Institute of Quantum Medicine

MILTA - HUMANITARIAN-INFORMATION TECHNOLOGIES
DESIGN & PRODUCTION COMPANY
(MILTA - PKP GIT)

QUANTUM THERAPY
IN DENTISTRY

Dentistry Application of Quantum Therapy Apparatus RIKTA

Methodological Guide for Physicians

Moscow 2001
The present Methodological Guide initiates into application of quantum therapy apparatus RIKTA in dentistry. There are described indications, contraindications and treatment methods for different stomatologic diseases. The given publications could be helpful for those who want to be better informed about this new and highly promising branch of contemporary medicine.

The guide is intended for physicians – dentists who are specialized in quantum therapy, and also will be useful for all the users.

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**FOREWORD**

Dear colleagues,

The Institute of Quantum Medicine and the Humanitarian-Information Technologies Design and Production Company (MILTA - PKP GIT) hereby offer a methodological guide on the use of RIKTA, a magneto-infrared-laser (MIL) quantum therapy apparatus, in practical dentistry. This guide is an addendum to the "Methodological Recommendations on the Use of the RIKTA Magneto-infrared-laser Quantum Therapy Apparatus" [1] and has been developed by stomatologist, Ph.D., M.R. Genkin.

Quantum medicine is known as a promising and highly effective branch of contemporary medicine. It owes its birth to the findings of quantum physics, the millennia-old stock of knowledge gained by Oriental medicine, and the high technologies of the present day. Quantum medicine is based on interactions between living organism and electromagnetic waves. When certain types of electromagnetic fields are externally focused on a living organism, that is a case of quantum therapy, prevention, and rehabilitation. When we analyze and measure internal electromagnetic radiation generated by a living organism, we deal with quantum diagnostics. Quantum medicine, therefore, encompasses all elements of human health care: prevention, diagnostics, therapy, and rehabilitation. Firstly, the term "quantum medicine" underscores the priority of quantum physics in the postulated quantum nature of living matter and in the attendant query to ensure the sustainable health of a living organism. And secondly it suggests extremely low and absolutely safe energy impact levels of electromagnetic radiation on the human body. Indeed, the quantum is the smallest elementary quantity of electromagnetic radiation.

Quantum therapy deals with very low energy levels typical for information exchange processes. Many effects produced by quantum
therapy can be explained by an information, rather than energy-related, positive impact on intracellular processes and intercellular interactions.

In the process of its evolution, the human race has continuously been submerged in a natural system of electromagnetic fields and is part of it. Life is impossible without the impact of the Earth's natural electromagnetic fields, to which all living creatures have become adjusted in the course of their evolution. There are electromagnetic fluctuations everywhere both in the external environment, and inside a living organism. Naturalists, physicists, biologists and physicians now take the view that electromagnetic radiation plays a paramount role in living processes. The reason why scientific thought had difficulty realizing this earlier is that the human being cannot feel electromagnetic influences directly. In addition, electromagnetic impact levels both inside and between living systems are so small that they cannot always be measured with sufficient accuracy instrumentally. Still, many phenomena occurring in living nature defy any other explanation than electromagnetic impact both at the micro level (atoms, molecules, and cells), and at the macro level (organs, systems, whole organisms, and communities of organisms). Electromagnetic fields are present in any chemical and physical process. Even when we take prescribed medication, we experience the effects of electromagnetic radiation. Under the impact of ferments, the drug is subjected to biochemical reactions, which provoke transfers of electric charges - electrons, and changes in the energy states of atoms and molecules. These biochemical transformations invariably produce some kind of electromagnetic radiation or other.

It is now obvious that living cells interact with one another, exchanging energy and, what is extremely important, trading information with the help of fluctuations in the infrared, microwave, acoustic, and other bands. What is particularly interesting is that a major role in intercellular interaction is played by optic coherent, monochromatic and polarized radiation, which is close in its parameters to the infrared laser radiation used in the RIKTA
technologies. parameters to the infrared laser radiation used in the RIKTA technologies.

Following many years of research, scientists and doctors have been able to select a combination of electromagnetic fields that exercise a most favorable influence on living processes. These produce synergies, i.e. mutually reinforcing effects in which the combined action of several types of radiation generates much greater effects than the sum of separate actions by each of the curative factors. The key physical factors of the RIKTA multi-factor quantum therapy technology are narrow-band infrared laser radiation, broadband infrared and broadband red radiation in the optical band; and a static magnetic field.

Sometimes, quantum therapy is equated with physiotherapy. This is not so because unlike conventional physiotherapy, quantum therapy affects deep-rooted processes of life occurring both at the level of atoms, molecules and cells, and at the organ and system level of the organism as a whole. Quantum therapy has proven able to help restore damage or malfunctioning in cellular membranes and thereby re-establish the severed information and energy links between cells, organs, and systems.

Here are the key effects that quantum therapy may arouse in an organism:

- at the level of cells: heightened energy exchanges in cells and tissues, intensified synthesis of protein - RNA and DNA, reduced excitability of receptors in cell membranes, improved indol and serototin exchanges in cerebral cells, normalized neurotransmitter levels, and calcium-blocking effect;
- at the level of organs: increased speed of blood flow, rheological and microcirculatory effects, regulation of adenohypophysis, normalized thyroidal functioning, stimulation of the genital glands, and coronoactive, antispasmodic and metabolizing effects; and,
- at the level of the system and organism as a whole: stimulation of specific and non-specific immunity, improved blood circulation, anesthetization, reduced excitability of vegetative centers, improved
conduction of nerve fibers, reduced glucocorticoid activity of the adrenal glands, reduced peroxidate oxidation of lipids, regulation of feedback, enhanced neurohumoral factors, increased production of ferments and ATF, reduced cholesterol levels, increased synthesis of collagen, improved trophic supply to tissues, increase regeneration of the epithelium and skin, prevention and treatment of cellulitis, normalization and increased synthesis of prostoglandines, and anti-inflammatory, anti-hypostatic, resorbent, sanogene, adaptive, stress limiting, hypolipidemic, and anti-oxidant effects.

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1. INTRODUCTION

Dentistry is one of the pioneer medical branches that became to apply laser radiation in clinical practice. The first works in this field have been performed at the end of the sixties - beginning of the seventies of the twentieth century.

Owing to fundamental investigations of the scientists: A.A. Prokhonchukov with co-authors, M.T. Alexandrov and some other authors [2-10] there have been revealed mechanisms of the laser impact on molecular, cellular and organ levels ultimately defining clinical effect.

In sum the multi-factor effects of the laser radiation are as follows: anti-inflammatory effect, normalization of microcirculation, reduced vessel permeability, antiedematic and trombolytic effects, increased oxygen content in tissues, stimulation of metabolism and repair processes, neurotropy and anesthetic effects, desensitizing effect, stimulation and correction of immunity, reduced aggression of microflora, increased cell resistance against pathogenic actions, etc.

In the eighties semiconductor pulsed lasers had come to take a place of low-power continuous-wave laser units. They have the following advantages in compare with the continuous-wave lasers:

- variable generation frequency of the laser beam;
- adequacy of the pulsed laser action with energetic parameters and resonance characteristics of cells;
- pulse mode, even with large energy levels, excludes thermal effects during a treatment of tissues.

The low-power pulsed lasers allow to selectively change different parameters (power level, pulse length and frequency) to choice optimum characteristics for a treatment of various pathologic processes and states.
At the end of the eighties there was arisen a new direction of laser therapy - quantum therapy that uses and summarizes effects of four physic factors: static magnetic field, infrared and red LED-radiation, and infrared laser radiation. The summary effect of the aforesaid factors and synergism of their actions increase the therapeutic efficiency.

RIKTA apparatus designed by the scientists of PKP GIT is intended for clinical treatment of wide spectrum of the diseases with a help of magnetic-infrared-laser quantum therapy. Effects and mechanisms of quantum therapy influence on biologic tissues, and also construction and operation of the RIKTA apparatus have been earlier described in detail in different methodical textbooks, so there is not available the detailed analysis of this issues in the present publication.

The apparatus provides simultaneous complex treatment by infrared laser radiation and infrared + red LED-radiation in combination with the magnetic field of a special form. The apparatus can generate laser radiation with a pulse repetition frequency of 5, 50 and 1000 Hz at the pulse power of 4 W and 8 W and wavelength of 0,89 m. The given automatic exposure time - 1, 2, 5 and 10 minutes. The apparatus could be equipped with the light guide nozzles No. 1 (proctology and gynecology), No. 2 (dentistry) and No. 3 (laser puncture).

RIKTA apparatus has been used in practical dentistry since the year 1992. During this period the apparatus proved itself in the best way, providing high efficiency and reduced time of the treatment of different stomatologic diseases.

The present methodological recommendations contain the results of the author's clinical experience and also data of other authors related to the fields of treatment where we don't have own observations. This allows creating the most complete picture of the treatment for all the sections of dentistry.
2. INDICATIONS AND CONTRAINDICATIONS

2.1. Indications

Below is a list of stomatologic diseases and pathologic processes that are recommended to be treated with the help of quantum therapy.

PREVENTIVE DENTISTRY

- Diseases of dental hard tissues
- Prevention of dental caries
- Prevention and treatment of pulpitis
- Prevention and treatment of periodontosis
- Treatment of noncarious enamel lesions
- Diseases of parodontium
- Treatment of gingivitis (catarrhal, necrotic-ulcerative, hypertrophic)
- Treatment of parodontosis
- Diseases of mucous membrane of the oral cavity
- Stomatitis (acute, chronica/relapsing, aphthous, herpetic, necrotic-ulcerative, candidiasisous)
- Lichen ruber planus (erosive-ulcerative form)
- Chilitis (eczematous, glandularis, etc.)
- Stomatoneurologic diseases
- Trifacial neuralgia and nevoids
- Glossalgia
- Neuritides of facial nerve

OPERATIVE DENTISTRY

- Periostitis
- Alveolitis
- Abscess, phlegmon
- Lymphadenitis
- Osteomyelitis
- Periocoronitis
- Postoperative period
- Arthritis, arthrosis of temporomandibular articulation
- Maxilla trauma (maxillofacial fracture)
- Diseases of salivary glands

PROSTHETIC DENTISTRY

- Decubital (prosthetic) erosion, ulcers
- Traumatic damages of mucous membrane

ORTHODONTIA

- Accelerated translocation of teeth (including for adult people)

2.2. Contraindications

A list of contraindications for applying quantum therapy is highly restricted:

- Septic, acute infections and febrile states of diseases with uncertain etiology
- Diseases of hematopoietic system
- Diseases of central nervous system (schizophrenia, epilepsy)
- Oncology diseases
3. METHODS OF QUANTUM THERAPY RELATED TO STOMATOLOGIC DISEASES

3.1. General information

Essential feature of laser radiation is its ability to provide medical effect in a wide range of dosages: a difference between minimum and maximum doses is able to achieve 1-3 orders and more. Nevertheless there are typical values of the treatment parameters proved in practice that provide high efficiency of the treatment process and improve biologic processes in tissues.

Because of using pulsed laser in the RIKTA apparatus a dosage can be changed by means of changing pulse-repetition frequency and duration of quantum therapy procedure. The manual written by Prof. V.I. Korepanov [4] could be recommended to define the required dosage of the laser radiation.

But in practice a physician can change the treatment parameters in wide enough range, considering specific evidence of the process and the patient's peculiarities.

We have not own observation results regarding prevention and treatment of caries and pulpitis with the help of quantum therapy. But according to A.A. Prokhonchukov and R.I. Mikhailova, applying laser therapy for a treatment of these diseases provides positive effect. There was registered increasing resistance of the teeth enamel and reducing caries growth after preventive irradiation of necks and crowns of the teeth. The other results of the irradiation were prevention of the pulp inflammation during a treatment of deep caries and preservation of the pulp viability in a case of the vital forms of pulpitis treatments.

Please find below the results of observations and parameters of laser radiation related to stomatologic diseases of different nosology (summary data of our own observations and results of other authors including listed in Chapter 5 [1-10]).
3.2. Prevention of caries

Irradiation of necks and crowns of the teeth: power flow density is 60-80 mW/cm², exposure time is 1 min. The treatment course consists of 2-3 procedures (A.A. Prokhonchukov, R.I. Mikhailova), 1 course per half-year. The treatment results are increased resistance of the teeth enamel and reduced caries growth.

3.3. Prevention and treatment of pulpitis (data of publications)

To avoid stimulation and reactive inflammation of the pulp (leading to development of pulpitis) during the treatment of deep and medium caries, a fundus of the carious cavity is irradiated by means of light guide at the power flow density of 150-200 mW/cm². The procedure duration is 5 minutes. When the pulpitis treatment is performed on condition that the pulp shall be preserved in full or partially, a fundus of the carious cavity and/or projection of an ostium of the root canals are irradiated from two sides at the power flow density of 150-200 mW/cm² during 2-3 min. (When applying a procedure of quantum therapy, light guide nozzle No. 2 shall be used at the frequency of 1000 Hz during 2-3 min.).

3.4. Prevention and treatment of apical periodontitis

In a process of the treatment of pulpitis there is a possibility of reaction and irritation of periapical tissues. To avoid this effect, a region of the fang (apex radicis dentis) shall be irradiated before filling with the help of the light guide nozzle No. 2. Frequency is 1000 Hz, exposure time is 2-3 minutes. In a case if a painful syndrome arises after the filling, 2-4 additional procedures shall be performed at the frequency of 100 Hz during 5 minute to eliminate the pain. For a treatment of periodontitis it is necessary to initially irradiate projection of the fang at the frequency of 1000 Hz during 5 minutes to
suppress inflammation and pain (2-4 procedures). Then additional irradiation at the frequency of 50 Hz during 3 min shall be performed to stimulate regeneration of the osseous tissue. The treatment course is 3-5 procedures.

3.5. **Quantum therapy of parodontium diseases**

Phase 1. The treatment of gingivitis and parodontitis: to provide anti-inflammation effect it is necessary to use light guide nozzle No. 2 at the frequency of 1000 Hz during 2 min per gingiva.

Phase 2. Considering probability of dystrophic-destructive effects in the bone, the irradiation with the help of light guide nozzle No. 2 at the frequency of 1000 Hz + 50 Hz during 1 min per gingiva shall be performed to stimulate repair processes. The treatment course is 10-12 procedures.

Treatment of parodontosis (dystrophy process in gingiva and osseous tissue) shall be performed at the frequency of 50 Hz during 1 min per gingiva at each sore tooth.

Using quantum therapy for a treatment of parodontium diseases provides prompt elimination of the inflammatory effects in the parodontium tissues and, above all, permanent stabilization or prolonged remission period in a case of full-grown phases of the disease.

3.6. **MIL-therapy of mucous membrane of the oral cavity**

The widespread types of pathology of a mucous membrane of the oral cavity are different forms of stomatitis: acute and recurrent aphthous stomatitis, herpetic stomatitis, necrotic-ulcerative stomatitis, candidiasis stomatitis, etc. Relating to all the forms of stomatitis the first 2-3 procedures of quantum therapy are performed with the help of light guide nozzle No. 2 in the anti-inflammatory mode of irradiation: 1000 Hz, 5 min, contact method (a tip of the nozzle is pressed to the surface). Then
there shall be used a mode of stimulation of the repair processes in the mucous membrane: 50 Hz, 2 minutes. The treatment course is usually consists of no more than 5-7 procedures. The earlier the treatment starts the sooner the improvement and recovery effects come. For example, herpetic stomatitis could be stopped during 1-2 procedures if the treatment has been started at the proper time.

A treatment of erosively-ulcerous form of lichen rubber planus of the mucous oral cavity produces positive results after 5-7 procedures (that are performed using the same scheme as for stomatitis). The treatment results are elimination of inflammatory effects, epithelization of erosions and extension of a remission period. Quantum therapy could be also recommended for a treatment of other diseases of the mucous membrane, such as cheilitis, allergic lesions, etc.

3.7. Laser therapy of stomatoneuralgic diseases

The most often diseases in dentistry practice are neuralgia and neuritis of branches of the trigeminal nerve, glossalgia. Quantum therapy is performed by means of influence on painful and trigger zones using parameters that provides analgetic effect - 1000 Hz, 1 min. per zone. Besides, the laser reflexotherapy is very effective for a treatment of stomatoneuralgic syndromes. The treatment procedure provides irradiation of corporeal and auricular points with the help of light guide nozzle No. 3 at the frequency of 1000 Hz during 1 min. per point. The treatment course is 10-15 procedures. As is well known, energy parameters of laser radiation are close to parameters of the cell metabolism, and the laser radiation is an adequate stimulus and, in addition, has neurotropic influence providing analgetic effect. The procedure is performed with the help of light guide nozzle
No. 3 specially designed for reflexotherapy.

3.8. Treatment of inflammatory processes in maxillofacial region

In the beginning of the treatment course there shall be used anti-inflammatory mode of irradiation: for the first 2-3 procedures - irradiation of a tooth cavity region from two sides through light guide nozzle No. 2, or a contact percutaneous focal irradiation at the frequency of 1000 Hz during 10 min.

As the inflammation calms down, usually after 2-3 procedures, the next procedures shall be performed in stimulating mode of the irradiation (especially for the osseous tissue): 50 Hz, 3 min.

The treatment course consists of 5-7 procedures.

Applying quantum therapy for the treatment of inflammatory processes in the maxillofacial region promotes prompt elimination of inflammatory effects, removal of pain and recovery in a case of serious pathologic processes.

3.9. Treatment of traumata of maxillofacial region (maxillofacial fractures)

Relating to maxillofacial fractures, especially in a case of applying osteosynthesis, the quantum therapy is used both as prophylaxis (to prevent inflammatory complications) in a mode of irradiation of the fracture region at the frequency of 1000 Hz during 2-3 minutes, and as stimulator of osteogenesis and consolidator in the irradiation mode of 1000 Hz, 1 min. The treatment course is 5-7 procedures. There has been registered more even running of the disease and more fast rehabilitation.

3.10. Treatment during postoperative period
To stop the pain, eliminate the edema and other inflammatory effects and also to prevent complications for postoperative period, the laser irradiation of the focus shall be provided at 1000 Hz frequency during up to 10 min. The treatment is performed percutaneously or locally in the oral cavity with the help of light guide nozzle No. 2. Applying quantum therapy with respect to stomatologic patients allows to avoid complications, precipitate healing and shorten recovery period.

3.11. Arthrosis and arthritis of temporomandibular articulation

Anti-inflammatory and analgetic effects in the following irradiation mode: 1000 Hz, 10 minutes per articulation region. The treatment course is 10-15 procedures. Painful auricular points could be also irradiated with the help of light guide nozzle No. 3. Repeated treatment courses could be performed according to indications, but not earlier than after one (1) month. The treatment results are elimination of pain and inflammations, and also removal of limited mouth opening.

3.12. Treatment of decubital erosion and ulcer

Decubital erosion and ulcer (consequences of removable dentures or edges of crowns) are ordinary in orthopedic practice. Anti-inflammatory and wound-healing irradiation mode is used for the treatment of the disease focus: light guide nozzle No. 2, 1000 Hz + 50 Hz, 5 minutes per each point at each frequency. Providing quantum therapy in these cases promotes prompt healing of traumatic damages of the mucous membrane. Quantum therapy could be also used for a treatment of the gingiva traumata during preparation of teeth for placing the crowns. The therapy stimulates healing and prevents inflammatory reactions.

3.13. Diseases of salivary glands (acute and exacerbated sialoadenitis)
Anti-inflammatory parameters of the treatment are used for the first procedures and then these parameters shall be combined with the parameters stimulating secretory function. A type of the treatment: percutaneous or contract irradiation in the oral cavity through light guide nozzle No. 2 at the frequency of 1000 Hz + 5 Hz during 5-10 min at each frequency.
The treatment course is 5-7 procedures.

3.14. Quantum therapy in orthodontia

In orthodontia, especially with respect to adult patients, it is possible to use the stimulating mode - 50 Hz, 5 min, to precipitate the teeth translocation (especially when performing corticotomy and frenulum operations).
The treatment course is 5-7 procedures.

3.15. Resume

Accumulated experience confirms high functionality and advantages of quantum therapy as applied to dentistry practice. Positive effects provided by applying quantum therapy (improvement of the patient state, reduction of the treatment and rehabilitation periods) have been recorded in 90% cases.

4. CONCLUSION

Dear colleagues!

The present methodological guide is the first of the issued by our organization - MILTA - PKP GIT - that is completely devoted to the items of using quantum therapy in dentistry. It contains the experience results of applying various remedies and methods for a treatment of different stomatologic diseases that were picked up by the author from different publications devoted to this problem.
As physicians will use the guide and we will accumulate own experience, the methods could be inventively modified and developed. We will very appreciate if you can send to our address any new methodical developments and statistical results of the patients treatment to include them to next editions of the guide. May the gratitude of the cured patients be the best bounty for you and us! We want to wish you every success in your noble work - healing of people.

MILTA - PKP GIT Team

5. REFERENCES