

HYDRAULIC REHABILITATION AND PARALYMPIC SWIMMING

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1. Hydraulic rehabilitation stands for human training and education in and by means of water environment in order to achieve a qualitatively new and higher level of his physical and social activity.

The term 'hydraulic rehabilitation' has globally appeared as a pedagogic trend in pedagogic researches on the initiative of Russian scientists, who introduced it at International Symposium 'Biomechanics and medicine in swimming. 28.06-02.07.98.-Jyväskylä', Finland. Jyväskylä, Finland, 1999. Ever since, hydraulic rehabilitation is added to the agenda of multiple International conferences dedicated to physical culture, adaptive physical training, sports and health.

2. Paralympic swimming as a sport activity at Paralympics, world championships and cups, European championships and cups, national championships is a strong training and educational aid for handicapped persons. It gives clear hope, confidence, certainty and starting impulse for autoshaping an independent and active social personality, social importance and pride.

3. Paralympic is the top of pyramid, avatar and highest achievement of hydraulic rehabilitation. The pyramid base is many years of parental care, and contributions by coaches, scientists, nation and International community. It rests upon hydraulic pedagogy – pedagogical hydraulic rehabilitation. The pyramid slogan says: 'From mass hydraulic rehabilitation and recovery of the population to Paralympic heights'.

4. Pedagogical hydraulic rehabilitation is being developed by Russian scientists in the P.F. Lesgaft National University for Physical Culture, Sports and Health in Saint Petersburg at the Hydraulic Rehabilitation and Physical Training & Sports Activity Technology Department. The scientists summarise and analyse a centuries

experience of using water environment and its compounds in regularities, phenomena and properties of human/water interrelations.

5. Multiyear studies and pedagogical experiments held by Prof/ D.F. Mosunov and Associate Prof. M.D. Mosunova (1998-2002) revealed a triple reflection/absorption effect for own electromagnetic emissions of human systems and organs, which uncovers and explains the health-improvement mechanism of water environment on the human body. The essence of the free water/human interrelation mechanism resides in the fact that each human system and organ emits electromagnetic fields within its own amplitude and frequency band. The emission spectrum is determined by the morphofunctional structural level: from atoms and molecules to entire organs.

Human emissions in the air go beyond the skin and dissipate gradually. When a person plunges into water, electromagnetic emissions reflect in a mirror-like fashion – partially from stuck layer of water and partially from its external layer, and change their polarity. A portion of emissions is released to the surrounding free water. This portion of emissions from human water containing systems and organs falls into the resonant mode of interaction with electromagnetic emissions by free water and gains momentum without changing its polarity. Amplified emissions partially return to the body. Slacking of electromagnetic coupling or chaos occurs at the boundary of the affected (abnormal) area of the human morphofunctional system or organ. However, following the theory by I. Prigozhin, Nobel winner in physical and chemical sciences, chaos results in autoshaping of a new qualitative level of system evolution. Such autoshaping is thought by Saint Petersburg scientists to be the root cause of effective hydraulic rehabilitation not only of a handicapped person, but also provides greater opportunities for healthy lifestyle, and more active physical and social activity.

6. The above said proves positive results of hydraulic rehabilitation attained by professors and students of the P.F. Lesgaft University in Saint Petersburg for over 3,500 kids with heavy injury and disease implications, infantile cerebral paralysis,

epilepsy, autism, Down's syndrome, dropsy of brain, microcephaly, physically and mentally deranged, and suffering from somatic and mental abnormalities.

7. Fundamental researches conducted as part of hydraulic rehabilitation studies held at the Department helped develop means and methods for overcoming critical situations occurring during hydraulic rehabilitation and when teaching to swim the kids with light or heavy disease implications and abnormalities, means and methods of hydraulic rehabilitation and teaching to swim the kids suffering from cerebral palsy, epilepsy and autism.

Systematic course in hydraulic rehabilitation helps kids to overcome epileptic seizures with loss of consciousness. Multiple facts can be stated: 10-15 year kids with physical and mental retardation articulate their first words, sounds and start to speak, solve self-service tasks independently – at table, at home and in public places.

7. A 'Hydraulic Rehabilitation' educational programme for higher schools approved by the RF Ministry of Education is in place in Russia since 2005. The programme is aimed at producing young specialists in 'Adaptive Physical Training (Physical Training for Persons with Poor Health)', who will be aware and skilful in work with kids and adults in the area of Paralympic swimming and hydraulic rehabilitation.

8. Successful performance that showed Russian swimmers at Paralympics in Athens and Beijing and national team rejuvenation speak of higher interest in sports achievements not only of swimmers and coaches, but also governmental and public organisations.

This, primarily, adds hopes to kids themselves, their parents, and adults, including former swimmers, of becoming Paralympic champions, World champions, European champions, and the best and first in the sport that does appeal to them. To be like 5-time Paralympic champion Andrey Stokin, 3-time Paralympic champion Dmitry Kokarev, 3-time Paralympic champion Oksana Savchenko, aged Paralympic champion, participant in three Paralympics Albert Bakaev.

9. Each state participating in Paralympics, world and European championships may be proud of outstanding athletes – champions, record-holders and athletes that became national sports heroes. Each country must know their heroes, make wide propaganda of national successes, however wide propaganda and agitation for sports and healthy lifestyle leaves much to be desired.