

Injuries and Preventions in Volleyball Training

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Abstract: In volleyball training, injuries often occur because of inappropriate training methods or lack of protections. Therefore, it is necessary to study injuries and preventions in volleyball training. This work analyzed the characteristics and causes of most injuries in volleyball training, and discussed measures to prevent injuries. This work can improve the effectiveness of volleyball training and provide a reference for injury preventions.

1 INTRODUCTION

Movements in volleyball are fast, and most of them are completed in jumping or crouching state, so knees often get hurt. In addition, technical actions such as spike, block or jump-serve need the force of waist and abdomen, so waist injury often happens. Besides, muscular strain and injuries of ankle, shoulder and finger joints are also common problems in volleyball. Compared with other confrontational sports, volleyball has a relatively low probability for injuries. But in the training process, players are easy to get hurt if they lack proper protections. When trainers get injuries, their normal training, study and life will be affected.

2 MAIN FACTORS OF SPORT INJURIES IN VOLLEYBALL TRAINING

2.1 Lack of the Awareness of Injury Preventions

In volleyball training, coaches focus more on skills, tactics and their connections. Because of low probability of injuries, coaches usually do not pay enough attention to injury preventions. In turn, insufficient attention to injury preventions can lead students to neglect their safety in the training process. Actions like jump, squat jump, spike and block are largely involved in volleyball training, which will inevitably cause volleyball rolls freely on the court. In such circumstance, students can easily

hurt their ankles or knee joints if they are landing on the volleyball. In a worst case scenario, some may have more serious injuries such as broken legs. Moreover, many students lack basic knowledge of volleyball and injury preventions, so injuries can hardly be avoided in training if there is no effective safety education.

2.2 Lack of Warm-up Exercise

Some coaches pay insufficient attention to warm-up exercise in volleyball training. They just ask students to do a little free-hand exercise. Such warm-up exercise is too simple to fully stimulate the central nervous system, motor system and internal organs of human body. As a result, various parts of human body cannot be well coordinated, which makes people's movement stiff. In this case, vigorous activities such as spike, defense and block can easily cause muscle damages to players. Another problem is that warm-up exercise sometimes is irrelevant to the training content. For example, students are preparing for a training aims at promoting upper limbs flexibility, while their warm-up exercise is all about leg movements. This makes their bodies difficult to adapt to the upcoming high-intensity training.

2.3 Irregular Technical Movements

Volleyball has a very high skill requirement. Skills in volleyball are complex and diverse, and each skill can be divided into different forms depending on their action combinations. After the development and improvement in the last century, skills in

volleyball have well integrated with human physiological structure and biological dynamics theory. In other words, sports injuries will not happen as long as players strictly adhere to skill specifications. However, many students get hurt in volleyball training because they fail to obtain the standard skill movements before taking part in intense confrontational games.

2.4 Lack of Special Training for Volleyball

Good physical quality is a prerequisite for applying volleyball skills. Therefore, in volleyball training, students need basic physical fitness training and special training for volleyball. Only in this way can students effectively and correctly master volleyball skills. In one training lesson, a student usually needs to jump dozens or even hundreds times. Jumping has a very strict requirement for the strengths of abdomen, waist and leg muscles, especially student's explosive effort. Jumping is the basis for a variety of movements. However, in practice, coaches rarely conduct jump training because of their superficial understanding of special training for volleyball. This can easily lead to injuries of students after their super-intensive training.

2.5 Overburdened Partial Reps Training

In volleyball, attacker needs to shoot down the ball from the net to away court. Therefore, spike and forehand service are important to gain scores. These two skill actions both need arms to whip. These actions are repeatedly trained because they help to gain scores. Thus, students are prone to shoulder strain problems, some even get serious injuries such as frozen shoulders. In addition, spike training largely involves movements like jump and land. So a lot of stress is imposed to knees for a long time, which can easily cause knee injuries.

2.6 Faulty Movements Caused by Poor Mental Quality

Mental training in China is at the stage of development. Coaches rarely use it in their training process because of their limited knowledge about mental training and inadequate attention. Thus many athletes get psychological problems in their volleyball matches. In downwind conditions, athletes can use various skills in a standard and appropriate way. However, in the case of upwind,

they become nervous because of their poor psychological quality, which can result in various faulty movements. For volleyball athletes, faulty movements can easily cause sports injuries.

3 INJURY PREVENTIONS IN VOLLEYBALL TRAINING

3.1 Enhancement of Safety Education

To avoid sports injuries, enhancement of students' sense of safety should be the most important teaching content in volleyball training. To develop students' awareness of prevention, students should fully understand the causes and hazards of sports injuries. Moreover, they should be fully aware of the fact that injury prevention is the premise of developing their volleyball skills. In volleyball training, coaches should emphasize the awareness of prevention in every training session. Only by properly master these prevention skills can students avoid sports injuries in volleyball training.

3.2 Proper and Reasonable Warm-up Exercise

For any intensity sports, proper warm-up exercise can effectively prevent sports injuries. However, because of its particularities, warm-up exercise of volleyball needs to be more reasonable and scientific. Warm-up exercise should meet the main characteristics of volleyball, while closely integrated with specific training programs. Instead of freely warm-up exercise, special warm-up exercise should be done before training. In this way, excitement level of human central nervous system is increased, which can avoid sports injuries caused by non-cooperation of human organs and physiological system after high intensity training. With proper warm-up exercise, students' metabolism level and the elasticity and flexibility of their ligaments and joints are improved, which can effectively avoid sports injuries.

3.3 Standardizing Skill Movements in Volleyball

Volleyball skill is the general name for a variety of techniques and movements to win the game with the premise of competition rules. After the development and improvement in the last century, skills in volleyball have well integrated with human

physiological structure and biological dynamics theory. So sports injuries will not happen as long as players strictly adhere to skill specifications. Therefore, in the training process, coaches should use demonstrations and video recordings to make sure students have fully grasped the essence of volleyball skills. This process should be gradual. Otherwise students may get various sports injuries because of irregular movements.

3.4 Enhancement of Special Fitness Training

Volleyball has very high demands for strengths of lower and upper limbs and their coordination. Besides, speed, flexibility, sensitivity and jumping ability are also very important in volleyball game. If relevant special trainings are insufficient, students will be easy to get hurt because of fatigue. So special training is indispensable. Special training should be based on the integrated development of physical fitness, and also in accordance with students' characteristics. In practice, general training should be closely combined with special physical training. Only in this way can we enhance the overall quality of students, prevent sports injuries and improve the level of volleyball training.

3.5 Improvement of Students' Psychological Quality

Volleyball is a confrontational sport. If athletes have psychological problems such as poor psychological quality, interpersonal communication disorder or a weak will, their sensitivities may decrease because of impaired concentration. In intensity sports, athletes are vulnerable to injuries if their reactions are not sensitive enough. In addition, many students are only children that usually are reluctant to communicate with their teammates and lack team spirit in games due to departmentalism. So in volleyball training, besides basic technical guidance, cultivation for psychological quality like interpersonal ability is also important. To effectively enhance students' psychological qualities, innovative training methods are needed to attract students' interests. Only with a normal state of mind can students avoid sports injuries.

3.6 Teaching Students with Correct Self-protection Methods

Before training, coach should carefully check students' physical conditions to avoid injuries

caused by physical problems. Meanwhile, coach need to check training venues to rule out the risk of sports injuries. In addition, coach also need to guide students with correct actions to avoid injuries caused by irregular actions. Coach should specifically explain to students how to use protective gears and the body part that each protective gear protects. Moreover, coach is required to pay attention to small potential hazards. For instance, the length of nails cannot be too long, or nails may break when students play volleyball. With these methods, coach can effectively enhance students' self-protection awareness and avoid sports injuries.

4 CONCLUSIONS

Volleyball is good for promoting students' physical and mental health as well as their integrated physical fitness. But in the training process, various injuries may occur if students lack professional training or safety awareness, bringing many troubles to their life and study. So coach should prevent sports injuries by teaching students skill movements. Their psychological quality and safety awareness also need to be improved. Moreover, reasonable warm-up exercise is important. With these measures, the possibility of injuries in volleyball will be effectively reduced. Hence the effect of volleyball training is enhanced, and the overall qualities of students are promoted.

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