Musculoskeletal system applications

Inflammations or nutritional deficits of joints and periarticular tissues: arthritis (rheumatic arthritis, chronic infectious and allergic polyarthritis, ankylosing spondylitis, etc.), arthrosis (osteoarthrosis, arthrosis deformance, osteoarthrosis deformance), osteomyelitis.

Muscular inflammations: myositis (non-purulent infectious myositis, polymyositis, toxic myositis, neuromyositis, etc.)

Traumas: bone fractures, contusions, dislocated joints, injured or strained muscles and ligaments, etc.

TMB therapy may be performed either independently, in mild cases, or as a supplementary tool in multimodal treatment of severe cases of acute or chronic diseases.

The action of the therapetic blanket invokes pain relief, and improvement of circulatory and metabolic exchange conditions. TMB therapy promotes better muscular innervation and nutrient supply to the tissues, and helps to improve the range of joint movement.

The method of application includes wrapping the whole body, or local covering of skin areas over affected joints. A session time is 30 to 40 minutes, with a course duration of 20-25 sessions per course. The recommended amount of treatment, either for therapeutic or preventive purposes, is 5-6 courses a year.

5.5. Involutional alterations and metabolic disorders

Menopause. The therapeutic TMB-blanket can be utilised either to assist in a combined therapy or independently, for the treatment of neuro-vegetative, metabolic and endocrine dysfunctions, as well as to alleviate psycho-emotional changes.

TMB treatment assists to decrease systolic and diastolic pressure in hypertensive conditions, relieve headaches, remove or diminish the frequency of stenocardia attacks, and improve the organism resistance to climatic changes. The application of the therapeutic TMB-blanket creates favourable conditions that help to correct hyperesthesia, normalise sleep; remove fever or shiver sensations and cut down the incidence of hot flushes; soothe the course of sympatheticoadrenal crises; relieve the pain in muscles and joints, stabilize the psycho-emotional status of a patient, and facilitate a substantial rise in the general physical performance.

The TMB-procedure involves complete or regional wrapping of the body with the therapeutic blanket (or a combination of these methods). A prolonged treatment is advisable. The treatment course is 15-20 sessions, with a session length of 15 to 40 minutes. The entire therapeutic period includes 4-5 courses a year.

Diabetes mellitus.

The TMB-treatment should be used as supplementary procedure to diabetic medication. The application of the TMB blanket produces a hypoglycaemic effect and efficiently corrects the whole picture of clinical complications in diabetes mellitus.

The application method consists in covering the whole body in the therapeutical blanket.

A prolonged treatment period is recommended. The session time may range from 15 to 40 minutes according to severity of the disease, with a course duration of 15-20 sessions. The treatment period includes 4-6 therapeutic courses.

5.6. Brain disorders and traumas

Cerebral atherosclerosis (pseudoneurasthenic condition and circulatory encephalopathies), chronic leptomeningitis, multiple sclerosis, infantile paralises, cerebrovascular accident (stroke), parkinsonism, etc.

The TMB blanket may assist in a comprehensive hospital treatment course or serve as a separate therapeutic tool.

The following beneficial effects on the patient's progress are normally observed during and after TMB-blanket application: correction of decreased muscular tonus; normalisation of AP in neurocirculatory dystonia and hypertensive or hypotensive conditions; elimination or diminishing of the spread and intensity of hyperkinesia; improvement of the motion range of voluntary and involuntary muscles; in some cases recovery of depressed or absent functions (recovery of normal sitting, walking, coordinated manipulation, etc.); reduction of frequency and intensity of headaches; improvement of psycho-emotional state and stress-coping abilities (correction of mood and behaviour, normalisation of sleep, improvement of general physical performance, improved self-care activity, etc.), correction of vegetative dysfunctions, pain relief, and significant attenuation of meteoropathic dependence.

The methods of application: wrapping the whole body (with or without the head), local or segmental covering (the neck, or collar area, the area along the backbone, or the lower back area) or a combination of these methods. A

session duration should be 15-40 min, with a course volume of 20 or more sessions. The full treatment time is 5-6 courses a year.

Closed brain injuries:
Concussion of the brain (after disappearance of cerebral symptoms).
Brain contusion of various severity (3-4 weeks after the contusion).
TMB therapy can be used as a supplementary tool in a combined therapy to prevent the delayed sequelae. The TMB-blanket therapy creates favourable conditions which efficiently help to remove headaches, normalise sleep, improve blood circulation and CSF dynamics, relieve mental strain. Its action promotes the reversal of involutional morphological alterations in the brain as well as improves the nerve nutrition, speeds up the recovery of functionally depressed structures, exerts a beneficial effect on damaged tissues, stimulates rehabilitative processes in the brain, helps to prevent or diminish possible vascular spasms, and efficiently enhances the general immunity.

The method of application: the same as in the above cases.

5.7. Peripheral nervous system disorders

Neuralgia and neuritis of the trigeminal nerve, fallopian neuritis, occipital neuralgia, brachiocervical radiculitis, intercostal neuralgia, lumbosacral radiculitis, multiple radiculoneuritis, polyneuritis, peripheral nerve injuries, etc.
TMB blanket is used as a supplementary aid during a comprehensive therapy of disease or as an independent tool for treatment during remission periods or for prevention of delayed sequelae of a disease.

The use of TMB blanket promotes the processes of desensitisation and efficiently suppresses the dystrophic and degenerative processes in nervous structures. TMB treatment diminishes or eradicates pain, enhances the lymph and blood circulation, encourages metabolic exchange, and substantially reduces the inflammatory processes in tissues. The course of treatment will considerably improve the nerve conduction, remove or reduce pareses, enhance vital functions of the inner organs, and significantly enhance the stress resistance of the organism.

The methods of application: wrapping the whole body, local or segmental covering or a combination of the methods. A session duration is 15-40 min, with a course volume of 20-25 sessions. The full treatment time is 5-6 courses a year.

5.8. Autonomic nervous system disorders

Sympathetic trunk ganglionitis, solaritis, hypothalamic syndrome, migraines, Raynaud's disease, pneumatic hammer disease, vasoneurosis.

The application of TMB blanket allows a significant reduction or relief from the vasoneuronal complex of symptoms (permanent vascular dystonia and paroxismal manifestations), and substantially enhances the autonomic system reactivity and vegetative functions of the organism. During the therapeutic course, the normalising effect is produced on overall body conditions involved in psychoemotional distress and motivational disorganization, as well as significant alleviation of astheno-hypochondriac syndrome and general reinforcement of the organism resistance toward different kinds of stress.

The therapeutic TMB blanket can be used both within a multidisciplinary treatment or as an independent means during remissions.

A session duration is 30-40 min, with a course amount of 30-60 sessions. The treatment duration is 5-6 courses a year. The methods of application: wrapping the whole body (including or excluding the head), local or segmental covering of the target areas.

5.9. Neuroses

Neurasthenia, hysterical neuroses.
TMB therapy may efficiently assist in multi-modal treatment or as an independent tool.

The application of the therapeutic multilayer blanket results in a substantial allaying of neurotic reactivity, normalisation of the emotional and vasolability; increases abnormally reduced limb temperature by up to 1.5ºC and a reliable decrease in AP; stabilises heart rhythm; exerts beneficial effects on both the degree and awareness of cephalalgia; and substantially alleviates algesic hypersensitivity manifestations.

In the case of hysterical neuroses, the TMB therapy markedly reduces the alarm level, improves sleep, efficiently corrects the emotional setup of a patient, exerts anxiolytic and antidepressive effects on the hysterical person, and promotes a considerable rise of the personal self-esteem.

A prolonged treatment is recommended: a session time ranges from 30 to 40 minutes, according to the severity of disease, with a course volume of 30-60 sessions. A treatment period includes 3-4 therapeutic courses a year.

The methods of application: wrapping the whole body (including or excluding the head), local or segmental covering of the target zones.

5.10. Psychiatric disorders

Schizophrenia, manic-depressive syndrome, epilepsy, presenile psychosis, reactive psychosis.
TMB application can be clinically useful as a supplementary procedure during a course of multimodal treatment or as an independent means during remissions.

TMB treatment significantly reduces the level of psycho-emotional reactivity and markedly enhances a patient's resistance to stress. The procedure produces a persistent anti-neurotic effect, substantially improves the neurodynamics, balances the excitement and inhibition processes thus producing a general relaxing influence on the patient, eliminates vascular disorders, stimulates the metabolic processes in the brain, and brings about overall conditioning effects of the person.

A prolonged treatment is recommended: a session time 30 to 40 min, according to the severity of disease, with the course duration of 30-60 sessions. The treatment period includes 3-4 therapeutic courses a year.

The methods of application: wrapping the whole body (including or excluding the head), local or segmental covering of the target zones.

6. Statistical results of TMB-therapy

The statistical outcomes of the TMB blanket application during a period from 1993 to 1997 clinically, in preventive therapy, or at home are summarized in Table 1.

Table 1.

Disease Category	Improvement, %	Partial improvement, %	Unchanged, %
Cardiovascular Diseases	46	48	6
Respiratory System Diseases	82	10	8
Digestive System Diseases	76	24	0
Musculoskeletal System Diseases	58	42	0
Metabolic and Involutional Disorders	40	40	20
Brain Disorders and Traumas	83	17	0
Peripheral Nervous System Disorders	92	8	0
Autonomic Nervous System Disorders	86	14	0
Neuroses	71	16	13
Psychiatric Disorders	7	45	47

7. Specific features of TMB procedure

The following rules are to be observed while performing the TMB procedure.
The patient's skin should be clean and dry, clothes ought to contain no or minimal synthetic material.

An individual cotton or silk sheet should be used for each patient and re-used throughout a course without being washed between sessions.

Before the procedure, the patient should touch an electrically grounded metal bar to remove the static electricity off the body. The therapeutic influence is exerted by covering the body surface with the multilayer therapeutic blanket. The most favourable therapeutic conditions are obtained while wrapping the whole body in the TMB blanket. The other methods of TMB application are segmental covering of the dermatomes associated with the sympathetic projections of the diseased organ, and covering the skin areas over the painful sites and zones of the pain irradiation.

The preferred way to perform the total body TMB therapy is to run the procedure 1 hour before sleep, or immediately before the patient goes to bed. The patient should be sitting or lying quietly in a comfortable position.

It must be noted that the TMB blanket is a highly potent therapeutic influence and must be used only upon consulting a physician, who should suggest the most appropriate method or a combination of methods to be used in the preferred TMB procedure.

The duration of a TMB session ranges from 15 to 60 min. The possible daily amount of sessions is from 1 to 3. A therapeutic course duration ranges 15 to 60 days, with the yearly treatment volume amounting up to 6 courses (according to the physician's recommendations).

As a rule, when the body surface is wrapped in the therapeutic blanket the patient feels warm and experiences a slight tingling sensation, with no sensation of discomfort.

In rare cases, uncomfortable states may arise (such as a painful sensation, headache, dizziness, nausea, etc.). In this case, if possible, try not to interrupt the procedure until the uncomfortable sensation has disappeared or reduced, even if this requires an extended session time up to a maximum 60min. If the uncomfortable sensations are not reduced during this time, the next procedure should be limited to 15min. We recommend increasing every subsequent session by 5min until the session duration reaches 30-45min. In most cases, the optimal session length is 40 min. In case of domestic use of TMB-01, the patient, upon finishing the procedure, can continue his or her usual daily activities.

Sterilization should be performed clinically in a heat sterilizer by way of exposing the TMB blanket to hot air (at temperature 120 +-2 C) during 45 min. The TMB blanket can be used for a therapeutic procedure 30min after sterilization is over and the blanket has cooled down.

Part 2. Expansion of the scope of TMB-applications. Enhancement of the benefits of preventive care, treatment and rehabilitation.

1. Introduction to Activational Therapy

National health care is the aspect of every modern society which should be concerned with promoting and maintaining good health. The continuous progression of modern medicine is spurred by the persistent appearance of new technologies. However, creation of new medical techniques can be questioned so long as the full potential of existing knowledge and techniques remains hidden. A promising approach towards higher efficiency of health management is the concept of adaptive body regulation of the integral functional status of the organism.

After decades of expertise towards comprehensive adaptational care, a research group at the Oncological Research Institute, Rostov-on-Don, Russia, evolved a concept of adaptive body activity (ABA theory) [1].

According to ABA concept, biological evolution has created a specific assortment of standard mechanisms (adaptive responses and areactive states) to maintain vital activity and fight diseased conditions. At any given instant of time, the body is only capable of one type of these adaptive patterns or areactivity states, characterised by a unique set of specific internal changes and modifications.

Implementing this "whole body concept" into a therapy, the Activational Therapeutic approach is based on creating and maintaining the desired patterns of adaptive activity in the body. Activational Therapy offers entirely new health care techniques which utilise the inherent forces of the organism for prevention, rehabilitation and much more efficient treatment for a wide scope of diseases.

The clinical utilisation of Activational Therapy in various fields of medicine has proved the validity of the fundamental principles of the ABA concept and its importance for health care [2-23]. In particular it has been found, for a wide spectrum of diseases, that the treatment outcome depends primarily on whether the required adaptive pattern can be established and maintained in the body, rather than upon treatment of an isolated function. This proves the essential importance of comprehensive functional adaptational care as compared to the attempts to treat separate links in the long chain of disturbed neurophysiological functions.

However, the practical use of activational therapy is substantially complicated by :

1. the difficulty in establishing the desired pattern of adaptive neurophysiological reactions;
2. a greater difficulty in maintaining the proper adaptive condition for sufficiently long periods.

In this context, the purpose of these guidelines is:

1. to show that the application of the therapeutic multilayer blanket TMB-01 eliminates the aforementioned problems and extends the capabilities of the activational therapy;
2. to offer practical recommendations on the clinical use of the TMB-01 blanket in an Activational Therapeutic procedure.

Summing up the experience in the clinical use of TMB-01 by physicians from various fields of medicine, we have found out that in certain definite cases a reliable control over the standard adaptive reactions in a patient was demonstrated. The analysis of data collected from 17 patients at the last stage of cancer [24] has brought the following conclusions:

1. The therapeutic blanket, among its other pertinent factors, produces a controlling factor that, even in highly severe pathologies, is capable of establishing and supporting the optimal adaptational condition for this kind of disease.
2. Even in those patients having last stage severity tumors, it had been possible in 88% of cases to obtain and maintain a durable (5 months, or more) adaptational pattern, unique for the given type of pathology.
3. All people have evolved, through environmental conditions to have the same sensitivity towards this governing factor.

Subsequent investigations have been completely confirmed these conclusions. Generalising the outcomes of clinical studies, it was concluded that the therapeutic multilayer blanket TMB-01 can be efficiently used in clinical practice. Activational therapy based on the application of the TMB-01 enables considerable progress towards overcoming the restrictions of current physiological methods and significantly augments the potential of activational care.

Before we go on to describing the particular applications and practical guidelines on the therapeutic use of the TMB-blanket, it would be worth discussing the basic principles of the ABA-concept.

2. Basic principles of the Adaptive Body Activity concept

At any instant of time, the overall functional status of the body is defined by the current standard adaptive response (adaptational pattern) or areactivity state, as well as level of background psycho-physiological reactivity at which this adaptational pattern developed. Depending upon the particular complex of biological variables inside the body, four primary types of adaptive pattern can be distinguished: the exercise pattern, the mild activation pattern, the strong activation pattern and the stress pattern. Each of these patterns develop as a standard body reaction to external or internal governing influences. A governing influence is regarded as any operating factor changing the overall body condition. The common rule here is that the organism itself will choose it as the governing factor. The established adaptive pattern will depend upon the relative influencing strength (intensity, dosage) of this governing factor on the organism.

With increasing (or decreasing) strength of the governing influence by a multiple of factor K (inherent body reactivity coefficient, or transition factor), the existing adaptive pattern will change for another adaptive pattern (Fig.1). The value of this transition

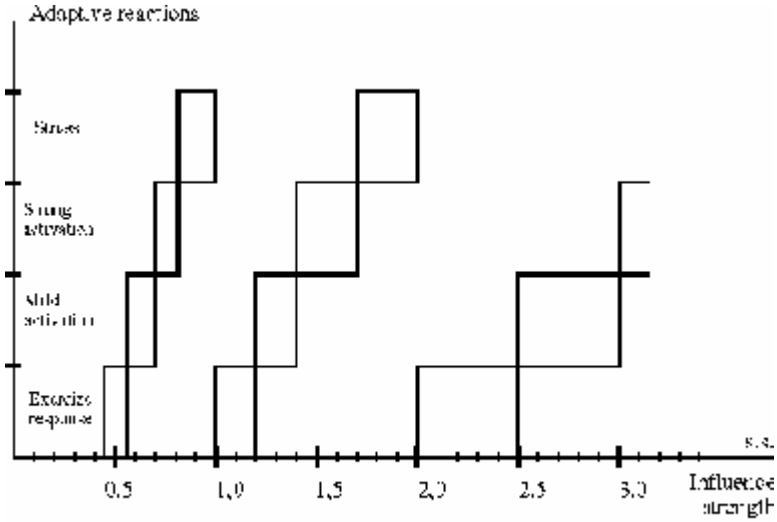


Figure 1. Transitions between standard adaptive reactions depending on the strength (intensity, dosage) of governing influence

factor (K) has been found to be relatively small. For most operating factors, K ranges from 1.1 (in ill and elderly people), to 1.3 (in the healthy and young). Most frequently, the value of factor K is very close to 1.2. The K value of 1.3 is very rare.

If we assume the intensity of governing influence which causes the exercise pattern, as a “specific strength”(ss), then, in most cases, a governing influence strength equal to “specific strength” x 1.2 = 1.2ss will cause a transition to the mild activation pattern reaction. A governing influence equivalent to 1.2 x “specific strength” x 1.2 = 1.44ss will cause a transition to the strong activation pattern. The intensity value of 1.44"specific strength” x 1.2 = 1.73ss will bring about the stress pattern condition in the body. These four activational patterns comprise the first tetrad of standard adaptive reactions in the organism.

A further increase of the governing influence strength to the value of 1.73ss x 1.2 = 2.07ss, will enter a new exercise pattern of the next tetrad, and so on. This new tetrad of standard adaptive patterns will differ from the previous tetrad only in the level of overall organism reactivity.

A reactivity level in the body can be determined as the range of absolute influence strengths capable of eliciting the standard adaptive patterns within the associated tetrad. The lower the range of possible governing influences, the higher the reactivity level corresponds to the existing body condition. By now, more than 10 levels of body reactivity have been revealed.

By an areactivity state we will mean a steady condition, in which the change of the governing strength by K times does not cause a transition to next standard adaptive pattern. Although three such areactive conditions have been revealed, only two of them are commonly encountered in clinical practice: the stressed areactivity and the overactivation state.

The investigations of complex alterations during the standard adaptational patterns and areactivity conditions [1] have revealed that it is the activation patterns and exercise patterns at higher levels of reactivity that are chiefly responsible for the normal health quality in a person. Typically, these patterns demonstrate significant activation of the defense and adaptive mechanisms in the body. The reactions inherent to these patterns can generally be elicited only by small governing influences.

People experiencing some degree of physical or mental discomfort, fatigue, reduced physical performance, or those susceptible to unrelated seasonal illnesses, but without a definite disease, usually develop the lower-level activation or exercise patterns or “mild stress” at higher levels of reactivity.

The lower-level stress patterns, stressed areactivity and “deep” overactivation conditions form the non-specific basis for disorders of various nature.

3. Alterations during standard adaptational patterns

Activational Therapy consists primarily of the creation and support of a desired type of adaptive reaction in the body. We should therefore consider the major changes that take place during each of standard adaptive conditions.

3.1. The exercise pattern

The exercise pattern develops through three stages:

1. the orienting reaction,
2. the stage of readjustment and
3. the stage of habituation.

The orienting stage begins within 6 hours from the start of the governing influence. This stage can last 24-48 hours before it gives way to the readjustment stage. The stage of habituation may arise only after prolonged maintenance of the readjustment stage (1 month, or more).

During the first and the third stages of the exercise pattern, the central nervous system is primarily in the state of protective inhibition. The first stage is characterized by a mild increase in the activity of glucocorticoid and mineralocorticoid hormones. During the second stage of the exercise pattern, there is a gradual rise in the secretion of mineralocorticoids and a normalization of the glucocorticoid level. At the third stage, the production of mineralocorticoids is slightly above the norm, with normal secretion levels of glucocorticoids.

The thyroid gland function can be moderately decreased at the first stage of exercise pattern, or mildly elevated at the second and third stages. The genital gland activity is in the normal limits.

The first stage shows a rise in the passive body resistance due to domination of protective inhibition within the CNS. In the third stage, the active resistance condition prevails due to activation of the body defense mechanisms: thymo-lymphatic and connective tissue systems.

The first stage is also characterized by activation of the anticoagulative mechanisms with a resulting hypo-coagulative ability. The inflammatory potential is slightly lowered. Both catabolic and anabolic processes are decreased, however the anabolic activity with accumulation of plastic material prevails.

3.2. The mild activation pattern

The mild activation condition develops in two consecutive stages: primary activation and persistent activation. The primary activation arises within 6 hours after the appearance of the governing influence and lasts for about 24-48 hours.

The CNS is primarily in the state of moderate physiological excitation observed as mildly elevated motor activity. The endocrine system shows a moderately increased secretion of mineralocorticoid hormones with normal secretion of glucocorticoids and functional activation of the thyroid and genital glands. The endocrine gland activity is more pronounced than during the exercise pattern, although remains below the level of hyper-functioning.

At both stages there is an increase of active body resistance to disturbing factors of various nature.

The physiological alterations are more beneficial when the adaptational pattern develops at higher levels of reactivity and less favorable (higher percentage of glucocorticoids, lower contribution of thyroid and genital hormones, and lower stimulation of thymo-lymphatic system) at lower reactivity levels.

Also, there a moderate elevation of inflammatory potential is observed as well as normalisation of the blood coagulation function.

The overall metabolic processes are well balanced, which results in the accumulation of amino and nucleic acids and proteins in the body.

3.3. The strong activation pattern

The complex of physiological changes experienced during the strong activation pattern is, for the most part, similar to that of the mild activation condition. Comparing the hormonal alterations, we should emphasize the essential importance of the relative contributions of various hormones, rather than their absolute quantities in the body. At the same level of glucocorticoids, the functional activity of the thyroid gland is significantly greater than in the mild activation condition.

The strong activation pattern demonstrates marked activation of the thymo-lymphatic system, a comparatively greater lymphocytosis and a higher level of active body resistance. Thus, even in cases of advanced malignant tumors developed over a long time, a course of therapy based on the strong activation pattern enables the arrest or even complete resolution of the tumor.

The pattern exhibits apparent counter stress alterations, with mild hypocoagulation and normalization of the arterial pressure.

Note! The strong activation pattern can be dangerous if not monitored closely, because in a severe pathological condition even a slight over-exposure can result in the development of a debilitating stress pattern.

3.4. The stress pattern

Stress is a standard adaptive body response, in which the adaptation can be achieved only at the cost of some damage to vital functions.

The stress pattern develops in three consecutive stages:

1. the alarm reaction,
2. the stage of resistance and
3. the stage of exhaustion.

Consideration of the physiological changes characteristic for the stress pattern is beyond the purposes of these guidelines. It should be emphasised that the stress condition can be responsible for about ten thousand disorders, more than a hundred thousand disease symptoms, and even may lead to death [25].

4. Indications for the use of standard adaptive patterns

To obtain a desirable therapeutic effect, the physician should establish and persistently maintain either the exercise response or an activation response at higher levels of the body reactivity.

The most stable and healthy reaction in the organism is the strong activation response, which supports the higher levels of nonspecific resistance in the body. However, this reaction is comparatively rarely applied in Activational Therapy, because in severe pathological cases even a slight overexposure to this pattern may result in the development of the stress pattern.

From the viewpoint of therapeutic results, the least favourable condition is chronic stress. The management of the exercise response can be proficiently utilized whenever it is indicated. The most beneficial procedure involves establishing and supporting the mild and strong activation patterns. It should be emphasized here that the development of an activation reaction, especially of the strong activation pattern, normally precedes recovery.

The type of an adaptive pattern is strictly correlated with both the course and the prognostic outcomes of a pathological process. The target-directed use of the exercise response, or even more effective activation patterns, normally provides the essential basis for successful Activational Therapy.

Simultaneously with the non-specific Activational Therapy, a physician can conduct conventional treatment of a particular disorder. To date, no contraindications to the nonspecific TMB-therapy have been found.

The exercise response

The first stage of the response, the orienting reaction, can be utilized to achieve an anti-inflammatory effect in acute inflammatory conditions such as gastritis, pancreatitis, colitis, aggravations of peptic ulcers, adnexitis, bronchitis, acute thrombophlebitis, proliferative arthritis, etc.

This pattern can help to decrease blood clotting due to its mild, yet definite anticoagulative effect. It may be applied to combat various disturbing factors, especially with marked leukopaenia, in such cases as surgical intervention, irradiation, chemotherapy, etc.

The third stage of response, or the habituation reaction, may take a prolonged period (a month or more) to be attained. The practical use of this reaction is complicated.

The mild activation response

This kind of body reactivity can be used in conditions of decreased inflammatory potential to enhance the inflammation capacity, e.g. in the slow-developing chronic inflammations such as chronic gastritis, pancreatitis, colitis, bronchitis, nonspecific adult or child pneumonias, gastric and duodenal ulcers, adnexitis, etc.; in arterial hypertension, coronary heart disease, hypotension; for a wide range of tumors; in drug abuse (e.g. in excessive dosage of antibiotics without marked leukopenia); in psychiatric diseases such as schizophrenia, manic-depressive psychosis, psychogenic psychosis, etc.

The strong activation response

The indications for use of this pattern are primarily the same as those mentioned above. This reaction is more efficient, but is difficult to maintain in severe cases. This pattern can be proficiently utilized to reduce the blood coagulative properties.

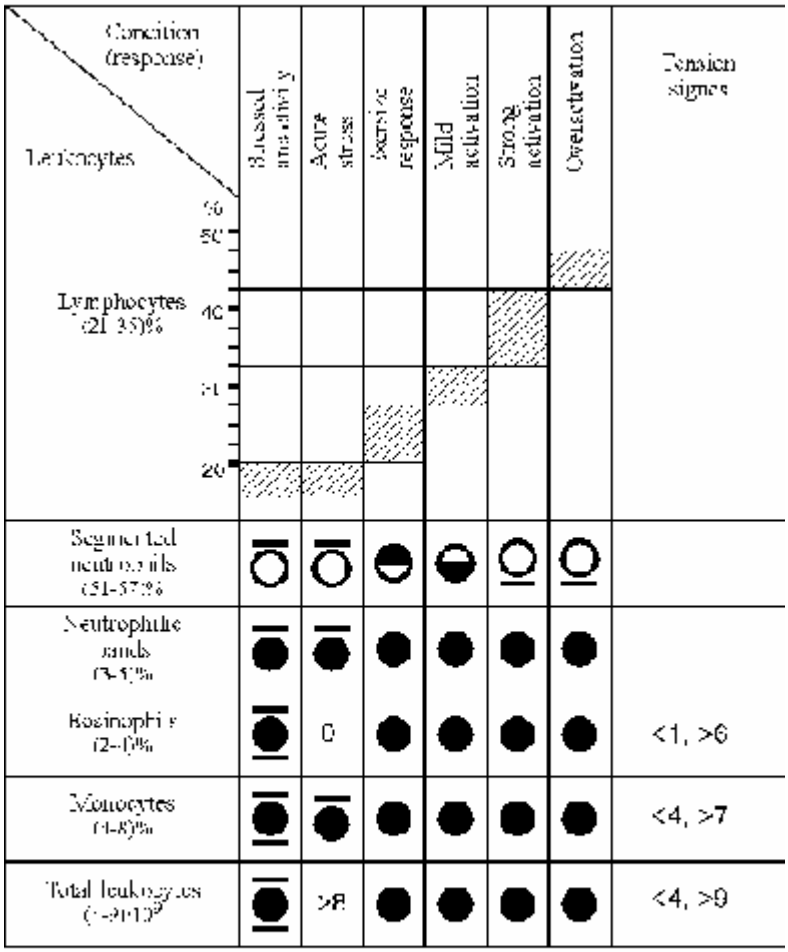
5. Identification of the existing adaptational pattern

Determining the existing adaptational pattern should be performed on the basis of testing the morphological properties of the white blood cells or the patient's health status.

The type of adaptive response can be identified by the percentages of lymphocytes (see Table 2).

Table 2

WBC INDICES INHERENT TO ADAPTATIONAL REACTIONS



The possible deviations from the normal indices for the other elements in the differential blood count (the lack, presence or degree of monocytes, eosinophils, stab neutrophils, and basophils) will define the signs of reactivity tension. The signs of higher tension (primarily their number and the degree of manifestation) are indicative of lower levels of the physiological reactivity at which this adaptive response develops.

In addition to the indices of formed elements in the WBC, the general state of the patient can also demonstrate which type of adaptational pattern exists:

The exercise response can be characterized by quiet, relaxed state or sleepiness, with possible transient staggers, feeling of well being, good sleep and appetite.

The mild activation response is indicated by calm, awake state, good sleep and appetite.

The strong activation response displays a raised, cheerful frame of mind, even with a shade of euphoria, desire of action, good sleep and appetite.

The stress response exhibits anxiety at any level of reactivity.

In markedly manifested high tension, which corresponds to the lower levels of reactivity, the symptoms of disturbed health perception expressed by the patient (such as irritation, ignorance, feeling uneasy, sleep disturbances, etc.) may appear even in the exercise and the activation patterns of adaptation.

Note:

1. The differential blood count should be tallied up over 300 cells (or, at least, 200 cells). This is especially critical at borderline values of lymphocytes (at the upper and lower limits of a pattern).
2. Repeated blood samples from the same patient, taken during the therapeutic period, should be calculated by the same technician.
3. Blood samples should be taken at the same time of day; preferably in morning, on an empty stomach, before any therapeutic procedure.
4. Sequential blood samples should be taken: on the first day of the therapeutic course or the day before (the background blood test), on the third day from the beginning of therapy, and 2 blood samples per week during the following course. While running a prolonged treatment, where the patient's state is good, the blood tests can be performed once a week.

6. Indications for activational TMB-therapy

Activational Therapy based on the use of the therapeutic multilayer blanket TMB-01 is aimed at establishing and maintaining a desired pattern of overall adaptive response at the higher levels of body reactivity. The dose of activational exposure is controlled by selecting an appropriate duration of the therapeutic procedure. The timing fine-tuning can be performed within one of the three ranges: 12-22, 22-43 and 46-70 min, which correspond to the higher levels of reactivity in the human organism. The highest reactivity level is associated with the session time range of 12-22 min.

6.1. Preventive activational therapy and improvement of health quality in "apparently healthy" people.

It is advisable to perform the course of activational therapy in spring and autumn, the seasons with the highest incidence of diseases. The course of treatment is 2-3 weeks, 1-2 procedures per day. The procedure involves eliciting and supporting a persistent mild activation response in the person. A session time is corrected within the range of 22-43 min.

Preventive TMB-therapy significantly reduces the susceptibility to diseases, promotes physical performance, improves the emotional state and feeling of well-being. If illness is encountered, the disease will only occur in a mild form and with a speedy recovery.

6.2. Improving the non-specific resistance in healthy people subjected to substantial physical and emotional strains, or disturbing factors.

It is recommended to perform 3-4 courses of activational TMB-therapy per year. The course of treatment is 3-5 weeks, 1-2 procedures per day. The treatment is aimed at establishing and maintaining a persistent mild activation pattern in the person. The session time can be corrected within the range of 22-43 min. If the desired response is not attained, 2 sessions a day should be performed, with the time correction in the range of 46-74 min.

The TMB-procedures can be beneficially utilized to support the strong activation pattern in athletes during the period of competitions, or to elicit the response at critical events.

The TMB-therapy helps elevate the general body resistance to disturbing factors, improves physical performance, promotes a healthy physique and good emotional state of the person.

During the management of the strong activation response, the person often experiences elevation of emotions, feeling of well-being, confidence of his/her own capabilities, however remains in control of the situation.

6.3. Prevention and treatment of asymptomatic conditions, early stages of diseases and functional disorders.
The course of treatment is 7-20 days, 1-2 procedures a day. The procedure is aimed at eliciting and supporting the persistent mild activation response or the exercise response in the person. The session time is corrected within the ranges of 22-43 min or 12-22 min. For men older than 35 years, the most appropriate time range of a session is 22-43 min. The exercise pattern can be more beneficial whenever it is indicated.

The TMB-therapy results in diminishing symptom complaints and an overall improvement in the patient's health and physical performance.

6.4. Enhancement of the non-specific body resistance before a surgery or at risk of irradiation or chemical hazards
It is recommended to begin Activational TMB-therapy at least three days prior to surgery. If possible, TMB-therapy should be performed not only before and after, but also during the period of hazardous exposure. To provide a proper care against such hazardous factors, the physician should establish and then support the mild activation response in the person by selecting the appropriate length of the procedure, as described below.

In cases displaying leukopaenia, the most appropriate adaptive reaction is the first stage of the exercise response. To elicit and maintain the first stage of the exercise response, 2-3 procedures a day should be administered, with a session time selected within the 22-43 min range. The enhancement of passive body resistance in this procedure is brought about through establishing the prevalence of protective inhibition processes in the brain.

Note: The passive resistance will decline during the 24-48 hours after the last procedure.

To establish and support a steady mild activation pattern, 1-2 procedure a day should be administered with a session length selected within the 22-43min range. The enhancement of active body reactivity is achieved due to significant functional activation of the body defense systems.

The course of TMB-treatment permits the reduction or elimination of adverse changes in the organism, promotes a favourable outcome and substantially speeds up the ensuing recovery.

6.5. Preventive control of pre-senility processes
2-3 courses per year of the Activational Therapy are recommended. A course duration is typically 2-3 months, 1-2 sessions a day. To obtain a reliable effect, the adaptive exercise pattern and the mild activation pattern should be elicited and maintained in an alternating fashion. The management of adaptive patterns is performed by selecting appropriate session durations within the 22-35min range.

The TMB-course enhances the recovery processes in the body, improves functional plasticity of the higher regulative centers and beneficially influences overall neuro-physiological regulation. During the treatment, adaptive mechanisms which have deteriorated through the aging process are gradually restored. The adaptational TMB-therapy substantially improves the physical performance, normalises sleeping patterns, increases the person's emotional resistance and apparently restores memory function. The Activational Therapy normalises blood pressure, improves the gait, posture, and coordination of movements. The processes of atherosclerosis are markedly slowed down and even reversed, with partial regression of senility symptoms.

6.6. TMB-treatment of diseases and syndromes
The scope of disorders and syndromes, in which the therapeutic multilayer blanket TMB-01 can be successfully applied, corresponds mainly to the GENERAL APPLICATIONS section of these guidelines. However, the efficient use of TMB-therapy for treatment of disorders or to condition the person's physical state depends on the strict differentiation, proper administration, to establish and maintain the desired patterns of adaptational response in the patient.

To manage inflammatory processes, the exercise or mild activation responses should be elicited and maintained by selecting the appropriate session duration within the 22-43 min range.
In acute inflammatory diseases, anti-inflammatory responses are elicited by establishing a steady reaction corresponding to first stage of the exercise response. This pattern can be efficiently supported with 2-3 TMB procedures per day.

If the purpose is to increase the inflammatory potential of the body in flaccid chronic inflammatory processes, the most appropriate pattern will be the mild activation response. To elicit and maintain this pattern, 1-2 procedures a day should be administered.

Note: In this case, occasionally a pain aggravation may be observed, which normally resolves in 2-4 days after beginning the course of TMB-therapy.

Cardio-vascular diseases are best managed using the mild activation or the exercise response, which requires session times within the 12-19 or 25-36 min ranges.

In other cases, the most appropriate adaptational patterns are primarily the mild activation or the exercise response, with session times selected within the range of 46-70min. It should be noted, that the exercise pattern will be more favourable only if this is indicated by these guidelines or is consistent with practical findings obtained through clinical experience.

6.7. Activational support of conventional therapy

In the treatment of a particular disorder, the main problem with a complicated course of disease and incomplete recovery often refers to the fact that the background non-specific physiological conditions may promote the development of pathology, rather than support its erradication. To create the desired favourable non-specific physiological conditions for the period of a course of conventional therapy, the activational TMB-therapy may successfully assist by establishing and supporting an appropriate adaptational body response. In such cases, being a supplementary tool to conventional procedure the TMB-blanket can enable an efficient target-related control of the patient's functional condition and body resistance. The basic principles of the application of the therapeutic blanket TMB-01 apply as presented in Section 6.6.

The use of TMB-blanket in conventional therapy:

- Alleviates the course of the disorder and improves the prognosis;
- Avoids or substantially reduces the risk of possible complications of the primary disease;
- Enhances the efficiency of conventional therapeutic methods;
- Decreases the possible adverse effects of specific medications;
- Reduces the requirement and/or dose of the routine administration of drugs.

7. Selecting the appropriate duration of a therapeutic TMB-procedure

When starting clinical use of TMB-01 for the purposes of activational therapy, the physician will encounter certain difficulties in selecting the appropriate length of a TMB-procedure. This problem, however, is not so big as it may appear at first. The extra time and comparatively small initial difficulties will pay dividends in respect of the high efficiency of treatment and services resulting from using the TMB-01.

As mentioned before, it has been found that all patients have the same sensitivity to the governing factor. After a short period of time the physician will easily be able to decide what type of the non-specific adaptive pattern is required and match this to the appropriate length of TMB-procedure. Besides, the desired type of adaptive response can be easily monitored by the patient's perception of his/her state.

Nevertheless, during the initial stages of TMB-therapy the physician should be guided by blood test indices.

7.1. Basing on INDICATIONS FOR ACTIVATIONAL TMB-THERAPY (Section 6), the physician should decide on the time range within which the duration adjustment will be carried out. If the recommended time range is 12-22 min, the time of the first procedure should be 15min. In case that the time range of 22-43 min is indicated, the first session duration of 30 min should be selected. In case that the recommended range is 46-70 min, the first session time should be 60 min.

7.2. If the blood test results following the first session are indicative of the mild activation pattern, then:

a) Where the required activational pattern for the TMB-procedure is the mild activation response, the session duration should be left the same (till the next blood test).
b) If the required pattern is the exercise response, the session duration should be reduced by K times (where K is an inherent body reactivity coefficient, called a transition factor).

7.3. If WBC indices after the first procedure are indicative of the exercise response, then:

a) If exercise response is the recommended activational pattern, then the selected session duration should remain intact (till the next blood test).
b) If the required pattern is the mild activation response, then the initial session time should be increased by K times (where K is the assumed transition factor).

7.4. If the blood test results following the first session are indicative of the strong activation response, then:

a) If the required pattern is the mild activation response, then the session time should be reduced by K times (where K is the assumed transition factor).
b) If the exercise response is the recommended activational pattern, then the initial session duration should be cut down by K^2 times (where K is the assumed transition factor).

7.5. If the blood indices after the first session are indicative of the stress response, then:

a) If the required pattern is the exercise response, then the session time should be additionally increased by K times (where K is the assumed transition factor).
b) If the recommended activational pattern is the mild activation response, then the initial session duration should be reduced by K^2 times (where K is the assumed transition factor).

7.6. If the blood tests following the first session are indicative of the stressed areactivity or the overactivation conditions, the procedure duration should be varied within the initially selected range during the next 7 to 10 days of therapy. In case that during this time you have not succeeded in bringing the patient out of the state of areactivity or overactivation, this time range should be changed for another one. When deciding on a new time range, the physician should follow the recommendations of Section 7.1.

7.7. Note: WBC indices may remain unchanged for a period after finishing the procedure due to rigidity of a reaction. This situation occurs e.g. when the adaptive response has been sustained for a long time before starting the TMB-treatment. In this case, the session time should be varied within the initially chosen range for as long as 7 days. If during this time the WBC indices remain unchanged, this time range should be changed for another.

7.8. If a standard activational pattern having been established and maintained within a selected time range has not led to the required therapeutic effect, the time range should be changed for another.

7.9. While selecting the transition factor (K), care should be taken that the elicited activational pattern will not be the stress response. For this purpose, you should be guided by the following rules:

a) When changing from the mild activation pattern to the strong activation response, select the smallest transition factor from the assumed Ks (if the K of this particular patient has not been defined), because it is always better to remain in the mild activation pattern than to enter the stress pattern.
b) When changing from the mild activation pattern to the exercise pattern, select the smallest transition factor from the assumed Ks, because it is better to stay in the mild activation pattern than to enter the stress pattern.
c) If changing from the stress response for the exercise pattern, you should select the greatest transition factor from the assumed Ks, as it is better to enter the mild activation pattern than to remain in the stress pattern.

7.10. In case of tension signs, to retain the desired activational response, the session duration should be slightly reduced. For this, divide the session time by $\sqrt{K}$ (ie reduce the duration by approximately 10%).

To shift from one adaptational pattern to the nearest upper-level pattern (e.g. to go from the tense exercise reaction to the mild activation response), a session duration should be slightly increased by $\sqrt{K}$ times (approximately 10%).

To go from one adaptational pattern to the nearest lower-level pattern (e.g. from the tense mild activation response to the exercise response), the session duration should be reduced by $K\sqrt{K}$ times, (approximately 30%).

7.11. When conducting repetitive TMB-sessions, use the same method to select and set up the correct session time. Where there is risk of leukopaenia, the dosage of TMB-exposure should always be decreased until the exercise pattern is achieved (in the same or in the previous time range). After the WBC has reached above 5×10^9, the session time can be increased again to periodically elicit the desired activational response.

7.12. Between blood tests, it is always advisable to slightly vary the session time by 5-10% within the selected time range. The recommended period of these time variations (or blood sampling interval) is about 1 week.

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