

## Research on the Effectiveness of Massage Techniques in Flexibility Training

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**Abstract:** The research purpose of this subject: Traditional flexible training is dominated by strong tension and compression, and athletes are very painful in training, and the proportion of strains is also high<sup>2</sup>. Many coaches are trying to find a relatively painless and safe training method to train athletes' flexibility. Many scholars also use painless flexibility training as a subject for a lot of research. In the course of teaching massage techniques, the author found that a certain degree of massage release for muscles with tense muscle tension can instantly improve the flexibility of students. If this massage technique is effective for most athletes, it will undoubtedly become a coach A weapon for training athletes' flexibility. In view of this, the author took 3 months to conduct a practical training study on it, using massage as an auxiliary flexibility training method, and exploring the effect of massage in improving students' flexibility during training. At the same time, it is also tested in the experiment which method is best for flexibility training in different positions. The research object of this project: The author selected a total of 125 students in Classes 1, 2, and 3 of the 2016 Social Sports Guidance and Management Program of the Business School of Yunnan Normal University as the research object, including 102 male students and 23 female students. Experiments and mathematical statistics were used to select the turned shoulders, forward flexion in the sitting position, left fork, and the flexibility of the three parts. In the course of the experiment, the students normally attended the class according to the curriculum and did not intentionally add any special flexible training courses. Experimental results of this subject: Through the three-month massage-assisted training experiment, the results show that the students' shoulder flexion, seated forward flexion, and left-fork flexion scores have all improved significantly. 3.38cm, the forward flexion of the seated body was increased by 4.08cm compared with the first week, and the left vertical fork was increased by 4.77cm compared with the first week. Application of techniques, turning shoulders: Through a comparative analysis of the measurement results before and after the class, we can know that the massaging methods of plucking, pressing, and pushing are used to reverse the pectoralis major, pectoralis minor, deltoid and latissimus dorsi muscles. The flexibility of the shoulder is better; the forward flexion of the seated body: through a comparative analysis of the measurement results before and after the class, we can know that the erector spinae, latissimus dorsi, trapezius, gluteal, hamstring, and gastrocnemius muscles The use of plucking, rolling, pinching, and stretching massage methods to improve the flexibility of the seat forward flexion is better; left vertical fork: through a comparative analysis of the measurement results before and after the class, we can know that the quadriceps in the right leg The left gluteal muscle, the left hamstring muscle, and the right hamstring muscle are stretched to improve the flexibility of the left vertical fork. Aiming at the results of the project, the author's suggestion: the muscles with long and large muscles, multi-joint muscles and deep muscles can be flexibly improved by stretching and plucking.<sup>3</sup> Short and small muscles, single joint muscles and superficial muscles The use of plucking and pinching massage for muscles has a more pronounced effect on improving flexibility. After using the massage technique to train flexibility, it is more effective to add consolidation exercises.

### 1. Introduction

Massage has the effects of adjusting yin and yang, tonifying diarrhea, promoting blood circulation and removing blood stasis, relieving tendons, clearing collaterals, reorganizing tendons, and smoothing joints. In recent years, the scope of application of massage has become more and

more extensive: weight loss, traumatic rehabilitation, orthopedics, etc., the classification has also become more and more detailed: health massage, traumatic massage, rehabilitation massage, pediatric massage. It can be said that massage is deeply loved by modern people because of its wide practicality and unique charm, and there are countless studies in various fields. Very few. The author has been engaged in sports rehabilitation massage teaching for many years. In the teaching process, after summing up numerous teaching cases, I found that accurate and effective massage can quickly and effectively improve the flexibility of students. Through a short period of precision acupoint massage, students can quickly reach the standard in some flexible examinations. Based on this, the author has conducted research on the use of massage techniques as an auxiliary training to improve the flexibility of students.

Flexibility is also called soft opening in professional training. It is an important part of physical fitness and one of the important performances of athletic ability. Flexibility directly affects the mastery of athletic skills and the improvement of performance<sup>1</sup>. The development of flexibility restricts the development of other sports capabilities to a certain extent, such as strength, speed, sensitivity, endurance, coordination and so on.

Research on the practical application of massage techniques in flexibility training at home and abroad has found that whether massage is used for rehabilitation treatment or to improve the effect of sports training, experts and scholars in various fields are basically positive about the training effect of massage, but at present There is still no credible research data showing how effective massage is in flexibility training. Domestic and foreign research on the improvement of flexibility by massage techniques only involves the field of art. Although some dance professionals have proposed to introduce massage techniques into dance professional training to develop flexibility, no experimental research has been conducted and no statistically significant research results have been given. It is impossible to determine whether the massage technique can significantly improve the flexibility of students. Therefore, this study applies massage to sports training, explores the effectiveness of massage techniques to improve athletes' flexibility, and seeks a new training method and training mode to create a relatively painless and efficient flexibility training method. Serve to improve athletes' athletic ability.

## **2. Research Results**

### **2.1 Pre-Test**

Prior to the experiment, this article carried out research on all three subjects, including shoulder turning, seat forward flexion, and left vertical fork. The average score of shoulder shift was 57 cm, and the average score of seat forward flexion was 12.0 cm. The vertical fork score is 25.0cm; the average score of 2 shifts is 85.6, the average of forward flexion in seated position is 10.0cm, and the average score of left shift is 36.0cm; the average score of 3 shifts is 90.5cm, average result of forward flexion in seated position It is 13.0cm, the left vertical fork score is 42.0cm; the average score of 4 shifts is 86cm, the average position of forward flexion is 13.0cm, and the left fork is 40.1cm; the average of 5 shifts is 87.9cm, sitting The average result of forward flexion was 14.0cm, and the left vertical fork was 39.2cm. The average result of the six shift shoulders was 89.5cm, the average result of sitting forward flexion was 11.6cm, and the left vertical fork was 35.0cm.

### **2.2 Analysis of Measurement Results in the First to Five Weeks**

#### **2.2.1 Analysis of Measurement Results Before Class**

The average result of shifting shoulders in class 1 is 56.5cm, the average result of seated forward flexion is 13.5cm, and the score of left vertical fork is 22.8cm; the average result of shoulders in class 2 is 84.7cm, the average result of seated forward flexion is 12.0cm, left The vertical fork score is 34.5cm; the average score of 3 shifts is 89.5cm, the average score of seated forward flexion is 14.6cm, and the average score of the left vertical fork is 39.6cm; the average score of 4 shifts is 85.4cm, and the average forward bend The score is 14.5cm, the left vertical fork is 37.2cm; the average result of 5 shifts is 86.5cm, the average of forward flexion is 15.5cm, and the left vertical

fork is 37.8cm; the average of 6 shifts is 88.8cm The average result of seated forward flexion was 13.7cm, and the score of left vertical fork was 33.5cm. In general, all measurement indicators are on the rise, with an increase of about 1.5 cm.

### **2.3 Analysis of Measurement Results in the Sixth to Tenth Week**

#### **2.3.1 Analysis of Measurement Results Before Class**

The pre-class measurement results of the sixth to tenth weeks have improved to a certain extent compared with the pre-class measurement of the first week. The average result of the first shift turned 0.6cm higher than that of the front of the experiment, and the average result of seated forward flexion increased. 2.3cm, the performance of the left vertical fork increased by 2.3cm; the average performance of the two shift shoulders increased by 1.0cm compared with the first week, the average result of the seat forward flexion increased by 3.0cm, and the performance of the left vertical fork increased by 1.4cm; 3 classes The average results of turning shoulders increased by 0.8cm, the average results of seated forward flexion increased by 2.6cm, and the results of left vertical fork increased by 2.3cm; the average results of the four classes increased by 1.0cm, 2.3cm, and 2.7cm; 5 The average increase of each class in class was 0.9cm, 2.1cm, and 1.5cm; the average increase of each class in class 6 was 1.5cm, 2.6cm, and 1.5cm. The overall upward trend is obvious, which also proves to a certain extent that the application of massage techniques can help the flexibility training.

#### **2.3.2 Analysis of Measurement Results after Class**

Comparing and analyzing the results of the pre- and post-measurement measurements during the sixth to tenth week, it is more obvious than the first to five weeks, and the increase is about 2.1cm. This also proves to a certain extent that the application of massage techniques is Flexibility training helps.

### **2.4 Analysis of Measurement Results in the Eleventh to Sixteenth Weeks**

#### **2.4.1 Analysis of Measurement Results Before Class**

In the eleventh to sixteenth weeks, the grades of each class are still slightly higher than the previous stage.

#### **2.4.2 Analysis of Measurement Results after Class**

A comparative analysis of the test results before and after the 11th to 16th weeks shows that the grades in this stage are still increasing, and the increase is about 1.6cm. In the final stage of this experimental study, the data this time is more obvious than the beginning. It can be seen that the average scores of the three items have always maintained a steady upward trend, which greatly proves that massage Techniques have strong practical significance in flexibility training.

### **2.5 Comparative Analysis of Pre-Experimental Results and Pre-Experimental Results of Eleven to Sixteen Weeks**

Six classes of 102 students improved their three shoulders, forward flexion of the seat, and the left vertical fork. The flexibility scores were improved. The turn was increased by 3.38cm, the forward flexion of the seat was increased by 4.08cm, and the left vertical fork was increased by 4.77cm.

### **2.6 Comparative Analysis of Each Stage Using Techniques**

The first to fifth cycle of shoulder and seat forward flexion use the massage method of tension, the left vertical fork uses the plucking method, press method, push and other massage techniques; the sixth to tenth cycle of shoulder and seat forward flexion use the pluck Massage methods such as method, press method, push method, rolling method, pinch method, etc., the left vertical fork uses the massage method of stretching; the eleventh to sixteenth weeks of shoulder and seat forward flexion use the massage method of stretching, left The vertical fork uses massage methods such as

plucking, pressing and pushing.

### **3. Conclusions and Recommendations**

#### **3.1 Conclusion**

After 16 weeks, we can clearly see that the application of the massage technique can effectively improve the flexibility. The results of 102 students' turned shoulders, forward flexion of the seat and the left vertical fork have been significantly improved. Students Everyone feels the flexibility of the joints, and the range of movements becomes larger.

##### **3.1.1 Turn Shoulder**

By comparing and analyzing the measurement results before and after the class, we can see that the use of plucking, pressing, and pushing massage techniques on the pectoralis major, pectoralis minor, deltoid and latissimus dorsi muscles has a better effect on the flexibility of turning the shoulder. .

##### **3.1.2 Forward Flexion in the Sitting Position**

Through a comparative analysis of the measurement results before and after the class, we can know that the massage methods of plucking, rolling, pinching and stretching the muscles on the erector spinae, latissimus dorsi, trapezius upper bundle, glutes, hamstrings and gastrocnemius muscles The flexibility of the seat forward flexion is better.

##### **3.1.3 Left Vertical Fork**

By comparing and analyzing the measurement results before and after the class, we can see that the flexibility of the left vertical fork is improved by using the tendon method on the quadriceps of the right leg, the left gluteal muscle, the left hamstring, and the right lumbo-lumbar muscle. The effect is better.

#### **3.2 Recommendations**

##### **3.2.1 Suggestions for the Selection of Massage Techniques on Different Muscles**

For large and large muscles, articulated muscles and deep muscles, the use of stretch massage can improve the flexibility more significantly; for short and small muscles, single joint muscles and superficial muscles, plucking and pinching massage can be used to improve flexibility. The improvement effect is more obvious.

##### **3.2.2 Consolidation Exercises**

After using the massage technique to train flexibility, it is better to add consolidation exercise training.

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