

Effect of Circuit Training for development of Speed among High Jumpers of India

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Abstract:

Circuit Training is specifically designed to make the entire body improvement especially strength, speed, mobility, speed endurance etc. The objective of the study is to determine the effect of circuit training exercises for development of speed among High Jumpers of Telangana State. It is hypothesized there will be effect of Circuit training for development of Speed among High Jumpers. The purpose of the present study to find out the effect of Circuit Training for the development of Speed in High Jump. The sample for the present study consists of 20 Male High Jumpers of Telangana State out of which 10 are experimental group and 10 are controlled group. Circuit Training exercises were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training in High Jump for eight weeks. To assess the Speed Pre Test and Post Test were conducted in 50 Meters Run by the qualified technical officials of athletics to the experimental group and controlled group. This study shows that due to the Circuit training exercises there is a improvement of High Jump experimental group in speed and High Jump controlled group is decreased in performance ability and speed due to the general training. It is concluded that due to circuit training there will be improvement in speed among High Jumpers.

Key words: plyometric exercises, speed, explosive power etc

Introduction:

Circuit training is a form of body conditioning or resistance training using high-intensity aerobics. It targets strength building or muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for the next circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise. The program was developed by R.E. Morgan and G.T. Adamson in 1957 at the University of Leeds in England

A circuit should work each section of the body individually. Typical activities include:

Upper-body: Bench dips, Back extensions, Medicine ball chest pass, Bench lift, Inclined press up

Core & trunk: Sit ups, Stomach crunch, Back extension chest raise

Lower-body: Squat jumps, Step ups, Shuttle runs, Hopping shuttles, Bench squat

Total-body: Burpees, Treadmills, Skipping

The **high jump** is a track and field event in which competitors must jump unaided over a horizontal bar placed at measured heights without dislodging it. In its modern most practised format, a bar is placed between two standards with a crash mat for landing. At the elite level, athletes run towards the bar and use the Fosbury Flop method of jumping, leaping head first with their back to the bar. Performed since ancient times, competitors have introduced increasingly more effective techniques to arrive at the current form. The discipline is, alongside the pole vault, one of two vertical clearance events to feature on the Olympic athletics programme. It is contested at the World Championships in Athletics and IAAF World Indoor Championships, and is a common occurrence at track and field meetings. The high jump was among the first events deemed acceptable for women, having been held at the 1928 Olympic Games. Javier Sotomayor (Cuba) is the current men's record holder with a jump of 2.45 m (8 ft 0¼ in) set in 1993 – the longest standing record in the history of the men's high jump. Stefka Kostadinova (Bulgaria) has held the women's world record at 2.09 m (6 ft 10¼ in) since 1987, also the longest-held record in the event.

Techniques in high jump: Straddle Technique and Fosbury Flop

Prof. Rajesh Kumar (2018) studied about the effect of Hill Training for development of Aerobic fitness among Middle and long distance runners of Hyderabad District in India. The sample for the study consists of 45 Middle and long-distance runners between the age group of 18 to 20 Years those who have participated in many middle and long-distance events since last 3 Years. The selected subjects were randomly divided into three equal groups of 15 each. Group I is Experimental Hill Training Group, Group II is Experimental Fartlek Training Group and Group III is Control Group. The Experimental Groups were given Training Alternate days for 12 Weeks in addition to their normal practice on other days. The Control Group were given routine training. The Data were collected in Pre-Test and Post Test for all groups using the 12 Min Run Cooper Test. The collected data were analyzed statistically by using Ancova. The Results of the

Study shows that due to Hill Training and Fartlek Training there is a significant development of Aerobic fitness among Experimental Groups.

Objectives of the Study:

The objective of the study is to determine the effect of circuit training exercises for development of speed among High Jumpers of Telangana State.. It is hypothesized there will be effect of Circuit training for development of Speed among High Jumpers.

Methodology:

The purpose of the present study to find out the effect of Circuit Training for the development of Speed in High Jump. The sample for the present study consists of 20 Male High Jumpers of Telangana State out of which 10 are experimental group and 10 are controlled group. Circuit Training exercises were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training in High Jump for eight weeks. To assess the Speed Pre Test and Post Test were conducted in 50 Meters Run by the qualified technical officials of athletics to the experimental group and controlled group

TRAINING PROGRAMME FOR HIGH JUMPERS: ONE WEEK

Days	Exercises	Repetitions and Sets
Tuesday	Circuit Training with Continous Method Pushups, Sit ups, High Knee Action Running, Dumb bell Exercises, Back Arches, Half Squat with Medicine ball, Money Walk, Sit ups, Heel Raising, Front Press with weight, Dumbbell Side ward Bend, Half Squat jumps	Continous Method 3-4 Sets(No Recovery) Each Exercises 30 Sec. followed by another exercises immediately
Thursday	Circuit Training with Interval Method Medicine Ball catching and Throwing up and down , Sit ups, Shuttle Runs, Back Press with Weights, Bridge Exercises , Half Squat with Medicine ball, Pushups, Sit ups, Heel Raising, Bicep Cups with weight, Dumbbell Side ward Bend, Lunge	Interval Method 30 Sec. Exercises 30 Sec. Rest

Saturday	Circuit Training with Continous Method Pushups, Sit ups, High Knee Action Running, Dumb bell Exercises, Situps , Half Squat with Medicine ball, Push ups , Bridge , Heel Raising, Front Press with weight, Dumbell Side ward Bend, Burpee	Continous Method 3-4 Sets(No Recovery) Each Exercises 30 Sec. followed by another exercises immediately
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Result:

This results of the study shows that due to the Circuit training there is a improvement of experimental group in the Speed and controlled group is decreased in performance due to the general training.

Table No. I: Mean values of 50 M run test between experimental and control group of High Jumpers

Variables	Group	Pre Test Mean ± SD	Post Test Mean ± SD	t	P - Value
50 M Run Test	Experimental	7.51 ± 0.294	7.23 ± 0.262	4.58	0.000
	Control	7.64 ± 0.376	7.73 ± 0.408		

*Significant at 0.05 level

The Experimental Group of 50 M Run Men is 7.51 in Pre Test and Controlled Group mean is 7.64 in Pre Test there is a difference of 0.13 in Pre Test. The Experimental Group Mean is 7.23 in Post Test and Controlled Group mean is 7.73, the Experimental Group mean in Post Test in 50 M Run is decreased from 7.51 to 7.23 the control Group mean in Post Test in 50 M Run is increased from 7.64 to 7.73. Due to the Plyometric Training the Experimental group has improved a lot.

Discussion:

The Strength, Speed and Endurance are the important abilities for successful performance. The dominant ability is the one from which the sport requires higher contribution to achieve the high success in the sports and games. Most sports require peak performance in at least two abilities. The Relationships among strength, Speed, and endurance create crucial physical athletic qualities. Specific development of a biomotor ability must be methodical. A developed dominant ability directly or indirectly effects the other motor abilities. When an athlete develops strength he may experience a positive transfer to speed and endurance. On the other hand, a strength training program designed only to develop maximum strength may negatively effect the development of aerobic endurance. A high-jumper propelling himself off of the ground requires

explosive strength and speed for better performance. An High Jumper ability to display a high level of explosive power is believed to be one of the most important factors in determining athletic success.

Conclusions:

It is concluded that the due to the Circuit training develops the strength and power in the legs. It also improve the co-ordination in the arms and legs and promotes in developing the Speed. In this Study it is concluded that due to the Circuit Training there is a development of Speed among High jumpers.

Recommendations:

Similar Studies can be conducted among females and in other Sports and games. This study is useful to the Coaches to prepare the conditioning program to improve the motor abilities of the Jumpers.

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References:

Dr. Pradeep Kumar Lenka (2019) studied the Effect of Resistance Training and Circuit Training on selected Physical and Physiological Variables Among College Male Boxing Players ,International Journal of Health, Physical Education and Computer Science in Sports Volume No.35, No.1, pp155-157.

Kumar R (2018) Effect of Hill Training and Fartlek Training for development of Aerobic Fitness among Middle and Long-Distance Runners of Hyderabad District in India. Yoga Phys Ther Rehabil: YPTR-158. DOI: 10.29011/ 2577-0756. 000058.

Dr.M. Srinivas Reddy Dr. P.Ramesh Reddy, Ms.Amrita Pandey (2012) Effect Of Plyometric Training,Circuit Training And Combined Training On Selected Muscular Strength And



Muscular Power Among The Secondary Students. International Journal of Health, Physical Education and Computer Science in Sports Volume No.7, No.1,pp71-73.