

VOLUME MANAGEMENT: HOW TO COMBINE FLEXIBILITY, STRENGTH, AND TECHNIQUE WITHOUT INJURIES

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Abstract. This article discusses modern methods of managing training volume and issues of combining heavy flexibility exercises with strength and technical training. It is analyzed that improper load distribution in sports training can lead to excessive fatigue, lack of muscle recovery and a decrease in sports results. The article shows effective ways to organize flexibility, strength and technical training on a weekly basis in a balanced manner. It also presents scientific ideas about the importance of the recovery process, individual approach, the impact of sleep and nutrition on training efficiency. The study substantiates the fact that volume management is an important factor in maintaining functional status in athletes, reducing the risk of injuries and achieving high sports results. This article is of practical importance for coaches, athletes and physical education specialists.

Keywords: training volume, volume management, flexibility, strength training, technical load, recovery process, sports physiology, excessive fatigue, load distribution, sports training.

Today, the scientific organization of sports training is one of the most relevant areas of modern sports pedagogy and sports physiology. Especially for athletes striving to achieve high results, it is important to properly plan training loads, control their volume and intensity. In sports practice, there is a need to simultaneously develop the qualities of strength, endurance, speed, technique and flexibility, and this process requires deep knowledge and a thorough methodological approach from the coach. Incorrect management of the volume of training can negatively affect the athlete's functional state, leading to excessive fatigue, muscle strain, slowing down the recovery process and reducing sports results. In recent years, the role of flexibility exercises in sports has been significantly increasing. Because flexibility expands the athlete's range of motion, helps to accurately perform technical elements, and reduces the risk of injuries. However, heavy and prolonged stretching exercises put a great strain on the muscles, tendons and central nervous system. Therefore, the process of combining flexibility exercises with strength and technical training is a complex methodological issue. If these exercises are organized at the same intensity and in the wrong sequence, excessive strain will occur in the athlete's body. As a result, the athlete will quickly tire, the effectiveness of training will decrease, and more time will be required for recovery [1].

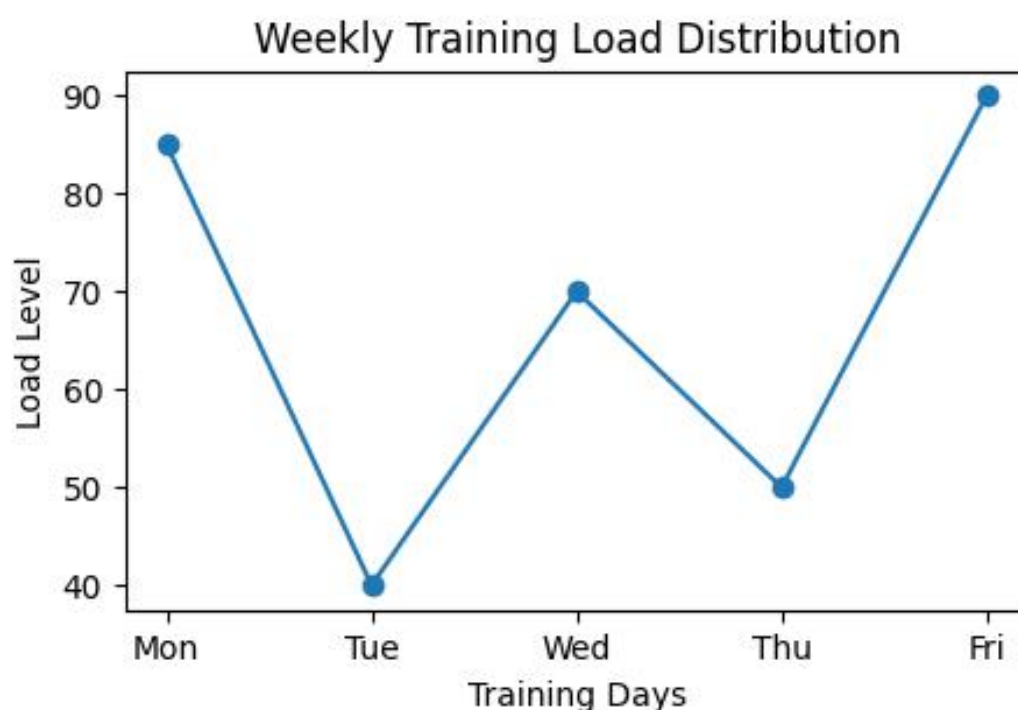
In the theory of training volume management, the principles of gradual increase in loads, correct distribution of recovery days, and an individual approach play a special role. Each athlete's body adapts to training loads differently. Therefore, the coach should develop a training program taking into account the athlete's age, level of physical fitness, functional capabilities, and recovery rate. In particular, heavy flexibility exercises performed in combination with strength exercises can affect the recovery process of muscle fibers. This requires in-depth analysis from the point of view of sports physiology.

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This article analyzes the theoretical and practical aspects of training volume management, methods for effectively combining heavy flexibility exercises with strength and technical loads. It also highlights the importance of the recovery process in preventing excessive fatigue, maintaining the athlete's functional status, and achieving high sports results.

Scientifically establishing loads in the system of sports training is one of the most important in improving the useful properties of the athlete, physical qualities and promoting high sportsmanship. In modern sports practice, the volume of training and intensive control of the most complex areas of coaching activity, especially in the process of developing strength and technical training, further exacerbates this issue. Because each physical quality has a different physiological effect on the body, and improper adjustment of the program can lead to a state of fatigue in the athlete's body.

Diagram 1



Flexibility is an important physical quality that affects the amplitude of an athlete's movements. It helps to freely and accurately perform technical exercises by increasing the elasticity of joints and tendons. Gymnastics, wrestling, swimming, track and field athletics, as well as high-level combat sports, have a direct impact on sports. At the same time, exercises provide a load on the muscles and the central nervous system. help, continuous static stretching or PNF techniques can restore microdamage to muscle fibers. If such loads are not properly controlled at the same time as the forces, the recovery process will be slowed down [3].

Strength training is aimed at improving the ability to withstand maximum or repeated resistance. The consumption of energy resources during strength training requires active and high physiological stress on the neuromuscular system. The control system, which is performed with heavy loads, is highly fatigued. Due to this, it is possible to achieve the right sequence and volume of loads during one training session.

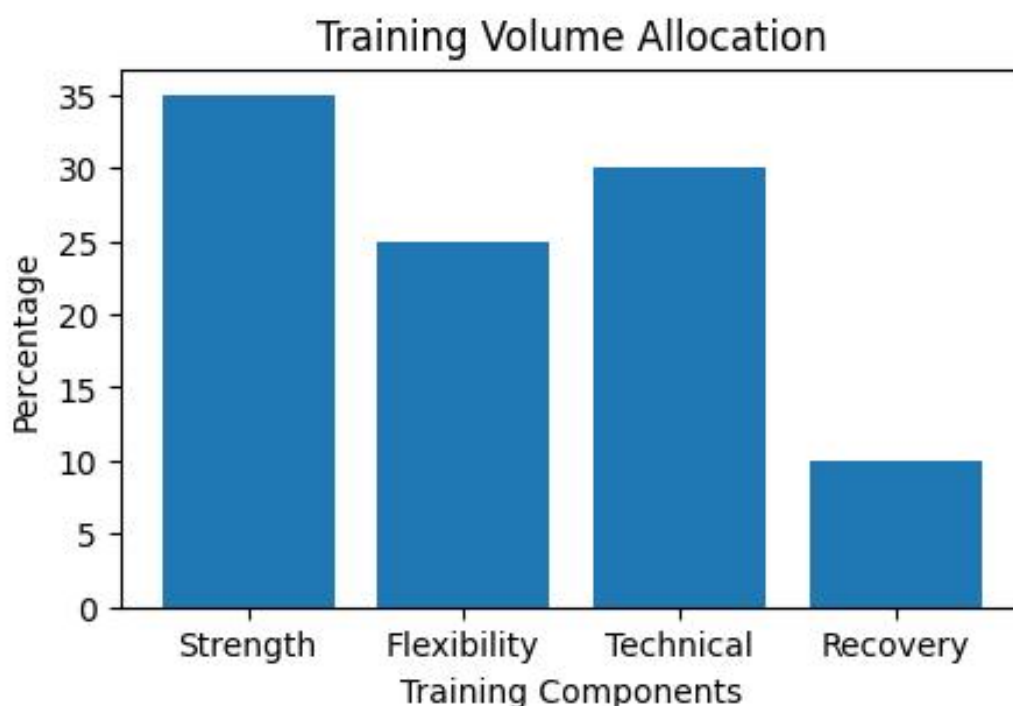
In sports practice, many coaches recommend organizing technical training at the initial stage of training. Because in order to maintain the technical structure perfectly, the athlete's body must be relatively alert. If the athlete first performs heavy strength or deep stretching exercises, fatigue

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will occur in the movement and the quality of technical training will decrease. This can lead to the emergence of incorrect movement stereotypes [2].

The periodization method is widely used in managing the volume of training. According to this method, training is divided into certain stages and at the same time comprehensively addresses the tasks of developing a certain physique in a qualitative way. For example, if more attention is paid to physical training during training, then the importance of maintaining technical and speed-strength qualities during the competition is given. This method helps the body gradually adapt to the loads and relieves tension.

Diagram 2



Therefore, it is important to effectively use recovery tools during training. Sufficient sleep, balanced nutrition, water consumption and active rest methods are an integral part of the recovery process.

Sports massage, contrast baths, saunas and light aerobic exercises are used as effective tools during recovery. It is especially important to ensure muscle relaxation after high-intensity flexibility exercises. If the muscles do not recover sufficiently, the risk of injury increases during subsequent training. Therefore, the coach should constantly monitor the athlete's functional state.

The principle of an individual approach to managing training volume plays a special role. Each athlete's body adapts to loads differently. Some athletes easily tolerate high-volume training, while others experience rapid fatigue. This may be due to genetics, age, gender, nutrition, psychological state and recovery rate. Therefore, applying the same training program to all athletes is ineffective.

Training volume management in young athletes should be carried out especially carefully. During the growth period, excessive stretching or force loads can have a negative effect on the body, since the bone and muscular system is not yet fully formed. Therefore, flexibility exercises for young athletes are organized more on the basis of games and dynamic movements [4].

The characteristics of the sport also play an important role in combining flexibility exercises with technical training. For example, gymnastics requires high-amplitude movements, and flexibility exercises form the main part of the training. In weightlifting, the main emphasis is on

strength and explosive movements, and flexibility is used as an auxiliary tool. In martial arts, a combination of flexibility and agility is important.

Coaches are using modern monitoring methods to control training loads. Heart rate, blood pressure, lactate level and subjective fatigue indicators help determine the functional state of the athlete. In some professional clubs, the volume of movement of athletes is also monitored using GPS systems and special sensors. These methods allow for precise planning of loads and prevention of overtraining.

Psychological factors also play an important role in managing the volume of training. Constant high loads can lead to a decrease in motivation, emotional exhaustion and stress in an athlete. Therefore, the coach must also take into account the athlete's mental state. Introducing interesting elements into training, properly organizing rest days and creating a positive psychological environment will help maintain the athlete's motivation.

The "heavy-light-medium" principle is effective when drawing up a weekly training plan. For example, if high-intensity strength training is performed on the first day of the week, light recovery training is organized the next day. Then technical training and medium-intensity flexibility exercises are used. Such a system allows the body to recover and helps to maintain high sports form for a long time [7].

Also, the concepts of microcycle, mesocycle and macrocycle are important in managing the volume of training. A microcycle usually involves a one-week training regimen, while a mesocycle covers a period of several weeks or months. A macrocycle, on the other hand, is an entire sports season. This system allows for long-term planning of loads. It is important for athletes to pay attention to the early signs of overexertion. Signs of overexertion include sleep disturbances, prolonged muscle pain, decreased appetite, increased heart rate, and decreased interest in training.

In such cases, it is recommended to temporarily reduce the volume of training or switch to restorative training.

In general, the combination of heavy flexibility exercises with strength and technical loads is a complex but important pedagogical and physiological process. Scientific management of the volume of training is one of the main factors in maintaining the health of an athlete, increasing his functional capabilities and achieving high sports results.

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