



# **METHODOLOGICAL ASPECTS OF INJURY PREVENTION IN THE PROCESS OF PHYSICAL TRAINING IN MILITARY UNITS AND INSTITUTIONS**

**GAPPAROV KHAFIZ ZAKHIDOVICH**

Candidate of Pedagogical Sciences, Associate Professor,  
Tashkent State Law Institute Specialized branch, Uzbekistan

gapparov70@mail.ru

+99899 891-4383

**USENOV ERKABOY KUCHKARBAYEVICH**

Deputy Head of the Physical Culture and Sports Department of the Military technical Institute of the National Guard,  
independent researcher

**MAKSUDOV KUYOSHBEK AKBARALI UGLI**

Teacher of the Department of Physical Training and Sports of the Military technical Institute of the National Guard,  
independent researcher

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<b>Received:</b> 1 <sup>th</sup> April 2021 <b>Accepted:</b> 14 <sup>th</sup> April 2021 <b>Published:</b> 30 <sup>th</sup> April 2021	This article describes the methodological aspects of preventing probable injuries in military units and institutions during physical training classes, the factors of injury occurrence, and also provides scientifically-practically based recommendations for the prevention of injuries.
<b>Keywords:</b> Physical training, military units and institutions, commanders, personnel, classes, exercises, sports, injuries, prevention, factors.	

The performance of military personnel of the Armed Forces and law enforcement officers assigned to them official duties and responsibilities, of course, directly depends on their physical fitness and physical condition. Therefore, when organizing physical training classes, the head of the classes is responsible for compliance with the rules of injury prevention, which require the personnel to comply with safety regulations, medical requirements and proper physical culture.

Organizational shortcomings, methodological errors in the physical training of military personnel lead to injuries of the musculoskeletal system and violations in the functioning of the functional systems of the body.

In the prevention of injuries, the head of the training requires a comprehensive understanding of the factors that cause injuries, the physiological impact of exercise and sports on the human body, in particular on every organ of the body, mistakes and shortcomings that can be made. At the same time, the presence of analytical thinking skills and the ability to draw conclusions in the training manager serves as a prevention of injuries that may be received by the personnel participating in the training.

There are different points of view on the factors that cause injuries. In particular, one of the Russian researchers A. M. Kanukoev [1] in his article L. M. Letushina [2] gives the following factors, based on the data:

- shortcomings in the organization and conduct of training sessions, including inadequate performance of treadmill exercises, conducting such exercises without taking into account age, gender and physical condition, intensification of the load, intensity of training in the gym, etc.;

- non-compliance with the training methodology, including complete non-compliance with the principles of gradualness( slowness), systematicity, consistency, as well as improper organization of the location of students and sports equipment;

- the formation of their indiscipline as a result of insufficient educational work with students, including failure to follow the instructions of the head of classes, moving to another place of study without his instructions during the exercises, haste, recklessness and inattention;

- failure to provide training grounds in accordance with the material and technical regulations and safety conditions, including the unsuitability of sports equipment, lack of lighting, insufficient air circulation system, non-compliance with hygiene requirements, etc.;

- an imbalance between the training requirements and the physical or psychological readiness of the participants;

- lack of precautions and auxiliary means associated with risks and dangers when performing techniques, especially when performing combat techniques and swimming exercises;

- non-compliance with medical requirements;
- predisposing latent states, the presence of foci of infection;
- individual characteristics of the body;
- fatigue, exhaustion, and overwork.

Along with the above factors, in military units and institutions of our country, there are also frequent cases when senior officers, coaches and personnel do not always have sufficient medical knowledge, incorrectly use the available sports equipment and conditions, neglect the leadership, do not take into account meteorological (weather-related) conditions. Also, one of the most important factors is the ability of cadets to independently control their state of health, the level of their physical development and physical fitness [3]. untimely informing of the training manager in case of detection of a defect in their body can also lead to negative consequences.

Despite the fact that there are various literatures on the subject of Sports Medicine in Uzbek and foreign languages, a lot of scientific and practical studies have been carried out, in some cases there are cases when the leaders of physical training in the military unit and institutions have not mastered such literature well or are completely unaware of them. Including, B.M.Saidov's textbook "Sports Medicine" [4] is one of the valuable sources in this regard. Also, within the framework of Medical Sciences in our Country of scientists and researchers on sports medicine, such as X.Turahodjaev, Yu.A.Kulikov, S.Ya.Musakov, A.A.Usmanhodjaev [5].

The more stylistic errors that are made by the head of the training, the more will depend on what physical quality is being developed exactly in a particular training and training system.

In the first place, this is a violation of harmony in the development of strength of various muscle groups, and as a consequence, they are inconsistent in the development of strength. In the back-motion posture, relatively loose, insufficiently trained joints are identified, which leads to their injury or overload of other joints. Insufficient development of the foot palm reduces its elasticity. This is due to the fact that part of the load that comes on the palms of the feet during the execution of jumping exercises corresponds to the three-headed muscle of the thigh, as well as the tendons. This can lead to their overload, and they can lead to a change in their structure.

As a result of insufficient development of the muscles of the abdomen and body, there may be a violation of posture, overloading of the lumbar part of the spine. The endgisi can cause excessive compression of the intervertebral tissues and, in turn, can be observed with pain in the spine and injury of the muscles of the back surface of the thigh.

Performing strength exercises without thoroughly performing body warm-up exercises can lead to stretching and rupture of muscles, ligaments and tendons, injury of the joints, extreme strain of the cardiovascular system.

In our opinion, it is also worthwhile to use professional sports experience when performing exercises to increase muscle stretching in the military unit and institutions. In particular, in addition to traditional methods, the following exercises recommended for light Athletic-sprinters are well effective in profiling leg injuries [6]:

- stretching the thigh while standing;
- twine on the wall;
- bending of the legs with dumbbells;
- stretching the front part of the thigh while standing;
- stretching the front part of the thigh while lying down;
- carrying the knee to the chest;
- sitting, bending, stretching the back of the thigh and etc.

Excess performance of deep sit-ups exercises with weights close to the largest and largest weight can lead to injury of the joints of the meninges and knee joints.

Excessive performance of jumps from a large height to a deep one can lead to the occurrence of injuries of the leg palms and knee joints.

Overuse of large power loads to the spine can lead to disruption of the spine, curvature, thickening or hernia of the intervertebral discs.

In exercises that have not yet been well mastered, the use of large weights (incomplete muscle coordination), as a rule, is likely to lead to injury of the loose joints of the musculoskeletal apparatus.

Long-standing chirping exercises bring out violations in the work of the heart, lead to a stroke of the blood vessels, a violation of capillary blood circulation.

In order to prevent injuries in the process of strength training, it is necessary to follow the following recommendations:

- before strength training, it is necessary to warm up the body well and keep the body warm during the whole training session;
- it is necessary to gradually increase the size of the weights and the total volume of power loads, especially in the initial stages of training with strength training;
- it is necessary to carefully determine the size of the weight in each exercise. First it is necessary to thoroughly master its technique with small or medium size;
- it is necessary to comprehensively develop all the muscles of the body, especially at the initial stage of strength training. For this, various strength exercises are used from different initial positions;
- it is not necessary to hold your breath while performing strength exercises with weights of not large weights;

- to avoid overloading the spine, it is necessary to use a special weightlifting belt. During rest breaks between strength exercises, it is desirable to relax the spine, while hanging on the tourniquet, on the Rings of the gymnast, on the walls of the gymnastic;

- to prevent spine injury, it is necessary to regularly strengthen the muscles of the abdomen and body;  
- it is necessary to keep it as correctly as possible when performing all the exercises that load on the spine;  
- with the help of exercises that have a local effect, it is necessary to regularly strengthen the heel part of the leg muscles. This will help the foot palm to become more elastic and will help prevent the multiple number of injuries of the musculoskeletal apparatus;

- it is desirable to use a variety of catches in exercises with a preposition, so as not to injure the hand;  
- when performing sit-ups with weights, such an initial position of the ends of the foot palm is selected, which should provide the greatest mobility in the knee-joints;

- excessive application of deep sit-ups to get rid of knee joints injuries is naughty. It is possible to develop the strength of the muscles of the thigh in a lying or sitting position on special simulators;

- exercises with units close to the largest and largest weight should be performed only on the hard floor and only on the thigh-in shoes that tightly hold the palm joints;

- before stretching, it is not necessary to take deep breaths, so as not to strain the cardiovascular system. 60-70% of half-breathing or deep breathing will be optimal;

- it is necessary to be free from the stresses that last for a long time;

- it is necessary to close the eyes, so that the delicate vessels of the eyes are not damaged during the maximum tension;

- it is useless to perform stretching exercises with great tension, which are used in breaks between strength exercises. The amplitude of movements should be 10-20% less than the maximum in the corresponding joint;

- it is necessary to immediately stop performing the appropriate exercise at the moment when pain or contractions in the muscles, ligaments, tendons or joints are felt.

When performing speed exercises, the following can lead to injury:

- perform speed exercises in cold weather and in slippery or uneven places;

- the fact that the training effects are not sufficiently comprehensive;

- a sharp increase in the volume of speed exercises;

- overload of some joints of the base-motion posture;

- insufficient mastering of the technique of speed exercises;

- poor quality of direct preparation (body heating) for the performance of speed exercises;

- performance of speed exercises on the floor of physical or coordination exhaustion.

Before performing speed exercises, it is necessary to perform a thorough warm-up of the body. In this it is necessary to apply such exercises that they should be similar to the exercises in training, both in shape and in content.

It is desirable to gradually increase the intensity of the performance of the preparatory exercises. It is worth noting that exactly quality body heating is an important condition for preventing injuries and achieving high results in speed exercises.

Comprehensive physical training aimed at the development of the musculoskeletal system is the basis for the prevention of injuries. At the initial stages of the development of speed attributes, attention is paid to strengthening its loose joints. Speed exercises can not be performed in situations where you are exhausted, since a violation of the Coordination of muscle work can lead to injury.

In cases where there is pain or gravity in the muscles, it is necessary to stop the exercises, since this can be due to changes in their structure in the muscles, as well as to a violation of their inversion. In this case, continuing to perform speed exercises will lead to injury. In cold weather, clothing is necessary, which protects against heat and wind.

In order to avoid stylistic errors and injuries in the development of endurance, the following should be avoided:

- not paying enough attention to the strengthening of the musculoskeletal apparatus;

- uniformity of endurance development tools and techniques;

- acceleration of training loads (training that lasts for a long time in a situation when there is no recovery);

- training at a sick time. (colds, angina, etc.)

In our opinion, in the Military unit and institutions as a preventive measure of body injuries, it is desirable to carry out the following:

- to teach the managers of training on physical training, in particular, future officers to take into account the collective and individual characteristics of the participants in the determination and increase of the training load;

- to increase the understanding of training leaders about the impact of sports, physical exercises on the human body;

- training provided for each execution, evaluation and consideration of the necessary conditions and conditions in accordance with the planned type of sport to be engaged, development of knowledge and skills to eliminate shortcomings in this regard;

- Organization of special short courses in sports medicine for those who are in charge of physical training in

the military unit and institutions, attracting leading scientists and specialists in sports medicine to such courses.

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