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**Padam Dev Singh**  
Directorate of Sports and  
Physical Education University of  
Jammu, Jammu and Kashmir,  
India

## Effects of selected static stretching exercises on Sargent jump performance in volley ball players

**Padam Dev Singh**

### Abstract

**Introduction:** The importance of fitness through the medium of physical activity and sports can hardly be under estimated in the modern times, especially when the life style is changing fast as a consequence of pursuit of materialistic. Empirical scientific evidence advocates that one of the key to achieve these ideals is exercise. In sports like volleyball, football, basketball athletes always used many techniques to improve their Sargent jumping ability as the role of Sargent jump in these sports is very important. Of these techniques stretching is one of the common techniques used by athletes. Stretching is commonly accepted as an important component in reducing the potential for injury during physical activity and sports as an important component of overall physical fitness. Stretching is also thought to improve recovery and may enhance athletic performance, especially in Sargent jump ability.

**Methodology:** Fifty subjects were taken for the present experiment. All the subjects had played Volleyball upto District level and above. The subjects were divided into two groups namely, Experimental Group (N=25) and Control Group (N=25) Experimental group was given selected stretching exercises thrice a week for nine weeks. Each subject was put through a static stretching regimen of ten muscle groups viz. the gluteus, hamstring, adductors, quadriceps, calf, tibials anterior, gluteal region, posterior thigh region, medial thigh region, and lateral thigh region. Significance of difference between pre-test and post-test was obtained by Applying t-test.

**Result:** There was a statistical significant difference between experimental group and controlled group. The two comparisons that were most relative to this study showed a great statistical significance that there is a negative effect on Sargent jump performance when passive static stretching is applied.

**Keywords:** Static stretching, Sargent jump, volley ball players

### Introduction

The importance of fitness through the medium of physical activity and sports can hardly be under estimated in the modern times, especially when the life style is changing fast as a consequence of pursuit of materialistic. Tremendous urbanization and mechanization of daily routine almost everywhere seen to have resulted not only in hurrying and scurrying, but also depriving people of natural vitality, vigor power, strength prowess specially physique are so essential for to days life. It can be witnessed from the present scenario that each and every person want to look good, feel good and live longer. Empirical scientific evidence advocates that one of the key to achieve these ideals is exercise. All the people can fulfill their desire. Each individual is unique. The extent of human variability is so enormous that no two individuals can ever be exactly the same.

Physically fit citizens are the emergent demand of any nation as the fitness of any citizen was an index of the prosperity of the country. Since the dawn of civilization physical fitness has greatly contributed towards the strength of a nation. As history points out that people and communities who cared for their health through physical activities, remained strong and prosperous. Whereas, those who neglected it waned and perished. Zeilgler, (1979) had an opinion that the Great Roman Civilization crumbled because they took it luxury. President Kennedy rightly said, "If we fail to encourage physical development and prowess we will undermine our capacity for thought".

**Corresponding Author:**  
**Padam Dev Singh**  
Directorate of Sports and  
Physical Education University of  
Jammu, Jammu and Kashmir,  
India

Athletes for thousands of years have used various forms of training to enhance their sports performance. In sports like volleyball, football, basketball athletes always used many techniques to improve their Sargent jumping ability as the role of Sargent jump in these sports is very important. Of these techniques stretching is one of the common techniques used by athletes. Stretching is commonly accepted as an important component in reducing the potential for injury during physical activity and sports as an important component of overall physical fitness. Because most organized physical activities are preceded by some flexibility training activity, it would be beneficial to know the effects of different flexibility range of motion. The most commonly used method for increasing the range of motion around a joint are ballistic stretching and static stretching. The ballistic technique is performed by rapidly moving a body segment to the limit of its range of motion that creates tension on a particular muscle or muscle group and the surrounding connective tissue of the muscle and the joint while static stretching is performed by producing a steady tension across a joint.

Stretching is useful for both injury prevention and treatment. If done properly stretching increases the flexibility and this directly translates into reduced risk of injury. The reason is that a muscle or tendon group with a greater range of motion passively, will be less likely to experience tears when used actively. Stretching is also thought to improve recovery and may enhance athletic performance, especially in Sargent jump ability.

In sports such as basketball, soccer, and volleyball, an increased Sargent jump can possibly give those athletes that extra advantage they are always trying to achieve. It is not clear from prior research what the effects of stretching have on an athlete's Sargent jump performance (Knudson *et al.*, 2000) [14]. The objective of this research is to examine if there is a difference in Sargent jump performance of athletes who are put through a static stretching regimen and athletes who do not perform any stretching exercises.

**Method and Procedure**

Total fifty (N=50) were taken for the present experiment. All the subjects were volleyball players and had participated at least district level or intercollegiate tournament organized by Jammu university. The subjects were divided into two groups namely, Experimental Group (N=25) and Control Group (N=25).

Purpose of the present study was to provide information effects of stretching on Sargent Jump performance, Experimental group was given selected stretching exercises thrice a week for nine weeks. Each subject was put through a static stretching regimen of ten muscle groups *viz.* the gluteus, hamstring, adductors, quadriceps, calf, tibials anterior, gluteal region, posterior thigh region, medial thigh region, and lateral thigh region.

Control group was not given any kind of training. However, this group was allowed to engage in activities during the experimental session.

**Tools:** A black board of 4.5 feet x 2 feet painted with green and red lines parallel to the ground, one inch apart green lines and one foot apart red lines respectively. The board was fixed firmly to a wall and preferably six inches from the wall and seventy inches above the ground used in this study.

**Results and Discussion**

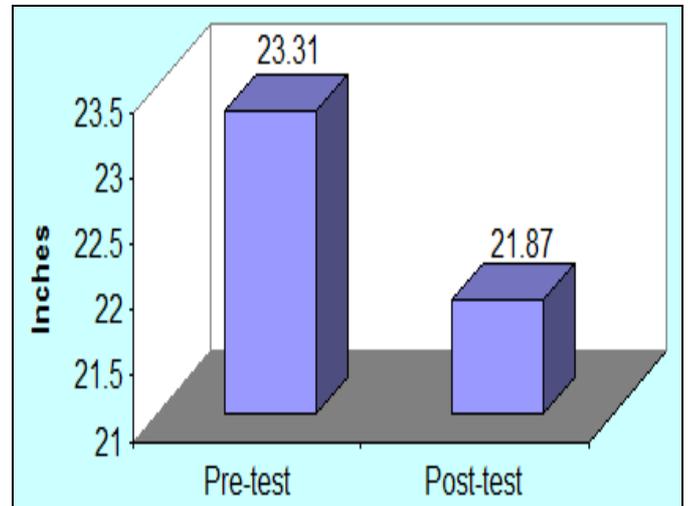
After completing the prescribed scoring of the both tests the

raw scores were tabulated and The collected data were tabulated and computerized to draw out the meaningful conclusion. Mean, Mean Difference, Standard Deviation and t-value of the pre and post-test for experimental group

**Table 1:** Mean, mean difference, standard deviation and t-value of pre-test and post-test of experimental group

Test	Mean	Mean difference	Std. deviation	t-value
Pre-test	23.307	1.442	1.578	7.881
Post-test	21.865		1.715	

\* Significant at 0.05 level  $t_{.05(51)} = 2.01$

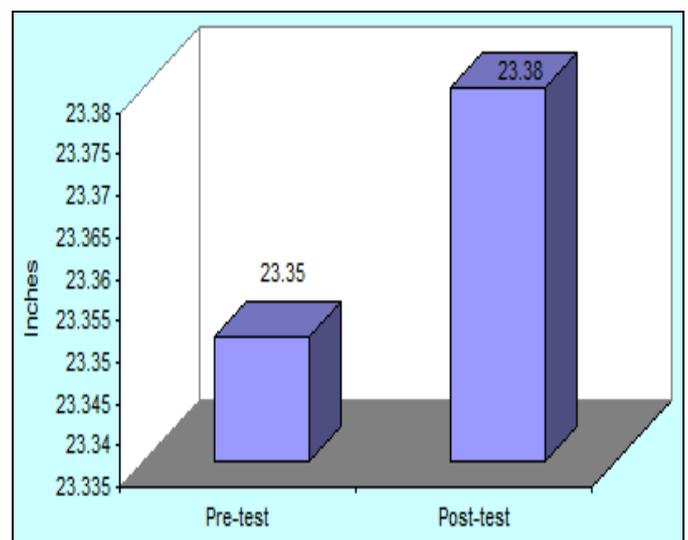


**Fig 1:** Graphical Presentation

**Table 2:** Mean, mean difference, standard deviation and t-value of pre-test and post-test of control group

Test	Mean	Mean difference	Std. deviation	t-value
Pre-test	23.346	0.040	1.426	0.362
Post-test	23.386		1.223	

Non-significant at 0.05 level  $t_{.05(51)} = 2.01$



**Fig 2:** Shows Graphical Presentation

**Table 3:** Mean, Mean Difference, Standard Deviation and t-value of Post-test of Experimental group and Control group

Group	Mean	Mean difference	Std. Deviation	t-value
Experimental Group	21.865	1.519	1.715	5.200
Control Group	23.384		1.223	

\* Significant at 0.05 level  $t_{.05(102)} = 1.98$

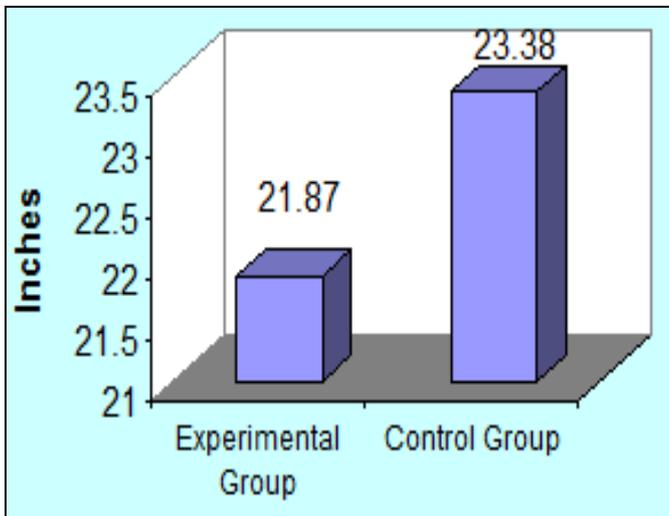


Fig 3: Shows Graphical Presentation

### Graphical Presentation of Mean Difference between Post-Test of Experimental Group and Control Group

The overall results concluded that, in this study, there was a statistical significance between passive static stretching and Sargent jump performance. There was a statistical significant difference between experimental group and controlled group. The two comparisons that were most relative to this study showed a great statistical significance that there is a negative effect on Sargent jump performance when passive static stretching is applied. (Knudson *et al.*, 2000) <sup>[14]</sup>.

### Conclusion

In conclusion, the results of this study showed statistical significant difference between stretching before Sargent jump performance and not stretching before Sargent jumps performance.

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