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**RUĐENKO R.***Lviv State University of Physical Culture*

## The theoretical analysis content correctional massage for athletes with disabilities

**Abstract. Purpose:** to analyze the content authoring methodology of correction massage for athletes with disabilities. **Material and Methods:** analysis and synthesis of information for scientific, methodical and special literature; pedagogical supervision; analysis of medical cards; methods of mathematical statistics. The study involved 60 athletes with disabilities qualifications of different nosological groups. **Results:** of correction massage technique developed taking into account the level of physical activity, nosological group, physiological effects of massage techniques on the system. Forms of correction massage must meet the intensity of physical activity, main course and related diseases in the training cycle athletes with disabilities. **Conclusions:** apply total, partial, intermittent, local, segmental-reflex massage, paravertebral zones, taking into account intensity physical activity, individual tolerance for exercise.

**Keywords:** correction; massage; athletes with disabilities; training and exercise.

**Introduction.** A full renewal with application of different methods of its stimulation, improvement of an organism in general is important in the conditions of the modern system of sports training of sportsmen with limited physical capacities when the good result can be reached only through effective training with use of considerable loadings [1; 4]. The great value was got by massage as means of physical perfection of a sportsman, a faster achievement of competition form by him and its long preservation, and also effective renewal of physical working capacity. Massage is improved; new techniques are developed on the basis of researches of foreign and Ukrainian scientists of A. A. Biryukov, V. P. Zotov, V. K. Kramarenko, V. V. Orzheshkovsky, V. N. Fokin, D. I. Chepchik, O. Y. Shterengerts. Deep and comprehensive scientific studies promoted the disclosure of mechanisms of physiologic action of massage, the development of its separate techniques. It is a big merit of leading experts of the branch of massage – A. A. Biryukov, V. I. Vasichkin, A. F. Verbov, M. A. Yeryomushkin, K. B. Petrov, M. M. Pogosyan, V. N. Fokin. The researches of V. I. Dubrovsky (2004; 2009) draw attention, which are devoted to a problem of renewal of sportsmen, traumatism prevention, and application of different types of massage. The powerful scientific researches of the present is an acquisition of the Ukrainian scientists, in particular, an application of massage in recovery therapy which are devoted to the scientific completions of P. B. Yefimenko (2013, 2015), R. E. Rudenko (2010–2014), M. V. Stepashka, L. V. Sukhostat (2010). A. I. Kravchenko, V. I. Goncharenko (2008) considered a question of renewal of the efficiency of sportsmen-football players with limited opportunities by means of acupuncture. Application of a sports massage, aerobic exercises in the training process was investigated by Bogushcheski Dariush, Kovalska Silvia, Adamchuk Yakub Gregoshch, Byaloshevski Dariush [9]. The conclusions of authors testify to the efficiency of massage during warm-up, in particular, for the improvement of performance of physical exercises, psychomotor functions, traumatism prevention. The influence of thermal procedures in a renewal at disabled sportsmen swimmers are proved in the scientific researches of T. Prystupa [10]. It is noted by the author that intensity of muscles has a wavy character during training; the Finnish sauna reduces the raised tone of muscles at rest, and supports fit body condition. These conclusions confirm the possibility of use of sauna in a recovery process of sportsmen with limited physical capacities. There are evidence-based data on a positive effect of application of hydrokinesitherapy and a vibration massage of a back with a needle vibrator (especially paravertebral sites) muscles of shoulder girdle, and also vibration of a stump at amputated [4; 6]. The scientific researches of P. B. Yefimenko (2015) are devoted to mastering a technique of a medical massage for students of the direction “Health of a person”. The author offered a technique of interest of students-rehabilitologists to studying of a discipline “Medical massage” [2]. In modern scientific literature not enough attention is paid to studying of a question of the coherence of physical activity and the course of the main disease, methods and means of renewal by non-drug therapy, in particular, application of massage for disabled sportsmen. An actual problem for today is the improvement and search of means and methods of renewal which will provide the increase of physical working capacity which will give the chance to improve sports results of sportsmen with limited physical capacities.

**Communication of the research with scientific programs plans, subjects.** The research is executed according to the priority thematic direction “Sciences about live, new technologies of prevention and treatment of the most widespread diseases” for the period till 2015 which is approved by the Cabinet of Ukraine (the resolution of September 7 in 2011 No. 942, Kiev), the priority thematic direction “Aimed researches on questions of harmonization of the system “The person — The world “ and the creation of the latest technologies of the improvement of quality of life”, the scientific researches and the development of the priority thematic direction, for 2012-2015 of Lvov state university of physical culture (It is approved by the academic council, the protocol No. 7 of 06.03.12).

**The objective of the research:** to carry out the analysis of the maintenance of an author’s technique of a correction massage for disabled sportsmen.

**Material and methods of the research.** The researches were conducted on the basis of children’s youthful sports school of disabled people “Galychina” with the qualified disabled sportsmen who are engaged in swimming, handball, table tennis, track and field athletics. And also members and candidates for the National Paralympics national team of Ukraine on archery, wrestling, fencing on carts, swimming were the object of the research. 60 disabled sportsmen of different nosological groups took part in the researches: with traumatic defeats and diseases of a head and spinal cord, after traumatic amputation of extremities, with consequences of a children’s cerebral palsy, diseases of the visual and acoustic analyzer (the decision of the commission on questions of ethics of Danyl Galytskyi Lvov national medical university, the protokol No. 2, of 16 February 2015).

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The analysis and synthesis of data of scientific, methodical and special literature are carried out; pedagogical supervision; analysis of these medical cards; methods of mathematical statistics. The analysis of these medical cards gave us the chance to estimate the course of the basic and associated diseases, to learn monitoring of indicators of biochemical control of individual tolerance on physical activity. The statistical data processing was carried out by means of packages of the applied programs Microsoft Excel for Windows, SPSS 10 for Windows, Statistica 6.0, they are defined: arithmetic average ( $\bar{X}$ ), error of an arithmetic average ( $S_x$ ), dispersion  $D_x$ , average square deviation ( $\delta_x$ ), coefficient of a variation ( $V$ ), coefficient of correlation ( $r$ ) and so forth. The standard statistical methods were applied.

**Results of the research and their discussion.** The growth of physical and psychological activities of disabled sportsmen can lead to considerable biochemical changes in an organism, in particular, hypoxias of muscles, hyper tone of muscles, violations of microcirculation of muscular blood-groove which will suppress even more function of movements that is their motility suffers more, than at healthy people [1; 5]. Physical culture and sport in life of disabled people have therapeutic value. Classes by improving physical culture, carrying out sessions of massage, sports, can be an addition to usual methods of rehabilitation [1; 8]. It is difficult to overestimate their value for renewal of forces of a disabled person, his opportunity to coordinate the actions for the development of speed and endurance.

The special influence of methods of massage is defined in an author's technique of a correction massage for disabled sportsmen. The interrelation between the general and special influence of methods of massage is difficult as there is a differentiation of mediate action on the improvement of work of the bodies and systems of an organism which are connected with the course of the basic and associated diseases, overcoming of restrictions of mobile functions, increases of working capacity, improvement of health, in general. It is predetermined by that the process of fatigue at disabled sportsmen comes quicker through incoordination of movements and performance of exercises in unnatural biomechanics [4]. In particular, a technique of smoothing is gymnastics for blood vessels of skin: it expands them, promotes disclosure of reserve capillaries. Stroking increases viability of cellular elements of all layers of skin, and increases a number of erythrocytes and platelets. It removes stress of the nervous system, and anesthetizes at the long appendix. In reflexogenic sites (neck-cervical, upper- breastbone, area of a stomach, but other) have a reflex-therapeutic influence on pathologically changed activity of different tissues and internals [3; 4].

Squeezing is an important technique in a correction massage. It influences a skin, hypodermic, fatty cellulose, and blanket of muscles, accelerates advance of blood and lymph, warms up muscular tissues well and rather deeply and improves processes of a tissue exchange. Malaxing is the main technique of a correction massage. As a result of malaxing blood supply improves not only of the massaged site, but also the next. It promotes a vigorous resorption of pathological deposits and depletion of lymphatic vessels. Malaxing intensifies oxide-recovery processes, and also improves food of tissues. It promotes the excitement of receptors of muscular tissues, sinews, communication, articulate bags, fascia and periosteum thanks to what conditions are created which change a condition of the central nervous system and the peripheral nervous device. These changes depend on a nature of performance of a technique (depth, force, duration), and also on a functional condition of muscles and bodies in general. In a correction massage malaxing is widely applied at functional insufficiency of muscles after injuries, heavy physical activity to removal of muscular tension, working capacity renewal. As a result of malaxing breath is accelerated, body temperature increases, the number of warm reductions increases.

Grindings is applied on joints, sinews, fascia, sheaves, on the sites insufficiently sated with blood during a correction massage. It is applied also on skin (at neuritis, neuralgia), carrying out both along nervous trunks, and in places of the nervous terminations. Shift and extension of tissues diversely, characteristic for grinding, is caused by irritations of receptors which are in tissues, and also receptors of blood vessels and accelerates in them blood circulation. More oxygen, chemically active agents arrive to tissues, exchange products are quicker removed. In case of damages which are often observed at disabled sportsmen, grinding promotes a fast r resorption of hardenings, pathological deposits and congestions of liquid, in tissues, especially in a site of joints. By means of grinding mobility in joints increases, force and endurance of muscles arrives.

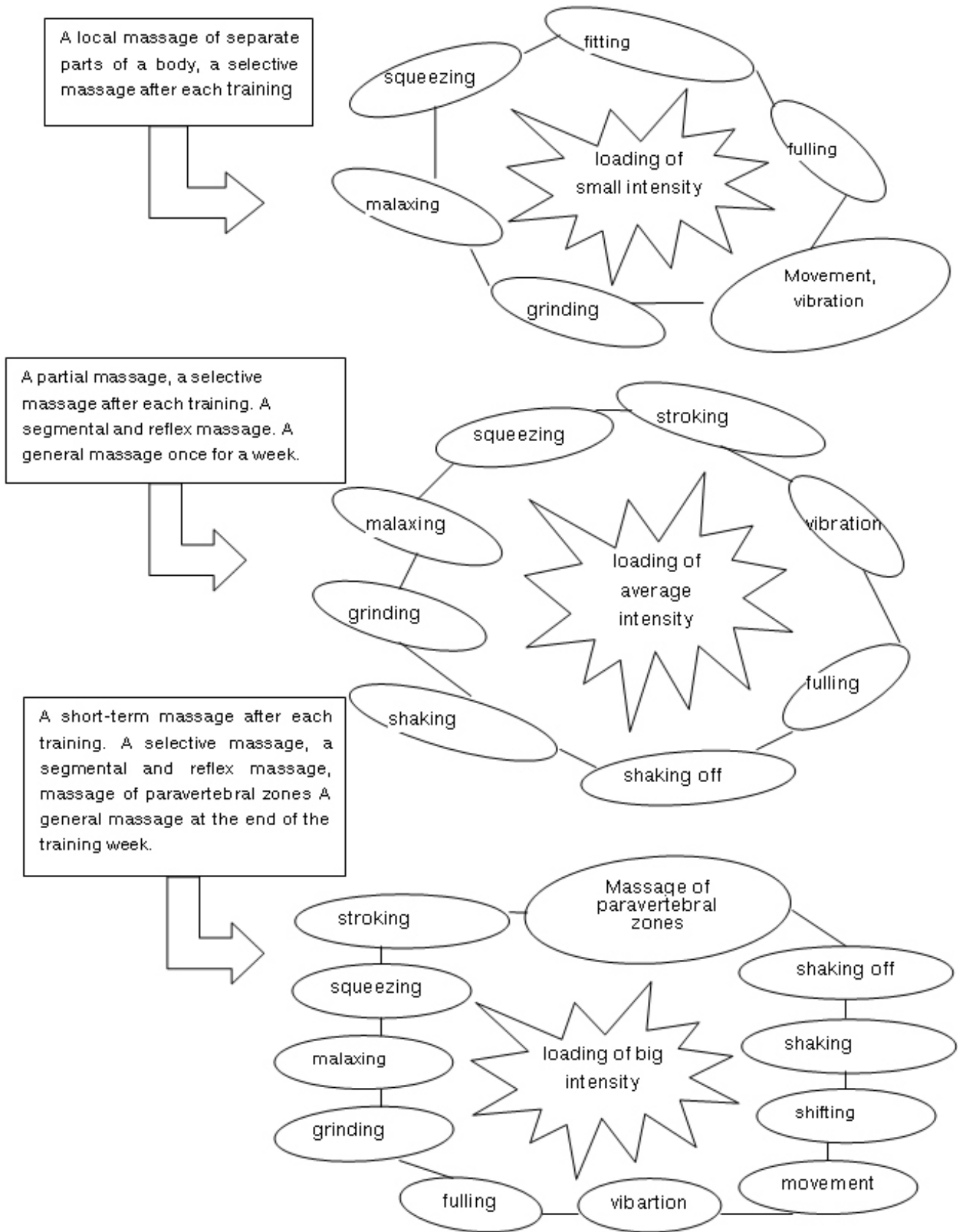
Passive and active movements found the wide appendix in correction massage. They improve blood-and lymph circulation, and also secretion of synovial liquid, influence operation of the musculoskeletal device. Percussive techniques promote the strengthened rush of blood to the massaged site, and consequently, and to the improvement of food of tissues. They increase shorten force, cause hyperemia, raise a tone of muscles, strengthen activity vascular and secretory nerves of performance of percussive techniques in a correction massage. They cause an expansion of vessels, an excitement of the central nervous system, and increase of local temperature. Shaking and vibration techniques promote the best outflow of blood and lymph, uniform distribution of inter-tissue liquid, affect soothingly the central nervous system and relax muscles, remove stress [3; 4]. The author's technique of a correction massage provides the period of the training process and intensity of physical activity (pic.).

We recommend to disabled sportsmen a local massage for 10–15 minutes after each training with small intensity, the special attention is paid to tired muscular groups and places of the localized pain; a selective massage (lumbar site, massage of the lower extremities). Methods of easy malaxing are used – to 80% of time which is allowed for a massage procedure; on squeezing and grinding – 15%; on all other techniques – 5%.

We recommend a partial massage during loadings of average intensity after each training within 15–20 minutes. Massage muscles of a back, a thorax, and the top extremities. A selective massage of a site of a basin and the lower extremities is carried out. At the end of the training week sportsmen receive a deep general massage for 40–60 minutes, carry out elements of a segmental and reflex massage.

They carry out a short-term massage of all sites of a body during 20–30 min during loadings with high intensity after each training, and in a weekend, in day of rest, they have a deep general massage. It is recommended to apply elements of a segmental and reflex massage and massage of the paravertebral zones according to nosology.

A short-term massage is carried out through 15–20 min after training when heart rate almost reaches norm. During



**Pic. Planning of a correction massage for disabled sportsmen**

20-30 min massage those groups of muscles which maintained the main training load, paying a considerable attention of massage articulate and copular to the device. 80% of time is allowed for methods of malaxing, for squeezing and grinding – 15% and 5% – on all other techniques.

The main and additional methods of a correction massage should have a selective action according to a tone of muscles. All biochemical, biomechanical changes which happen during the training process were considered in a technique of a correction massage. The author's technique of a correction massage was introduced in the training process of disabled sportsmen. We carried out in a complex comparative monitoring of indicators of the thermal control, the biochemical analysis, a psychological state before and after application of an author's technique of a correction massage. The results of the research confirmed the expediency of application of an author's technique of a correction massage in the training process of disabled sportsmen [5; 6].

#### Conclusions:

1. Massage for disabled sportsmen is the integral component of renewal, the training process in general. The general and special influence of methods of massage leads up the need of a correction orientation of techniques of massage.

2. The technique of a correction massage for disabled sportsmen considers the intensity of physical activity, the course of the basic and associated diseases. Forms of carrying out a correction massage are: general, partial, short-term, and local. A segmental and reflex massage and massage of the paravertebral zones are applied.

**Prospects of the subsequent researches** consist in the definition of the influence of a correction massage on the productivity of sportsmen with limited physical capacities.

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**Romanna Rudenko:** PhD (Physical Education and Sport), Associate Professor; Lviv State University of Physical Culture, 11 Kostyushka Str., Lviv, 79000, Ukraine.

**ORCID.ORG/0000-0002-0750-3618**

**E-mail: romarud06@ukr.net**