



## **EFFECT OF CORE IMMOVABILITY TRAINING ON TRUNK STABILITY OF CRICKET PLAYERS**

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### **Abstract:**

Core strength is the base of all physical activity. Core strength plays vast role for development of overall skill. **Purpose:** The prevalent objectives of the study were to find out the effect of core stability training on strength of university level cricket players. **Approach:** Fifty (50) university level cricket players from Delhi/ NCR were selected as the subjects for this study whose age were ranging between 18-21 yrs. These subjects were randomly divided into two equal groups (control and experimental group) based on the scores obtained from vertical jump test. A systematic core immovability training for 8 weeks (five days per week) was given to the experimental group. The control group received no treatment. Pre-test and post-test data were collected on leg strength and back strength for both the groups. The data were further analysed by using one way ANOVA to find out the training effects if any on the subjects. **Result:** The result of the study showed that there was significant improvement on back and leg strength of the experimental group. **Conclusion:** It was concluded that core training useful in improving the strength ability of the cricket players.

**Keywords:** core, immovability, strength, cricket , lumbopelvic

### **1. Introduction**

Cricket is one of the very popular sports in the world and many countries actively participated. In t-20, limited over match players frequently move on the ground. The nature of the sport is players every time on toes weather batsmen's, bowler, wicket keeper and fielders. Fitness is the basic to perform the skills in any games in the actual situation. Today's scenario demands good fitness from all the players and for good fitness specific training requires. Right and specific training may improve the performance of players. Among the fitness components it is the strength which

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dominates majority of the sports. The various form of strength such as explosive, strength endurance or maximum strength requires depending upon the nature of the game. To perform any movement the most important aspect is the dynamic balance or stability. Core stability is defined as the ability to control the position and motion of the trunk over the pelvis to allow optimum production, transfer and control of force and motion to the peripheral segment in integrated athletic activities (Kibler W. B., 2006). it is theorized that a strong core allows an individual the full transfer of forces generated from the ground through the lower extremities, the torso, and finally to the upper extremities and sometimes an implement (Behm et al., 2005, Duncan et al., 2000). So it becomes very important to train the core muscles of our body to get the maximum out of the performance. Willson J. D. et al., also mentioned in his study that core stability has got several benefits to the musculoskeletal system. Further he elaborated that core stability as the ability of the lumbopelvic hip complex to prevent buckling and to return to equilibrium after perturbation. A well core part is both enable to weigh upon the athletes and ensure the technique movements being performed better (Satiroglu et al., 2013). Along with the popularity in the game of cricket, research has also gathered momentum to provide a scientific base to the game. In the present study also researcher has prepared a core exercise to find out its benefits on the strength of cricket players.

## 2. Methodology

To achieve the purpose of the study 50 university level cricket players were selected from Delhi/NCR. The age ranged of the selected subject between 18-21 years. They were divided in to two equal groups of 25 – 25 each. The experimental group underwent to 8 weeks (5 days per week) of core training whereas control group was not given any experimental treatment. Pre-test and post-test data were collected for back and leg strength from both the groups. Dynamometer was used to assess the strength of the participants. The collected data were analysed using one way ANOVA.

## 3. Results and Discussions

### 3.1 Results

To find out the effects of the core training on the participants the means of the pre-test and the post-test data were analysed as follows.

**Table 1:** Comparison between Pre-Test and Post-Test Means of Experimental and Control Group In Relation To Back Strength

	Group	N	Mean	Std. Deviation	df	f
Back Strength pre-test	Control group	25	90.08	15.03	1	1.01
	Experimental group	25	87.32	16.56	48	
Back Strength post-test	Control group	25	91.72	12.19	1	5.49
	Experimental group	25	127.6	19.76	48	

Significant level 0.05 = 4.08 (1,48)

Table 1 depicts that the difference between the calculated f-value for the pre-test and post-test means of control group is not significant since the calculated value of 1.01 is less than the tabulated value of 4.08. table also shows that there is a significant difference in the pre-test and post-test means of leg strength of the experimental group , as the obtained value of 5.49 is higher than the tabulated value of 4.08 at 0.05 level of significance.

**Table 2:** Comparison between Pre-Test and Post- Test Means of Experimental group and Control Group in relation To Leg Strength

	Group	N	Mean	Std. Deviation	df	f
Leg Strength pre-test	Control group	25	92.84	13.8	1	0.028
	Experimental group	25	91.24	13.3	48	
Leg Strength post-test	Control group	25	94	10.57	1	5.13
	Experimental group	25	129.04	18	48	

Significant level 0.05 = 4.08 (1,48)

Table 2 depicts that the difference between the calculated f-value for the pre-test and post-test means of control group is not significant since the calculated value of .028 is less than the tabulated value of 4.08. table also shows that there is a significant difference in the pre-test and post-test means of leg strength of the experimental group, as the obtained value of 5.13 is higher than the tabulated value of 4.08 at 0.05 level of significance.

### 3.2 Discussion

From the findings it is evident that the changes which occurred in the experimental group in the form of increase in the leg and back strength are due to the effect of the training programme which was not shown in the control group. Pantelis, 2006 study result also supported that the ratio was higher in young and in adolescent male football players than in untrained subjects which was suggestive of a flexors/extensors misbalance in football players.

During core training we have focused on the chief core muscles like abdominal muscles, oblique muscles, muscles in the lower and mid back. To perform any kinds of movement first step to sum up all our body force, specially starts from the abdomen region because core is directly involved. This occurrence knowingly or unknowingly, but is common in all kinds of movement. Stronger core is the bridge of lower and upper extremity. This might be the main reason due to which core training have shown significant improvement in the back and leg strength of cricket players.

### 4. Conclusions

Within the limitations of this study and on the basis of the findings, the following conclusions were drawn:

- 1) The eight weeks core training was sufficient in improving the leg strength of the cricket players.

- 2) The eight weeks core training was also found to be sufficient in improving the back strength of the cricket players. The core stability training programme can be used as a training module for the cricket players.

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