

Conceptual and technological features
Russian school of scientific music therapy
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The first attempts at real scientific research into the influence of music were undertaken in Russia at the end of the 19th and beginning of the 20th century (Tarkhanov I.R., Dogel I.M., Sechenov I.M., etc.), then in the 60s-70s of the 20th century (Zakharova N.N., Avdeev V.M., Grineva I.M., Mogendovich M.R., Polyakova V.B. and others). However, the full-fledged formation of the school of scientific music therapy also began in Russia, but already in the early 90s.

The main milestones in the development of music therapy in Russia

1993 - developed and clinically applied vocal therapy, a method of treating asthma, other diseases of the respiratory, cardiovascular and nervous systems, as well as general healing of the body with the help of academic singing.

1998 - research began on the influence of music on cell cultures in vitro.

2003 - The Ministry of Health of the Russian Federation approved the manual for doctors "Methods of Music Therapy" (Razumov A.N., Shushardzhan S.V.).

2005 - the NEUROHUMORAL RESONANCE THEORY was formulated, which became the scientific basis of music therapy.

2009 - a breakthrough method of anti-aging music therapy - Meso-Forte technology was developed and patented.

2011 - an innovative method of musical reflexology and pain relief - AkuTon therapy - was developed.

2012 - acoustic algorithms were discovered that regulate the level of hormones in the blood.

2014 - identified acoustic algorithms that activate the proliferation of leukocytes and hematopoietic stem cells in vitro.

Conceptual features of the Russian school of scientific music therapy

Over the long years of intensive research, distinctive conceptual features of the Russian school of music therapy have been formed, which distinguish it from all other schools that have formed in the international community by now.

1. Music is viewed as an art and as a physical phenomenon, and the effectiveness and mechanisms of music therapy should be evaluated in terms of evidence-based medicine.

2. To understand the mechanisms of action, the features of complex the body's reactions to acoustic influences: a) neuropsychological; b) hormonal; c) reflex-physiological; d) adaptive; e) regenerative.

3. The physiotherapeutic aspects of acoustic effects on

the organism of the audible spectrum (16–20,000 Hz) and infrasounds, in combination with algorithms and intensity of effects.

4. The revealed regularities are embodied in health-improving, rehabilitation and preventive technologies.

What are the main directions of research carried out by our school for more than twenty years?

I. Research on vocal therapy (1993-2003).

Vocal therapy is a special training and treatment system based on bel canto principles. Conducted clinical, physiological and biophysical studies have made it possible to study:

1. How singing affects the internal organs and blood circulation.
2. How vocal therapy affects brain activity and mood.
3. What vibrations occur during singing in the internal organs, and how you can use the mighty power of chanting in your wellness practice.
4. How to best use vocal therapy in clinical practice.

5. How to apply vocal therapy for personal development and creative abilities.

II. Research on the effects of music on brain and mental activity condition (1995–2010) was carried out using EEG, magnetic resonance tomography, psychological tests

The patterns of perception of various types of music are revealed.

III. Music, meridians and acupuncture points (1994–2014) It was found that the contact effect directly on the acupuncture points significantly affects the electrical conductivity of the skin:

- 1 Major keys and fast tempos tend to increase conductivity values.
2. Major and minor keys at a slow pace, smooth melodies reduce the same indicators (S.V. Shushardzhan, 1998, 2005).

At the same time, it was revealed that various musical instruments and timbres have a selective effect on internal organs and systems. For example, strings - violin, guitar, etc. - cause positive (corrective) changes in the points of the heart meridian (according to the R. Voll method). Thus, harmonious, flowing music with the use of stringed instruments steadily lowers blood pressure in persons suffering from mild hypertension.

IV. Studies of musical and acoustic effects on the skin (2005–2015)

It was revealed that contact sound effects cause significant changes in skin microcirculation and an increase in the pain sensitivity threshold.

V. Research in the field of cellular acoustics (1996–2014) was carried out in the course of experiments on various cell models. The term "cellular acoustics" (S.V. Shusharjan) was proposed in 2013. He marked the birth of the scientific

a direction dealing with the study of the influence of acoustic fields on living cells with the search for regulating parameters of exposure for their subsequent use in medicine.

5.1. The influence of music on tumor cells in vitro. In this series experiments with the use of the radioisotope method investigated the ability of various types of music to influence the activity of DNA synthesis in a culture of tumor cells (melanoma of the BRO line). It was determined that after musical-acoustic influences the intensity of absorption of radioactive³H-TIMIDINE, which, under the conditions of the experiment, depended on the nature of the acoustic effect.

5.2. The influence of music on microbes in vitro. Suppression of cellular activity of E. Coli by 37.5% and Staphylococcus by 12.5% after using special programs of classical and sacred music.

5.3. The influence of music on blood in vitro. As a result of experiments, it was shown that direct impact of the special program T-8 on test tubes with blood for 60 minutes leads to significant changes in the cellular and biochemical composition of the blood. In particular, WBC - the total number of leukocytes increased 4.7 times, while the number of neutrophils increased 4.7 times, and the number of immature granulocytes increased 18.3 times!

The appearance of a significant number of immature cells indicates the participation of hematopoietic stem cells in the process.

Vi. Research: music and hormones

We have established 3 main algorithms for sound effects that cause characteristic changes in the level of hormones in the blood: S-algorithms, Algorithms, HR-algorithms. HR-algorithms are maximally involved in Meso-Forte therapy and are used to maintain the level of hormones in the blood in the area of average values of the norm (ideal norm), which is important for the healing of the body and inhibition of the aging process

The neurohormonal resonance theory was formulated in 2005 and summarized the main research results. Here are its main points:

1. The perception of sounds in the audible range of 16-20,000 Hz is carried out through the multilevel acoustic-reactive system of the body.

2. Each part of the acoustic-reactive system in response to sound signals generates its own reactions:

- the organs of hearing initiate nervous, hormonal, psychological reactions;
- the skin works as a membrane that perceives and transmits sound signals of low intensity;
- organs and cells can react according to the resonance principle;
- acupuncture points and meridians react to acoustic signals according to the neuro-reflex principle.

All of the above factors provide the complex psychological and physical effects of music therapy.

Armed with such conceptual and theoretical views, we were able to penetrate quite deeply into the mechanisms of music therapy. Since 1993, our school has published more than 300 scientific papers, including

candidate and doctoral dissertations, monographs, textbooks, guidelines for music therapy.

Developed and dozens of patented innovative musical therapeutic technologies that should be more widely introduced into practice for the benefit of society. Currently, they are embodied in music therapy rooms of various profiles under the Doctor Music brand. An important feature is the provision of such turnkey offices, including: supply of equipment, training, transfer of know-how, trademark, license agreements and advertising and information materials.

Musical reflexology room

The office is equipped with an innovative hardware and software complex "AkuTon", capable of providing music psychotherapy with simultaneous acoustic magnetic vacuum reflexology. AkuTon-therapy eliminates back pain, joints and muscles; successfully replaces needles when working with acupuncture points; strengthens the immune system, increases sexual activity, and successfully fights stress.

The vocal therapy room is a unit where, with the help of individual and group vocal therapy effectively treat diseases of the respiratory system, nervous system, improve health and inhibit the aging process. Singing therapy is very popular among the population.

The children's room of music-art therapy is fully equipped with equipment and methods for the recovery and creative development of children, as well as for the correction of neurotic disorders: autism, mental retardation, speech disorders, etc. Effective technologies are used: elementary music therapy, play vocal therapy, music-art therapy, music-puppet therapy.

Music therapy room for pregnant women is designed for teaching future mothers to the skills of creating a healthy acoustic environment in the family, beneficial for the health of the fetus and the pregnant woman herself. There are also practical classes to train women to control fatigue, fear of pain and keep blood pressure and heart rate in physiological norms with the help of music and singing.

The health and beauty cabinet is equipped with an exclusive hardware software complex (AIC) "Bonnie Grand", in which the biological activity of musical and acoustic fields is transformed into a breakthrough technology of rejuvenation - Meso-Forte therapy.

Centers and offices of "Doctor Music" are opening in different cities of Russia and very successfully operating in certain European countries. What is the reason for the rather intensive development?

1. Relevance and exclusivity.
2. Versatility: no age or gender restrictions.
3. Comprehensive results: rejuvenation, stabilization of the psyche, strengthening health and personal development.
4. Efficiency: the technologies used in the centers "Doctor Music" give excellent results and are completely safe.
5. Turnkey Doctor Music franchise: supply of equipment, know-how,

trade marks, licensing agreements, information materials, training.

Studying programs

Our school has repeatedly held offsite seminars and courses in different countries, including: England (1996, 2003); Cyprus (1995-2001); France (1998); Italy (1999); Germany (2004); Bulgaria (2010–2015); Romania (2011).

Currently, a joint educational project is being carried out within the framework of the International Strategic Alliance "Doctor Music" & the European Academy of Music Therapy - intensive courses in music therapy with the issuance of a European diploma.

We take part in international research projects. Our partners were: University of Toronto (Canada); International Association "Music and Medicine" (15 countries), Capilano University (Canada), Institute of Music Therapy Solinio (Italy), etc. Evidence of the international recognition of our achievements are numerous foreign publications in authoritative publications, including a very honorable participation in issue 1 -th in the world of the International Dictionary of Music Therapy, published in Canada in 2013 (Capilano University).

In March 2016, on the initiative of the German side, a meeting was held in Moscow with a delegation from the Bavarian Academic Center for Central, Eastern and Southeastern Europe, BAYHOST, which oversees partnership programs of Bavarian universities. Our German colleagues were interested in our scientific developments and training programs. Wolfgang Mastnak, Professor of Music Psychology at the Graduate School of Music and Theater in Munich, noted the outstanding role of our school of scientific music therapy. The meeting discussed projects of bilateral cooperation in the field of music therapy in educational programs and joint scientific research.

In conclusion, I would like to note that music therapy fulfills a very important mission - to serve as a kind of bridge from illness to health, and further to - development of personality and creativity. And this is not only a theoretical thesis of the Russian school of scientific music therapy, but a guide to action, repeatedly confirmed by practical results.

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