

# A Study of Influence of Varied Power Training Among Cricket Players

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## Abstract

The study analysis was to determine the effect on the agility and strength endurance of males cricket players from crickets specific fitness training. Cricket is the most famous game in the history of all ball games and the richest game. In Cricket, offensive (batting) values include scoring runs, preventing the wicket being withdrawn or defended (staying there). Defensive concepts (bowling and fielding) include limiting runs, battering and stopping space to accomplish these defensive objectives. The simple offensive objectives in cricket are to strike the ball in the field and not get out. The defence is trying to limit running scoring and to eliminate batteries. Agility is a person's ability to rapidly and efficiently shift locations in space or change directions. The capacity to carry out a range of destructive force movements rapidly in the other direction (e.g. zig-zag running or cutting movements). Agility is the ability to quickly and effectively adjust the course of the body. The subjective components of physical-skills Personalized mental skills training enable participants to recognize their cognition in censure to support an intensity of flow in the coordination and capital punishment of task-related skills over the distinct perspective states of participation. The diamond in the rough was approached from a quantitative (descriptive) perspective being it was the perceptions and insane skills subordinate to cricket players' levels of partnership that are assessed.

**Keywords:** *Power Training, Cricket Players, Agility and Strength, Males Cricket Players, Fitness Training*

## 1. INTRODUCTION

The role of sport in modern society is very promising. For a person, a community, a nation and indeed the world, this is important. The word 'sport' is very common among people of every age and gender. Performance in elite sports at world class level will bring both laurels to the person and to the country. A game between two teams is essentially played. One or more players can be part of a squad. In terms of scores/fixed points or time, the winners are determined. The best teams are generally the winner. The team/individual success is measured by their performances.

Research is required on all aspects of cricket game to understand the players' demands and to relate them to fatigue indicators and the risk of injury. The relation between science and practise in other sports such as football is a long way off. The training programmes would be based too much on trial and error and not on science until more of the demands of the game are understood. This means that players are not sufficiently trained for play and are thus more likely to be injured. This particularly refers to more preventable injury and fatigue-related injuries, such as sprains and strains. In addition, more coordination and collaboration between cricket research scientists and game coaches is required to ensure mutual benefit. This section says that musculoskeletal demands and related stressors are the real cause of stress for cricketers and that research must consider connecting effective excenter training programmes with fatigue indicators, impact on results and risk mitigation on injuries.

Basically, cricket is a bat and ball game played in more than 108 countries all over the world. Since this game was first introduced, there is no accurate record. However, it has more than 300 years of history, the literature suggests. There are many different styles of crickets played, including Test Cricket, One day limited overs, Twenty, 1st class, Sixa-side, 8-page, single wicket, double wicket etc. The top three cricket variants have been widely admired in the Asian region in particular worldwide. Cricket advocacy in the world is critically influenced by the International Cricket Council (ICC), the world's leading body. Sport preparation is designed to enhance a sportsman's performance. Sport preparation is a long-term structured operation. Only sport motor activity or movement may

provide sport performance. The ability to conduct these acts or gestures is a significant factor in a sporting person's success.

## 2. REVIEW OF LITERATURE

Requena et.al: (2009) examined muscle strength and power output characteristics for a team of football professionals to define ties with 2 practical performance tests (vertical jumping height and 15-m sprint time). In the 21 semiprofessional soccer players (age  $20 \pm 3.8$  years) maximum strength and power indices were obtained against various loads in barbell back squat exercise, isometric maximum knee extensor and plantar flexor muscle, knee extensor isokinetic peak torque, vertical jumping height in squathes and counter-moving jumps, and 15-m sprint tests. In order to analyse the relationship between each such measure, correlation analysis was carried out.

Sujatha (2012) Investigated the impact on motor exercise, physiologic variables and play ability among state football players of functional training and aerobic formation." Three groups of 10 female football players in each of the states were chosen randomly for this reason. During the pre-competitive process, there was a practical training and football training. In the pre-competitive level, aerobic training was done with football training alone. There was no instruction in the control group. Initially (Pre-Test) and eventually at the end of the ten week experimental period (Post-Test), the data were collected. The objective of the study was to determine how training affects selected dependent variables on motor fitness, physiology, variables and playability. ANCOVA and post-hoc experiments analysed the data obtained. The results of the analysis show that the test groups increased their endurance, explosive strength, and playability in accordance with the selected variables.

Weiss et.al: (2010) examined whether functional exercise has an impact on muscle strength and persistence, endurance, agility, balance and anthropometric tests in young adults similar to that of conventional muscle resistance training. This research included randomly placed 38 healthy volunteers aged 18-32 in a group control (traditional (n = 19)) and experimental (functional (n = 19)). Before and after the 7-week training programme, the participants were evaluated. The battery was tested for weight, rotational measurement, stability, nose-down bending and extension agility, push-up, sit-up test, 1-leg balance, 1-RM max. bench press and sq.m. The battery included.

Kim et. al: (2011) investigated the effect of sensory-motor functional training on agility in Taekwondo players. To that end, forty Taekwondo players were randomly selected from high school C and split into two separate groups: the sensory motor functional training group and the traditional training group. Each community had 20 players from Taekwondo and 12 weeks of training in their own way. All players were checked during the training period. Vertical jumping, standing wide jump and muscle strength were tested for instant reactionary energy. A side-stage test, zrun test, shuttle run test, semo agility test and body time test are tested for agility.

Raja (2012) has researched the separate and combined impact of functional and grid training of university volleyball players on the physical fitness components. 45 Volleyball College players from Madurai city colleges were selected to complete the study. In intercollege tournaments, they were represented by their college. They aged from 19 to 25 years of age. Variables were selected for physical fitness components such as speed, agility, balance and coordination. Themes were chosen randomly and divided into three groups; experimental group I, functional training, experimental group II grid and control group. For six weeks at five days a week, experimental training was implemented. The results show that functional training and core grid training improved significantly on selected physical fitness elements such as speed, balance, and coordination. Initial and final means were compared to test significance through analysis of covariance (ANCOVA).

Shaikh and Mondal (2012) The effects on college male students of functional training on components of physical activity were studied. During the age of 19-25, 19 male students were randomly chosen as subjects and served as practical workouts from Dr. Meghnad College at Gour Banga University. For eight weeks there were three days of practical workouts every week for one-group design experiments. Functional workouts were done in Ladder forward & sideward, medical ball throw overhead -2Kg, 3kg & 4kg, hamstron with a stable ball, side punk/forward steel stabilizations series, forward step ups, modified pull-Up, foot high hip lift with medical ball, stability ball push up, throw sideward steering -4 kg, 3kg, 2kg etc. The workshops were carried out at Ladder forwards & sideward. Warming is applied to change all areas of the body before functional training exercises. The selected subjects have been determined for physical fitness, speed, stamina, muscular stamina, agility, explosive strength, versatility and flexibility. The statistics for statistical treatment is descriptive. Functional training improves velocity, durability,

muscle endurance, power, explosion force, flexibility and agility significantly. Pace, stamina, muscular endurance, resilience, explosive capacity, flexibility and agility were significantly improved in functional training.

### 3. FUNCTIONAL TRAINING

Functional training is a method that facilitates equilibrium training and balance. It is defined by movements such as squatting, pulling or pushing. Functional workouts are better characterised as a continuum of workouts that teach athletes to control their own weight in all movement levels (Boyle, 2004). "Functional training" is among the most current and so-called sports training. While this subject is discussed and taught in sports training and rehabilitation for several years, it is only now that some trainer regard it as a new discovery, which will automatically change the sport performance of anyone who follows it (Siff, 2002). In a number of rehabilitation environments, functional training programmes with reported results have been used. This achievement gained attention for the idea of functional training in applied gymnastics, which enhances sport performance (Thompson, Cobb and Blackwell, 2007). A pragmatic approach to physical training that prevents injuries by improving performance increases overall health and productivity for many active populations (Cook, Burton, and Hoogenboom, 2006). Functional exercise is done to enhance the body's efficiency of these movements in a specific sport or in everyday life.

#### The Basic Principles of Functional Training

1. Movements should be multi-planar, working across all 3 planes of motion.
2. Movements should be integrated, as we use our entire body.
3. Movements should be fully enriched, as we challenge our brain and our body when moving.
4. The athlete should aim to stand on his/her own feet and in contact with the floor throughout the movement. His/her only point of contact with the ground is his/her feet.

#### The Benefits of Functional Training

Functional training advantages are tremendous. In short, when training is practical, you can do almost anything you want. The majority of major health and wellness goals can be accomplished by choosing a range of practical resources and the right workouts, training variables and loads for the target. Strength, power, pace, durability, muscle stamina and fitness can be trained. Training complements include: kettle bell, core bag, slideboard, saq ladders, saq hurdles, saq resistors, boxing gear, core balls, dumbboards, barbells, agility ladder and half foam rollers, all of which are tools for good practical training. Functional preparation is trained for your own sport by an athlete. Functional training uses many ideas to enhance sport efficiency and decrease the risk of accidents by improving agility, strength and power.

### 4. CRICKET

Cricket is a team sport played using a bat and ball on an oval-shaped outdoor arena. During the course of a cricket game we undergo long rest periods with brief bursts of high intensity. As a result, unique components of fitness are necessary for a high-level of cricket success. Cricket is a sport that produces a wide spectrum of reaction from sports fans. Among those who are a part of more action-packed sporting traditions, cricket is variously seen as a dull, repetitive game. To its hundreds of millions of fans united in an intense global fanbase, cricket is a truly international sport, one of the immeasurable subtlety, sportsmanship, and athletic skills. The international competitions create an enthusiasm that is only approached by Soccer's World Cup. To play cricket as a representative of one's country is to gain celebrity status in countries such as India, Pakistan, the various West Indies, and South Africa. Cricket was a product of the English countryside, an ancient game that was played in a formalised fashion at least as early as the 1500s. The rules of the game were first codified in 1744; the format of cricket has been only changed, as opposed to being subjected to widespread reconstruction, since that time. As with American baseball, the fundamental difference between cricket and nearly all other sports is the fact that historically there was no time limit imposed on play; the duration of the game was calculated by how long it took one team to retire the other side in their turn at bat, known as their "innings." The game was an exclusively English endeavour until it was locally imported into the various English colonies around the world in the nineteenth century. Ironically,

the first international cricket match was played between two countries with a more minimal existing cricket history, when Canada played with the United States in 1844.

Cricket is a predominately, though not exclusively, male sport. Women's cricket enjoys a following in different countries where cricket is commonly played, but the women's game has not received the publicity nor the professional organisation of men's cricket. The rules of cricket are not complex, but there are subtleties to the game that are best understood by direct involvement, as opposed to observation. The game rules include: the game is played on a field (usually an oval-shaped natural grass surface) between 290 ft and 480 ft (90 m to 150 m). In the oval there's a "pitch," with two numbered plumes where the two bat-men are waiting for a ball from the bowler of the opposing team. One batsman faces the bowler on one day by throwing six balls known as a "over." In order to defend the wicket from being hit by a bowled ball, the batsman uses his bat. The wicket consists of three upright pillars called "stumps," where two leaves are mounted, square blocks that reside on the corners of the stumps. At each plunge, the batting team or side starts with a batsman. The defence team will take their place, the remaining 10 players will either grab or avoid the ball if it's hit against them. One of the ten fieldmen is a bowler, built to catch the bowling balls not struck by the bowler while he is bowled. The main goal of the game is to get more runs than the other team. The batsman creates a run as his team-mate both hits the ball in the field and runs towards the opposite end when he exchanges places. When the ball is bowled. One run counts when each batsman hits the other plinth, and every part of the batsman's body or bat reaching inside the plinth until the ball arrives is labelled.

The bowler sends the ball with a straight, overhand armed movement, which does not bend the throwing arm to the elbow after delivery. The ball is normally delivered to the batsman with a bounce, and the ball is not allowed further than the batsman's tail to be a legal ball. Two styles of bowlers typically exist: the spin bowler who throws balls that appear to be bent or split as they reach the batsman, and the bowler whose ball is thrown more quickly than with motion. A world-class fast bowler can produce a ball with speeds reaching 120 miles per hour. The bowler delivers six balls that consist of one ball. The bowler switches sides at the end of the over and sends the following six balls to the other end of the pitch. Cricket ball, with a single raised seam, is a hard-surfaced cork, string and leather piece. The ball shall be 8.81 to 9.0 in (224 mm to 229 mm). The weight shall be 5.5 oz to 5.75 oz as recommended (160 g). In comparison to the sport of baseball, a cricket bowler will spin the ball, usually to make the ball spin the air. A willow wood is formed in the shape of a bat, with a flat face, a maximum width of 4.25 and a maximum length of 38 (108 cm) (965 mm). Owing to the pace at which the bowler can supply the ball, the batsman carries gloves, a helmet and facial protection and leg pads.

### **Fitness for Cricket**

Cricket is a sport that historically doesn't consider fitness to be very important. But the success of the Australian team in the 1990s and 2000s worldwide was due to their integrity and partly their fitness. The other test nations rightly have recently placed more emphasis on health and reap the advantages. Since the advent of Cricket one day and Twenty more recently, substantial improvements have been made to the game and the physical needs of cricketers have also evolved dramatically. The fitness needs of a fast bowler will be greater and therefore different to those of an opening batsman, and cricket on the day is more demanding than the test match, depending on the version of the game being played and the position of the player in the team. The value of the fitness will vary.

### **Cricket Batting**

Like baseball, Cricket is a team game that in essence is a confrontation between two players; it is a match between bowler and batsman in cricket, and a match between pitcher and batter in baseball which is a sports cricket cousin. The degree of participation in bowler support in the match of the other ten players on the spot and the corresponding participation of the partner of the batsman in the contrary plunge depend entirely on the outcome of each ball bowling on the wicket of the batsman. The bowler and the batsman face the other side of the surface, which includes the wicket. The distance between the two wickets is 66 ft (20.1 m). As the batsman faces a bowler, which is 4 feet (1.2 m) from the wickets to the edge of the plinth, a bowler delivers a ball from about 62 ft (19 m) from the batsman at the end. Since the ball can be given at speeds of 120 mph by a high-level fast bowler, a professional batsman needs to be able to have both quick reflexes and a considerable nervousness in order to make swift and exact decisions regarding each ball he is faced with. The method of batting a batsman is determined both by the design of the bowler and of each ball; it is difficult for the batsman, by attempting to hit the ball in the specific direction or manner when the ball is unsuitable, to force his will upon one particular case. Generally, a batsman takes the defensive or

offensive approach; if a cricket game is under way, a specific ball is not playable as the batsman wishes, it is generally defended.

## **5. PHYSICAL DEMANDS OF PROFESSIONAL CRICKET**

There are so many diverse types of cricket in the modern county game that fitness is difficult to break down. The fast and furious fitness requirement in Twenty20 lasts 3 hours. In the 50 over a day, Twenty20 is part of the game but it also takes about 6 hours to make the game more exhausting. The purist game, the County Championship, is then there. The player can play for around 250 overs in the game and still be battered for days at a time. The game can be rough like anyone. Cricketer must contain circuits, power lifts and hill sprints in order to achieve the power and pace in the muscle. Cricket is focused primarily on quick and rapid movements over long periods, so hill sprints are a great way to help. Reconciliation is also an integral part of the role of a cricketer in handling its own organisations. After sports, ice baths are used constantly.

## **6. CRICKET STRENGTH TRAINING AND EXERCISES**

Cricket is a game with little muscle strength. It seems. From a distant watching, cricket seems to be a soft activity where there seems to be no relevance to the principle of strength training and exercises. However, cricket is deceptively challenging, and it can pose significant physical training challenges for athletes, particularly at the elite level, as with many sports with relatively lengthy periods of low activity and intense muscle concentration intervals. For batsmen, bowlers and fieldmen, anaerobic lactic and alactic processes are the primary energy system used during the competition. The periods of action involving the development of power for the muscles of athletes will almost certainly be less than 40 seconds in the acts of bowling, batting and fielding. As all cricket players are called to fly and practise at some point in a match, all players get a lot of basic fitness training. Not solely anaerobic priority is cricket preparation. Players also station themselves either for several hours in the field or at the bat. As both a typical English summer sport and a competition in hot, wet places like India, Australia and the West Indies, cricket put the players' environmental demands year-round. The players can help them cope with tiredness and influence their focus in a long match by enhancing aerobic fitness and a good cardiovascular system.

### **1. Bowler**

The nature of the position requires that a bowler has the ability to move explosively in the run up to delivery, as a speedy run up will physically translate into a faster delivery of the ball; the arm, shoulder, and core body strength and stamina are essential to deliver the ball repeatedly.

### **2. Fielder**

The fielder must be prepared to react to the ball when hit, and to get to a ball, field, and throw, all as a part of a game that may last six hours or more at one time. Speed of movement and agility are critical to this position.

### **3. Batsman**

Brute muscle strength is not a burden to this role, but it is of prime importance to bear reaction time, bearing and balance in the crease. A batsman can be required for several hours to retain his position. The cricket batting stroke is based on its core strength, particularly in the abdominal and oblique groups of the muscles, gluteal muscles, upper arm and shoulders. Anaerobic, aerobic and weight training and response time/coordination agility exercises are required for a cricket strength and training programme. The aerobic training needed to help the player retain strength and combat tiredness over a long match does not need to be extreme. Two 45-minute or one-hour sessions of relatively smooth running or cycling and other exercises can form a solid foundation during a weekly training schedule, at about 50-60% of the athlete's optimum heart rate. In the sense of primarily anaerobic requirements of cricket competition, the purpose is to increase stamina and recovery times.

### **4. Cricket Fitness**

Fitness with physically trained cricketers who demonstrate better, more reliable and with less injury is a very important aspect of cricket success. The strength, pace and endurance physical characteristics allow a cricketer to beat faster and with greater precision with power over long periods of Zeit, to be able to field sport. Every cricketer

has a different role, position, action or technique and these differences should be recognised and scheduled accordingly. The individual history of the training, injury record, training age, position requirements, professional success and training goals should be taken into account in a formal cricketer training programme.

### 5. Physical Demands of Cricket

x Multi-day matches require a high number of kilometres to be covered running and sprinting spread out over a long period of time. There is a requirement to bowl a large number of overs and bat for an extended period of time.

x One day cricket requires a fast bowler to cover on average 16 km per game while performing 66 sprints. Quality movement in the field and quick running between the wickets are essential components for success.

x During a Twenty20 match fielders cover 6.4 - 8.5 km during 80 mins of fielding, while fast bowlers cover 8.5km and sprint 42 times. This format of the game moves quickly and there are increased demands in intensity and explosive ability with the bat and ball.

### 7. CONCLUSION

The present study pointed out that there were a significant difference in agility and strength endurance due to twelve weeks of cricket specific training. The current study also utilized twelve weeks programme duration with ten sessions per week and found that agility and strength endurance increases due to cricket specific training. The study revealed that the training group has significant improvement in agility and strength endurance among college level men cricket players after the cricket specific fitness training protocol. It was also concluded that this cricket specific fitness training is one of the best training methods for increasing the agility, strength endurance and as well as the physical fitness of cricket players.

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