

Causes of Sports Injuries and Recovery Strategies in Sports Training

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Abstract: In sports, sports injury is a very common problem that may have a serious impact. If it is not handled in time after it appears, it will affect the enthusiasm of students to participate in sports training, on the other hand, it will affect the long-term physical and mental health development of students. From this point of view, teachers need to pay close attention to sports injuries when carrying out sports training. From this point of view, the article analyzes the common sports injuries in sports training, gives the reasons for the injuries, and further discusses the recovery strategies, with a view to providing inspiration for the relevant teachers and workers.

1. Introduction

In the teaching process of higher vocational education, physical education can effectively promote the physical and mental health of students, which has a direct and positive impact on the long-term development of students. Its teaching focus is to help students further strengthen their physical quality, at the same time, guide students to understand basic sports knowledge, master the corresponding basic sports skills, and then promote the development of students' comprehensive literacy. Effective sports teaching can help students release physical and mental pressure, create a sense of novelty, and lay a good psychological foundation for subsequent professional courses. However, if improper sports lead to sports injuries in this process, it may affect the enthusiasm of students to continue to participate in sports, and also have a certain impact on the subsequent mental state of students. Therefore, sports training must first do a good job in sports injury prevention strategies, and even if sports injuries occur, measures should be taken in a timely manner.

2. Common Injuries in Physical Training

2.1. Ankle joint

The physical training in higher vocational education mainly focuses on the long jump, running and other activities that need to be carried out at the knee, ankle, waist and back. Take the long jump as an example. The long jump includes the run-up, take-off, take-off, landing and other links. The relevant regulations stipulate the standard actions of each link. Students can obtain better long jump results by making full use of their physical quality. However, if the actual exercise is carried out,

problems such as improper posture and power generation method may lead to sports injury problems, and the main parts of the injury are concentrated in the ankle, knee joint, waist and back. Whether running, long jump or playing basketball, we need to make full use of the ankle joint. As a position with many joint surfaces, the ankle contains rich ligaments. If the posture is not correct, it is easy to cause ligament sprain, joint damage, cartilage damage and other problems. For example, when running, there may be a problem with the landing angle, which may lead to ankle sprain, when long jump, the ankle has been kept in a dorsiflexion state, or when using force in the foot release classroom according to anatomical characteristics, which may easily lead to ankle injury.

2.2. Knee joint

The knee joint also has more muscle groups and rich ligaments, so it is easy to sprain and damage joints, ligaments and cartilage when running, long jump and other activities.[1] In the take-off link of running and long jump, the knee bears relatively large pressure, which is also the reason why the knee joint is easy to be damaged. When injuries occur, common problems include meniscus injury, cruciate ligament strain, bursitis and other injuries.

2.3. Back injury

In sprint, long jump and other sports, it is usually necessary to coordinate the power of the waist and back to twist, which will bring greater pressure to the waist and back. The main power of most sports also comes from the spine mobilization. Once the waist and back are damaged, it is easy to lead to a series problem.

3. Main causes of sports injuries

3.1. Muscle injury

3.1.1. Analysis of muscle injury

In the training practice, if the training always maintains a large amount of high-intensity training, it is likely to cause muscle damage to students, further affecting their physical functions, and even lead to decline in their physical fitness due to body fatigue. In addition, excessive use of muscles may also lead to muscle damage. Under the condition of scientific training, long-term physical training can further increase the muscle volume of students, but at the same time, it also further reduces their own fascia elasticity. During sports training, because the blood flow in the muscle is accelerated and the flow is increased, the muscle volume is further expanded.[2]At this time, it is easy to have muscle hypoxia, The lactic acid produced by muscle cells under anoxic conditions enters other body tissues along with the capillaries, and the tissue fluid goes deep, leading to the problem of muscle edema. On this basis, the interval pressure of the muscle will increase sharply, affecting the further flow of blood in the muscle. At the same time, the muscles within the interval will also lead to periosteal traction, further leading to various inflammation of the athletes, which is also the source of their pain.

3.1.2. Causes of muscle injury

The most common cause of muscle injury is sudden exertion of force. When physical training is actually carried out in higher vocational colleges, sprints, long jumps and other sports events are sometimes set up. These events require students' sensitivity and require them to burst out a lot of force in a short time. In this process, the arm of force around the muscle is smaller than the reaction force, so the muscle will contract sharply in a short time. This can easily lead to muscle damage. In addition,

long-term training may also lead to muscle injury. The reason is that long-term training produces lactic acid, which leads to muscle edema. On this basis, the blood circulation inside the muscle is blocked, which will further lead to the injury problem of the periosteum. Finally, overloaded exercise will also lead to muscle injury. If the intensity of a certain event exceeds the current physical fitness of students, it will probably lead to muscle injury.

3.2. General damage

Compared with muscle injury, the causes of general injury mainly focus on the imperfect preparation activities, the violation of movement rules or the poor real-time state of the athletes. In sports training, if the exercise does not exert force in accordance with the standard posture, and the exercise violates the anatomical principle, it is easy to have general injury problems. The specific reason is that the tendons and other tissues squeeze each other, which leads to the problem of local weakness of the tissues. On this basis, if the intensity of the force is large, it may lead to sports injury. In addition, if the athlete is not in a good psychological state at the beginning of the exercise, and the physical function is at a relatively poor level, the problem of sports injury is also easy to occur.[3] For example, in the case of insufficient rest, insufficient sleep, muscle fatigue, etc., the athletes are prone to non-standard movements, body discordance and other problems, and then sports injuries are very easy to occur. If students always keep low mood during sports, it is also easy to lead to sports injury. The main reason is the timidity of new sports content, and the psychology caused by difficult sports training. In addition to the above two points, whether sufficient preparations have been made before sports training is also the main factor affecting the probability of sports injury. Good preparation activities can help students mobilize their body muscles, keep their central nervous system relatively active all the time, and thus effectively improve their physical activity ability. This process is also a process to guide students into a state of intense activity. If this process is not effectively carried out, it is difficult for students' central nervous system to coordinate and unify various parts of the body, which leads to problems such as weak elasticity, low strength and poor stretching effect of various parts of the muscles, and sports injuries are very likely to occur.

4. Recovery strategy of sports injury

4.1. Recovery method of traditional Chinese medicine

After the sports injury occurs, it can help students to use traditional Chinese medicine for treatment. Compared with traditional Chinese medicine, the treatment effect is better, the cost is less, and there will be no subsequent negative impact on students' bodies. Chinese medicine has a long history of development. The treatment methods for sports injuries mainly include external medicine and internal medicine. The internal medicine is mainly treated by internal pills and pills, while the external medicine is treated by sticking plaster on the outside of the injury. The specific treatment should be based on the type, severity and surrounding conditions of the sports injury to reasonably select the medicine, and should do a good job of anti-inflammatory and analgesic treatment to further accelerate the recovery speed and reduce the interference of sports injury to students.

4.2. Exercise recovery method

On the basis of drug recovery, students can be guided to conduct rehabilitation training through sports recovery to further help students quickly recover good cardiovascular and cerebrovascular functions, so as to avoid adverse joint changes and muscle atrophy during recovery. The application of exercise recovery method can help students with sports injury maintain the current muscle protein

content, and optimize the adjustment of serum testosterone to accelerate the recovery of the injured part. Generally speaking, the specific content and intensity of rehabilitation training are selected according to the degree of sports injury. If the sports injury of students is acute muscle strain, the rehabilitation training should be carried out at a relatively low level regardless of the intensity of the injury, so as to ensure that the injured parts can be gradually recovered. Otherwise, if the intensity is too high, the muscles will have adaptive changes in the injured state, For example, there are changes in elongation and limit length. On this basis, when students participate in sports again after recovery, it is easy to cause loss of muscle elasticity, even secondary sports injury and other problems.

4.3. Physical recovery method

Compared with the above two recovery strategies, the physical recovery strategy has a higher security effect, and has a relatively shorter time interval to function, which is highly practical. In specific application, the most effective and common method is cold therapy, which is also the most commonly used recovery method. Through the application of cold therapy, the peripheral temperature of the injured part can be rapidly reduced, thus promoting the peripheral capillaries to contract, thereby reducing the total amount of bleeding in the muscle. On this basis, reducing the temperature can also reduce the sensitivity of the central nervous system, thereby reducing the pain of the injured students. On the basis of cold therapy, it can also be further treated by dressing, for example, lifting the injured person's limbs to avoid secondary bleeding at the injured part. In addition to cold therapy, heat therapy such as electrothermal therapy also has a wide range of applications, all of which belong to the category of physical therapy. Thermotherapy has a relatively narrow scope of application, but it is applicable to some special situations, such as infrared radiation to help quickly repair the damaged parts and shorten the treatment time.

5. Strategies to Avoid Sports Injury

5.1. Ideological education

To ensure the standardization of students' sports behavior, we should first ensure that students can fully pay attention to sports injuries at the ideological level. From this point of view, the teaching staff should first make clear the importance of ideological work, focus on explaining the possible harm of sports injuries when opening physical education classes, explain the ways and methods that should be taken to avoid sports injuries, and reduce the probability of sports injuries. For some students who join the course subsequently, teachers also need to further carry out injury education based on the students' physical conditions to ensure that students can fully pay attention to sports injuries, and then do foot preparation activities before the start of sports, pay attention to posture standards during sports, and avoid possible sports injuries. On this basis, teachers can also focus on the restrictions of students' sports rules in the actual teaching, and establish standardized action guidance while emphasizing discipline by strictly stipulating the power generation method and posture standard of each action, so as to ensure that students can always maintain a more scientific sports way in the sports process, and then avoid the occurrence of training in the subsequent sports training

5.2. Carry out adequate preparatory activities

The preparation activities before physical training can help students activate the central nervous system, enter a tense state of exercise, and effectively avoid sports injuries. However, many students do not attach much importance to the preparatory activities, so teachers should take measures to ensure that students can carry out adequate preparatory activities before actually carrying out sports

training, such as leading the class to jog, setting up a standardized warm-up exercise gymnastics, etc., and strictly supervise the preparatory activities to ensure that every student can be fully warmed up, To ensure that the physical function of students can achieve the desired effect during the follow-up exercise, and to ensure muscle elasticity and muscle strength.

5.3. Strengthen physical fitness

Sports have always been closely related to physical fitness. If it can effectively help students improve their physical fitness, it can also help students avoid training injuries in the follow-up sports training process. The improvement of physical fitness is often achieved through long-term accumulated sports, so teachers can set up some strength and endurance training programs in the daily teaching process to guide students to adhere to basic training for a long time, strengthen physical fitness, and thus avoid training injuries.

6. Conclusion

In the process of sports training in higher vocational colleges, it is significant to pay attention to and study sports injuries. Corresponding teaching workers should further analyze the possible causes of sports injuries on the basis of a basic understanding of current sports training, and on this basis, flexibly use sports recovery, physical recovery, massage recovery and other methods to help students who have suffered sports injuries quickly recover their physical state and avoid possible negative emotions, Improve students' mental health. But in sports training, we should also take measures to avoid possible sports injuries, solve the problem from the source, and ultimately promote the healthy development of students.

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