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# Effect of plyometric exercises on speed in football university players

**Dr. Bhoj Ram Rawte, Krishna Gopal Rai and Buddhadev Kandar**

**Abstract**
The aim of this study was to analyse the effect of Plyometric Exercises on Speed in Football University Players**.** 40 male Football University Players were chosen as subjects. The ages of the subjects were from 19-26 years studying in Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) was selected as subjects. The investigation was planned as a genuine irregular gathering outline. The subjects (N=40) were arbitrarily allocated into two equivalent gathering of twenty (Men) Football players each to be specific, the test bunch I and Control aggregate II. Exploratory gathering experienced plyometric practices week by week six days and for a time of eight weeks. The information was gathered previously, then after the fact the preparation time frame; t-test were utilized. The level of significance as 0.05. The primary discoveries uncovered that an eight weeks plyometric program has enhanced speed execution of test assemble when contrasted and control gathering.

**Keywords:** Plyometric exercise, speed, football players

## 1. Introduction
The word Plyometrics begins from the Greek word Plio which intends to increment, and metric significance estimation. This type of energy preparing developed back in the mid 1960's, the point at which one of its pioneers Yuri Vershanski from Russia started to explore different avenues regarding systems for receptive capacity. After broad research it was discovered that not exclusively did plyometrics create remarkable contractile quality and power in the muscle tissue, however it additionally affected the entire neuromuscular framework similarly. Consequently, making ready for another idea of molding competitors in many games, particularly in eastern square nations at the time. Plyometric preparing includes and utilizes rehearsing plyometric developments to improve tissues capacities and prepare nerve cells to animate a particular example of muscle contraction, so the muscle produces as solid a constriction as conceivable in the most limited sum of time. A plyometric compression includes initial a quick muscle stretching development (flighty stage), trailed by a short resting stage (amortization stage), at that point an unstable muscle shortening development (concentric stage), which empowers muscles to cooperate in doing the specific movement. Plyometric preparing draws in the myotatic reflex, which is the programmed withdrawal of muscles when their extend tactile receptors are invigorated. Strong power and solid quality are two unique things. Strong quality alludes to how much power can be connected (The capacity to lift a heavier one). Strength alone is great characteristic of speed. In spite of the fact that muscle quality is associated to dash execution, inquire about has demonstrated that joining both protection preparing and polymeric preparing will effectly affect preparing. While plyometrics aids quick power improvement (control), weight preparing aids adage al compel yield (quality). Power alludes to the joined components of speed and quality. Execution in many games depends on various sorts of energy. In American Cricket a lineman and a recipient may have a similar power, yet they have diverse confinements in how their energy is conveyed. The lineman would be speed-constrained, though the recipient would be quality restricted. The motivation behind plyometric s is to stress speed-based power. One action that requires speedfavored power is high bouncing: eventually, hop tallness is resolved not have remarkable leg quality, but rather they can create it at outstanding rates. Studies have demonstrated that preparation a plyometric movement, for example, drop hop enables the competitor to expand

the reactivation and pre extend of the muscles and enables the mentor to survey landing strategies that are essential to the generation of power With the expansion of power creation, a competitor progresses toward becoming m mineral intense unstable and stable when performing errands diminishing danger of damage and expanding general execution on the playing field. Speed is the execution pre essential to do engine activities under given conditions in least of time. Speed is the briskness of development of an appendage, regardless of whether this is the legs of a sprinter or the arm of the shot putter. Speed is a vital piece of each game and can be communicated as any of, or blend of, the accompanying: most extreme speed, and speed perseverance.

### 1.1 Objective of the Study
The purpose of the present study was to analyse the effect of Plyometric Exercises on Speed in Football University level Players.

## 2. Methodology
### 2.1 Selection of Subjects
The present study consisted of 40 male Football University Players were chosen as subjects. The ages of the subjects were from 19-26 years studying in Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) was selected as subjects.

### 2.2 Selection of Variables
After reviewing through all the scientific literature, journals, magazine and keeping feasibility criteria in mind the content Plyometric Exercises was selected for the purpose of the present study.

### 2.3 Criterion measures
The subjects were arbitrarily allocated into two gatherings that is a trial assemble with 10 understudies each gathering. The exploratory experienced plyometric preparing program in a time table of 40 minutes for six days in seven days, for a time of eight weeks. Plyometric practice work out incorporates Lateral high expectations, Hurdle hops, Lateral obstructions bounces, Split Squat hops, Bounding with Rings, Zig-Zag Hops, Depth hops. The control bunch did not include in any work out regime. 50 yards run was measured by stop watch. Every one of the subjects were tried in 50 yards pursue earlier and eight weeks of plyometric preparing.

**2.4 Statistical analysis of data:** Statistical tool was used for accurate and systematic results. Independent t-test was use as Statistical technique for comparative analysis. And the level of significant was set at 0.05 level.

## 3. Result and Discussion of the Study

**Table 1:** Showing the Pre-test and Post-test for 50Yards Run

| Variable | Groups | N | Mean | S.D. | t-value |
|---|---|---|---|---|---|
| 50Yards Run | Experimental (Pre-test) | 10 | 6.10 | 0.21 | 4.25* |
| | Experimental (Post-test) | 10 | 5.40 | 0.08 | |
| 50Yards Run | Control (Pre-test) | 10 | 6.05 | 1.01 | 0.04 |
| | Control (Post-test) | 10 | 6.09 | 0.17 | |

*significant at 0.05 level

Table 1 Shows that the experimental group pre and post-test mean, standard deviation and t-values are presented in table-1 and it reveals the significant level in the effect of plyometric exercise on experimental group. The t-value of the selected variable is above the table value of 4.25. Hence the study indicates that the plyometric exercise is useful for the significant improvement of physical fitness variable speed. The control group pre and post-test mean, standard deviation and t- values are 0.04. The result indicates that there is no significant difference in speed.

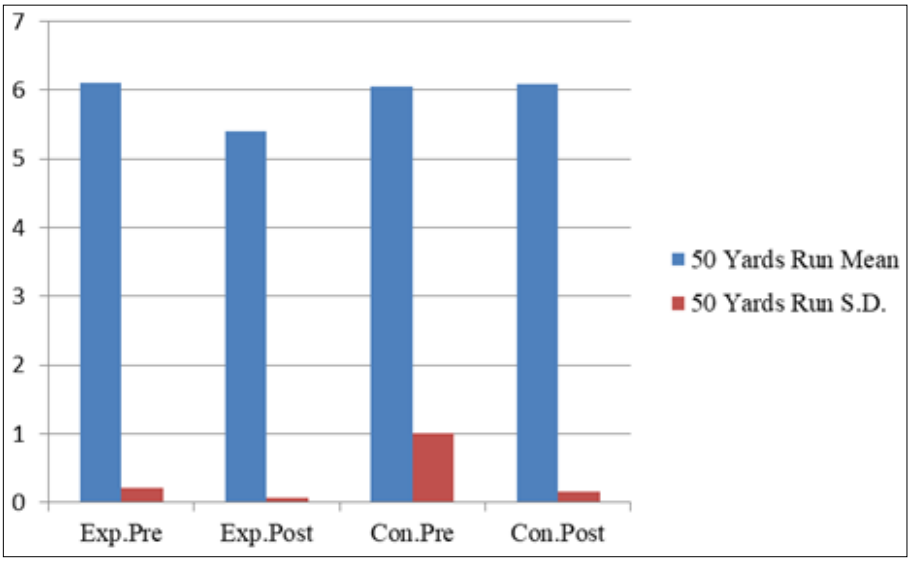


**Fig 1:** Graphical Representation of Pre-test and Post-test of 50 Yards Run

Every one of the subjects of the trial gathers were experienced normal plyometric preparing which were doled out to them. From the examination it is clear that on account of 50 yards run critical changes were seen following twelve weeks of various ploymetric preparing program. Be that as it may, the control assemble did not demonstrate any adjustments in the 50 yards run timing. The planning essentially diminished due to the plyometric preparing. The investigation uncovers that the test aggregate is altogether than the control gathering. In this manner the theory has been acknowledged.

## 4. Conclusion and Finding

It is documented from the table that the result of present study, the researcher might conclude that-

- The result of the study indicates that plyometric exercise is useful to the development of speed.
- In control group there is no significant improvement is found out.

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