

# A Preliminary Study on Injury Problems in Sports Training

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**Abstract:** In recent years, with the continuous improvement of people's living standards, the requirements for personal physical fitness are getting higher and higher, so the population and scope of sports and leisure sports are getting larger and larger. However, in the process of carrying out various sports, because the sufficient understanding of sports and the different physical qualities of individuals, injuries frequently appear, which not only makes it fail to achieve the purpose of strengthening the body, but also causes different injuries to bodies. Therefore, to prevent and avoid risk accidents in sports and injuries to the body, this paper focuses on the prevention and reduction of sports injury strategies in sports.

**Keywords:** Sports Training; Injury; Strategy Exploration

Sports injury is a generalized concept, which mainly refers to the injuries appearing in sports, track and field sports, leisure sports, training sports, etc, with different causes in each professional sport item. However, the common causes of injuries mainly include different personal physical fitness, insufficient sports level, incorrect mastery of sports skills, poor sports environment, and so on. In daily life and sports, timely and correctly understanding the types and causes of sports injury is conducive to correctly grasping the essentials of sports, avoiding the occurrence of sports injury, improving the grasp of sports exercise, and reducing sports risk.

## 1. Common types of Sports Injuries

### 1.1 Muscle Injury

Muscle injury mainly includes muscle strain and muscle soreness. The former is mainly caused by the fact that some young people

and office workers have less time and they often carry out high-intensity and large-scale exercise training in the gym or outdoors at weekends, so after a complete rest, they will have a feeling of soreness and pain. Besides, the same is true of sports training in schools. If students rarely exercise in their daily lives and only carry out concentrated high-intensity exercise activities in physical education classes or during training periods, they will have muscle soreness and trembling hands and feet.

### 1.2 Contusion and Bruise

Contusion refers to the local tissue contusion caused by the local body being hit by blunt or heavy sports equipment. Mild contusions do not require special treatment and only need to promote blood circulation and remove blood stasis after a cold compress, but severe contusions need to go to the hospital for examination and treatment. In the exercise process, exercisers often have injuries due to a lack of a certain understanding and control of fitness and sports equipment. Bruise is an injury on the skin surface, which is usually caused by exercisers' inattention to the exercise skills during the exercise and is the most common and least damaging type of sports injury.

### 1.3 Joint Sprain

Joint sprains include local joint sprains and joint dislocations. When some exercisers use the joint parts of the body such as mountain climbing or long jump, due to the continuous movement and rapid torsion of the joints, there will be sprains of the tendons and ligaments attached to the outside of the joints. The more common joint sprains appear in ankles, wrists, knees, and lumbar. Joint dislocation, commonly known as luxation, refers to sports injury

that is easy to occur in some high-intensity sports, such as basketball, tennis, and high jump. Usually, due to the rapid torsion of the joint, the humeral head of the joint is pulled out from the joint cavity, resulting in the dislocation of the joint and inability to move, accompanied by feelings of swelling, pain, and so on.

#### **1.4 Fracture Injury**

Fracture injury rarely appears in general exercises, because the bones of the human body are hard. It is usually caused by the incorrect use of sports skills and the high professionalism of sports. When exercisers perform some professional sports, such as high jump, skiing, skating, etc., they suddenly fall or jump down from a high place, and the bone part is prone to fracture. The fracture injury is generally manifested as severe pain, local inability to move and touch, accompanied by swelling, obvious tenderness, and so on.

#### **1.5 Soft tissue Contusion**

Soft tissue contusion, different from ordinary contusion, refers to the injury of soft tissues under the skin. The general degree of injury is higher than that of ordinary contusion and bruise. Generally, it is easy to appear when participating in some fierce sports, such as football and basketball. Due to the impact or blow of external forces on the body, there will be local cyanosis, accompanied by pain and severe pain in the crush injury.

### **2. Analysis of the Causes of Sports Injury**

#### **2.1 Excessive Movement**

Currently, excessive exercise is a common cause of most sports injuries. Both centralized exercise in schools and outdoor scattered leisure and exercise lack professional sports guidance and intensity division. In schools' sports training, although physical education teachers make reasonable arrangements and settings for the curriculum because most of the students have only one physical education course a week and almost have no exercise at other times, the normal exercise intensity in physical education classes is still too high for students. Meanwhile, concentrated

training exercise causes students to carry out high-intensity activities within a period, and they do not get sufficient rest, so there will be local muscle soreness within a few days after the physical education course. As for outdoor exercise and leisure sports, concentrated training is usually carried out on weekends to maintain physical health or achieve the purpose of physical exercise. However, due to the lack of reasonable planning, it often causes muscle injuries.

#### **2.2 Environmental Factors**

The causes of sports injuries also include sports environmental factors, that is, the environment of sports is not appropriate and does not meet the needs of sports types and sports characteristics. For example, when running, exercisers need to run on flat ground or professional equipment, running indoors should have sufficient air conditions, and they shouldn't run in a narrow space. At present, many exercisers do not pay attention to these problems, so it is easy to have hypoxia during running. When running outdoors, it is necessary to choose an open and open environment to avoid being disturbed by too many other factors. In the long jump and high jump, the environment with local soft plane should be selected to avoid sports injuries when jumping from a too high place, or fracture and joint sprain caused by the impact of the hard plane on the leg. However, many exercisers nowadays do not pay attention to the sports environment at all, so they always have injuries during exercise.

#### **2.3 Improper Technology**

Any exercise has certain sports skills, so we can not blindly repeat one exercise item again and again. In most of the current sports, exercisers only pay attention to the number and frequency but ignore the quality and level. For example, when many athletes run outdoors, they only care about the distance and the time but ignore the posture and skills of running, so it is easy to fall and bruise and contusions due to improper posture or long running time. In severe cases, there will even be sprains and dislocations.

#### **2.4 Poor Equipment**

Equipment is also the cause of sports injuries. It is well known that different sports need different sports equipment, the most common of which are shoes and clothes. When doing sports, we must first wear some relaxed and comfortable sportswear and the right sports shoes. In some professional sports, we must also be equipped with corresponding equipment, for example, when swimming, we should wear swimwear and shouldn't wear some heavy items. However, to save time and carry out training exercises anytime and anywhere, many sportspeople do not pay attention to sports equipment, and we often see sportspeople running in leather shoes or thick-soled shoes and doing sports outdoors in suits and skirts. Poor sports equipment can easily cause sports injuries.

### **3. Explore Effective Strategies to Prevent Sports Injuries**

#### **3.1 Reasonably Carry out Sports Training**

Reasonable exercise training is an inevitable requirement for sportspeople before exercise. To avoid excessive exercise and wrong exercise, sportspeople should scientifically and reasonably plan according to their physical fitness and sports goals before starting exercise. For example, before running, sportspeople must first develop daily and weekly exercise plans by considering their physical fitness and maximum tolerance, and then rigorously follow the plan to avoid muscle injury and other injuries. In addition, before the exercise, sportspeople must be prepared for physical activity, and fully relax their wrists, ankles, legs, and back so that the body can gradually relax, aiming to reduce the impact of sports on the body. Finally, according to the characteristics of the individual's body, sportspeople can carry out targeted exercises for the parts that are vulnerable to injury. For example, sportspeople who are prone to spraining their wrists can do some wrist activities in a targeted manner to enhance local physical fitness and reduce sports injuries.

#### **3.2 Master Correct Exercise Skills**

Sports skills are the premise of sports activities. Sports training activities, which

are different from simple leisure walks and exercise in the gym, need to be based on professional skills and sports skills and combined with the guidance of teachers or professionals to carry out correct and reasonable sports training. Especially in school sports training, most of the students don't sufficiently master the theoretical and practical ability of sports skills, and there are more diversified sports types and projects, so it is more necessary for teachers and students to master the correct sports skills before exercise. They can be taught by others and learn by themselves. The former is to carry out reasonable sports training by carefully studying all kinds of sports skills taught by teachers in class and listening to others' opinions in combination with their own situation, thereby reducing the probability of sports injury. The latter is mainly to recognize their own sports needs and then carry out appropriate sports training through professional software platforms and theoretical knowledge learning.

#### **3.3 Exercise in Right Environment**

Appropriate sports environment is one of the main preventive measures to reduce sports injuries. Many sports injuries are caused by inappropriate sports environments. Sportspeople and instructors should choose an environment and venue suitable for sports training activities. On the one hand, the exercise plan should be set according to the types of sports training and then appropriate sports venues should be selected by combining with the exercise plan and target. For example, the goal of long-distance running training is to enhance the endurance of long-distance running, so sportspeople can choose the playground as the environment for sports training. Playgrounds are a more suitable sports ground for slower long-distance running because there are sufficient routes and open environments. If it is sprint training, the playground cannot be selected as a sports training site, because as an open site, there will be many students and pedestrians, and a fast-paced sprint is easy to collide with others, resulting in sports injuries. On the other hand, a suitable environment should be selected according to individuals' sports

characteristics. The process of sports training should be either accompanied by the instructor or conducted by the exerciser himself according to the plan. They need to fully realize their own sports characteristics and needs, especially in the choice of environment. Different sports training has different ways, and different sportspeople also have different adaptability and preferences. For example, some sportspeople like to train in a quiet environment and they can not accept the too noisy atmosphere, which will easily lead to tension and disgust, affect sports training, and cause sports injuries. Therefore, the reasonable choice of sports training environment must be made by combining with their own situation.

### 3.4 Equip with Suitable Sports Equipment

Finally, appropriate sports equipment is also an important measure to reduce sports injuries because inappropriate sports equipment can easily hinder the progress of sports training and body movements of the sportspeople, which in turn leads to sports injuries. Appropriate sports equipment mainly refers to the clothing, shoes and equipment of professional sports, as well as the clothing scope and shoe scope of ordinary sports. When conducting professional sports training, it is necessary to choose special nail shoes, sports clothing, etc. In ordinary sports training, loose and comfortable clothing and sports shoes should be selected, and some valuable jewelry and some long pendants shouldn't be worn to avoid being limited and injured and unnecessary sports injuries during the exercise process.

## 4. Conclusion

In summary, sports training not only has a very

important significance and role in improving people's physical fitness but also helps to form a good and healthy social atmosphere. However, in the process of sports, sports injuries often occur due to various complex reasons. Therefore, the occurrence of sports injuries can be avoided and reduced by taking effective measures such as reasonable sports training, mastering correct sports skills, exercising in the right environment, and equipping with appropriate sports equipment.

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