Chapter I

INTRODUCTION

Cricket is basically a bat and ball game played between two teams of eleven players. It is one of the oldest sports in the world and has its origin in 16th century in England. The expansion of the British Empire spread this once colonial recreational sport into a spirited game to all corners. Early cricket was at some time or another described as "a club striking a ball (like) the ancient games of club-ball, stool-ball, trap-ball, stob-ball" Cricket can definitely be traced back to Tudor times in early 16th-century England. A number of other words have been suggested as sources for the term "cricket". The first English touring team on board ship at Liverpool in 1859. During the 17th century, numerous references indicate the growth of cricket in the south-east of England. By the end of the century, it had become an organized activity being played for high stakes and it is believed that the first professionals appeared in the years following the restoration in 1660.

The game underwent major development in the 18th century and became the national sport of England. Betting played a major part in that development with rich patrons forming their own "select XIs". Cricket was prominent in London as early as 1707 and large crowds flocked to matches on the Artillery Ground in Finsbury. The single wicket form of the sport attracted huge crowds and wagers to match. Bowling evolved around 1760 when bowlers began to pitch the ball instead of rolling or skimming it towards the batsman. This caused a
revolution in bat design because, to deal with the bouncing ball, it was necessary to introduce the modern straight bat in place of the old "hockey stick" shape.

The formation of MCC (Marylebone Cricket Club) and the opening of Lord's Old Ground in 1787, Hambledon was both the game's greatest club and its focal point. MCC quickly became the sport's premier club and the custodian of the Laws of Cricket. New Laws introduced in the latter part of the 18th century. The 19th century saw underarm bowling replaced by first roundarm and then overarm bowling. Both developments were controversial. Organisation of the game at county level led to the creation of the county clubs, starting with Sussex CCC in 1839, which ultimately formed the official County Championship in 1890. Meanwhile, the British Empire had been instrumental in spreading the game overseas and by the middle of the 19th century it had become well established in India, North America, the Caribbean, South Africa, Australia and New Zealand. In 1844, the first international cricket match took place between the United States and Canada (although neither has ever been ranked as a Test-playing nation).

In 1859, a team of England players went on the first overseas tour (to North America). The first Australian team to tour overseas was a team of Aboriginal stockmen who travelled to England in 1868 to play matches against county teams. In 1862, an English team made the first tour of Australia and in 1876–77, an England team took part in the first-ever Test match at the Melbourne Cricket Ground against Australia. The rivalry between England and Australia gave birth to The Ashes in 1882 and this has remained Test cricket's most famous contest. Test cricket began to expand in 1888–89 when South Africa played England. The last two decades before the First World War have been called the "Golden Age of
cricket”. It is a nostalgic name prompted by the collective sense of loss resulting from the war, but the period did produce some great players and memorable matches, especially as organized competition at county and Test level developed.

Test cricket continued to expand during the 20th century with the addition of the West Indies, India, and New Zealand before the Second World War and then Pakistan, Sri Lanka, and Bangladesh in the post-war period. However, South Africa was banned from international cricket from 1970 to 1992 because of its government's apartheid policy. Cricket entered a new era in 1963 when English counties introduced the limited overs variant. As it was sure to produce a result, limited overs cricket was lucrative and the number of matches increased. The first limited overs International was played in 1971. The governing International Cricket Council (ICC) saw its potential and staged the first limited overs Cricket World Cup in 1975. In the 21st century, a new limited overs form, Twenty20, has made an immediate impact.

Today cricket seems to be a virtual lifeline of many commonwealth nations. Cricket is a game in which each team has to bowl and bat according to certain rules and regulations. The team which scores greater number of runs will be the winner. The game of Cricket is developed from a simple game of hitting an object with a piece of wood. Basically it is the battle between bat and the ball, but the approach has changed from time to time. Cricket is played in many forms such as Test, One day International, First class Twenty 20, Super Six, Eight-a-side, Indoor Cricket Max Cricket, Double wicket and Single wicket. Cricket is played in more than 105 countries all over the world (History of cricket 2013)
Test cricket is the longest form of the sport of cricket. Test matches are played between national representative teams with “Test status”, as determined by the International Cricket Council (ICC). The two teams of 11 players play a four-innings match, which often lasts up to five days. It is generally considered the most complete examination of teams' playing ability and endurance. The origin of the name Test stems from the long, gruelling match being a "test" of the relative strength of the two sides. (Adam Gilchrist, 2009)

The first officially recognised Test match began on 15 March 1877, between England and Australia at the Melbourne Cricket Ground (MCG), where Australia won by 45 runs. A Test match to celebrate 100 years of Test cricket was held in Melbourne from 12 to 17 March 1977, in which Australia beat England by 45 runs—the same margin as that first Test. (Rundell, Michael, 2006)

In 1970, a series of five "Test matches" was played in England between England and a Rest of the World XI. These matches, originally scheduled between England and South Africa, were amended after South Africa was suspended from international cricket due to their government's policy of apartheid. Although initially given Test status (and included as Test matches in some record books, including Wisden Cricketers’ Almanack), this was later withdrawn and a principle was established that official Test matches can only be between nations. Despite this, in 2005, the ICC ruled that the six-day Super Series match that took place in October 2005, between Australia and a World XI, was an official Test match. Some cricket writers and statisticians, including Bill Frindall, ignored the ICC’s ruling and excluded the 2005 match from their records. The series of "Test matches" played in Australia between Australia and a World XI in 1971/72 do not have Test status. The
commercial "Supertests" organized by Kerry Packer as part of his World Series Cricket enterprise and played between "WSC Australia," "WSC World XI" and "WSC West Indies" from 1977 to 1979 have never been regarded as official Test matches.

In October 2012, the International Cricket Council recast the playing conditions for Test matches, permitting day/night Test matches. Test matches are included in first-class cricket. Matches are played between national representative teams with "Test status," as determined by the International Cricket Council. As of 2011, ten national teams have Test status, the most recently promoted being Bangladesh in 2000. Zimbabwe's Test status was voluntarily suspended, because of poor performances between 2006 and 2011; it returned to competition in August 2011. (History of Test cricket, 2013)

**One Day International (ODI)** is a form of limited overs cricket, played between two teams with international status, in which each team faces a fixed number of overs, usually fifty. The Cricket World Cup is played in this format. One Day International matches are also called Limited Overs Internationals (LOI), although this generic term may also refer to Twenty20 International matches. The international one-day game is a late twentieth-century development. The first ODI was played on 5 January 1971 between Australia and England at the Melbourne Cricket Ground. When the first three days of the third Test were washed out officials decided to abandon the match and, instead, play a one-off one day game consisting of 40 eight-ball overs per side. Australia won the game by 5 wickets. ODIs were played in white kits with a red ball.
In the late 1970s, Kerry Packer established the rival World Series Cricket (WSC) competition, and it introduced many of the features of One Day International cricket that are now commonplace, including coloured uniforms, matches played at night under floodlights with a white ball and dark sight screens, and, for television broadcasts, multiple camera angles, effects microphones to capture sounds from the players on the pitch, and on-screen graphics. The first of the matches with coloured uniforms was the WSC Australians in wattle gold versus WSC West Indians in coral pink, played at VFL Park in Melbourne on 17 January 1979. This led not only to Kerry Packer's Channel 9 getting the TV rights to cricket in Australia but also led to players worldwide being paid to play, and becoming international professionals, no longer needing jobs outside of cricket. White kits were used in tandem with coloured kits till 2001, when the use of white flannels were abandoned. (One Day International Cricket, 2013)

Twenty20 cricket is claimed to have resulted in a more athletic and "explosive" form of cricket. Twenty20 cricket, often abbreviated to T20, is a form of cricket originally introduced in England and Wales for professional inter-county competition by the England and Wales Cricket Board (ECB), in 2003. When the Benson & Hedges Cup ended in 2002, the ECB needed another one day competition to fill its place. Cricketing authorities were looking to boost the game's popularity with the younger generation in response to dwindling crowds and reduced sponsorship. It was intended to deliver fast paced, exciting cricket accessible to thousands of fans who were put off by the longer versions of the game. Stuart Robertson, the marketing manager of the ECB, proposed a 20 over per innings game to county chairmen in 2001 and they voted 11–7 in favour of adopting the new format.
The first official Twenty20 matches were played on 13 June 2003 between the English counties in the Twenty20 Cup. The first season of Twenty20 in England was a relative success, with the Surrey Lions defeating the Warwickshire Bears by 9 wickets in the final to claim the title. The first Twenty20 match held at Lord's, on 15 July 2004 between Middlesex and Surrey, attracted a crowd of 27,509, the largest attendance for any county cricket game at the ground. A Twenty20 game involves two teams, each has a single innings, batting for a maximum of 20 overs. On 17 February 2005 Australia defeated New Zealand in the first men's full international Twenty20 match, played at Eden Park in Auckland. The game was played in a light-hearted manner – both sides turned out in kit similar to that worn in the 1980s, the New Zealand team's a direct copy of that worn by the Beige Brigade. Some of the players also sported moustaches/beards and hair styles popular in the 1980s taking part in a competition amongst themselves for best retro look, at the request of the Beige Brigade. Australia won the game comprehensively, and as the result became obvious towards the end of the NZ innings, the players and umpires took things less seriously – Glenn McGrath jokingly replayed the Trevor Chappell underarm incident from a 1981 ODI between the two sides, and Billy Bowden showed him a mock red card (red cards are not normally used in cricket) in response.

A Twenty20 game is completed in about three hours, with each innings lasting around 75–90 minutes (with a 10–20-minute interval), thus bringing the game closer to the timespan of other popular team sports. It was introduced to create a lively form of the game which would be attractive to spectators at the ground and viewers on television and as such it has been very successful. The ECB did not intend that Twenty20 would replace other forms of cricket and these have continued alongside it.
Since its inception the game has spread around the cricket world. On most international tours there is at least one Twenty20 match and all Test-playing nations have a domestic cup competition. The inaugural ICC World Twenty20 was played in South Africa in 2007 with India winning by five runs against Pakistan in the final. Pakistan won the second tournament in 2009, and England won the title in 2010. Currently, West Indies are the reigning champions after winning the 2012 edition. (Twenty 20 International Cricket, 2013)

The entire history of cricket in India and the sub-continent as a whole is based on the existence and development of the British Raj via the East India Company. In 1721, the first definite reference to cricket being played anywhere in the sub-continent is a report of English sailors of the East India Company playing a game at Cambay, near Baroda. The Calcutta Cricket and Football Club is known to exist by 1792, but was possibly founded more than a decade earlier. In 1799, another club was formed at Seringapatam in south India after the successful British siege and the defeat of Tipu Sultan. In 1864, a Madras v. Calcutta match was arguably the start of first-class cricket in India. India became a member of the “elite club” joining England, South Africa, New Zealand and the West Indies in June 1932. India’s first match in Lords against England attracted a massive crowd of 24,000 people as well as the King of England, who was also the Emperor of India. The major and defining event in the history of Indian cricket during this period was the Partition of India following full independence from the British Raj in 1947. The game has taken deep roots because of its association with the British for more than two centuries. The game became popular in India during the second half of the 19th century. The Indian princes had contributed much for the promotion of this game.
An early casualty of change was the Bombay Quadrangular tournament, which had been a focal point of Indian cricket for over 50 years. The new India had no place for teams based on ethnic origin. As a result, the Ranji Trophy came into its own as the national championship. The last-ever Bombay Pentangular, as it had become, was won by the Hindus in 1945-46. India also recorded its first Test victory in 1952, beating England by an innings in Madras. India enjoyed two international highlights. In 1971, they won a Test series in England for the first time ever, surprisingly defeating Ray Illingworth’s Ashes winners. In 1983, again in England, India were surprise winners of the 1983 Cricket World Cup under the captainship of Kapil Dev. During the 1970s, the Indian cricket team began to see success overseas beating New Zealand, and holding Australia, South Africa and England to a draw. The backbone of the team were the Indian spin quartet - Bishen Bedi, E.A.S. Prasanna, BS Chandrasekhar and Srinivas Venkataraghavan, giving rise to what would later be called the Golden Era of Indian cricket history. This decade also saw the emergence of two of India's best ever batsmen, Sunil Gavaskar and Gundappa Viswanath responsible for the back-to-back series wins in 1971 in the West Indies and in England, under the captaincy of Ajit Wadekar.

During the 1980s, India developed a more attack-focused batting line-up with talented batsmen such as Mohammed Azharuddin, Dilip Vengsarkar and Ravi Shastri prominent during this decade. ((Despite India's victory in the Cricket World Cup in 1983, the team performed poorly in the Test arena, including 28 consecutive Test matches without a victory. However, India won the Asia Cup in 1984 and won the World Championship of Cricket in Australia in 1985.)) The 1987 Cricket World Cup was held in India. Since 2000, the Indian team underwent major improvements with the appointment of John Wright,
India's first ever foreign coach. This appointment met success internationally as India maintained their unbeaten home record against Australia in Test series after defeating them in 2001 and won the inaugural ICC World T20 in 2007. India was also the first Sub-continental team to win at the WACA in January 2008 against Australia.

India's victory against the Australians in 2001 marked the beginning of a dream era for the team under the captainship of Sourav Ganguly, winning Test matches in Zimbabwe, Sri Lanka, West Indies and England. India also shared a joint victory with Sri Lanka in the ICC Championship, and went on to the finals in the 2003 Cricket World Cup only to be beaten by Australia. In September 2007, India won the first ever Twenty20 World Cup held in South Africa, beating Pakistan by 5 runs in a thrilling final. India won the Cricket World Cup in 2011 under the captainship of Mahindra Singh Dhoni, the first time since 1983 - they beat Sri Lanka in the final held in Mumbai.

Cricket in India is managed by the Board of Control for Cricket in India (BCCI), the richest cricket board in the cricket world. Indian International Cricket Squad has also provided some of the greatest players to the world, the biggest example of which is Sachin Tendulkar. Indian cricket has a rich history. The board of control for cricket in India is the body that arranges ‘Domestic Competitions’.

Ranji Trophy - Founded as 'The Cricket Championship of India' at a meeting of the Board of Control for Cricket in India in July 1934. The first Ranji Trophy fixtures took place in the 1934-35 season. Syed Mohammed Hadi of Hyderabad was the first batsman to score a century in the tournament. The Trophy was donated by H.H. Sir Bhupendra Singh Mahinder
Baha-dur, Maharajah of Patiala in memory of His late Highness Sir Ranjitsinhji Vibhaji of Nawanagar. In the main, the Ranji Trophy is composed of teams representing the states that make up India. As the political states have multiplied, so have cricket teams, but not every state has a team. Some states have more than one cricket team, e.g. Maharashtra and Gujarat. There are also 'odd' teams like Railways, and Services representing the armed forces. The various teams used to be grouped into zones - North, West, East, Central and South - and the initial matches were played on a league basis within the zones. The top two (until 1991-92) and then top three teams (subsequent years) from each zone then played in a national knock-out competition. Starting with the 2002-03 season, the zonal system has been abandoned and a two-division structure has been adopted with two teams being promoted from the plate league and two relegated from the elite league. If the knockout matches are not finished they are decided on the first-innings lead.

**Irani Trophy** - The Trophy tournament was conceived during the 1959-60 season to mark the completion of 25 years of the Ranji Trophy championship and was named after the late Z.R. Irani, who was associated with the Board of Control for Cricket in India (BCCI) from its inception in 1928, till his death in 1970 and a keen patron of the game. The first match, played between the Ranji Trophy champions and the Rest of India was played in 1959-60. For the first few years, it was played at the fag end of the season. Realising the importance of the fixture, the BCCI moved it to the beginning of the season. Since 1965-66, it has traditionally heralded the start of the new domestic season. The Irani Trophy game ranks high in popularity and importance. It is one of the few domestic matches followed with keen interest by cricket lovers in the country. Leading players take part in the game, which has often been a sort of selection trial to pick the Indian team for foreign tours.
**NKP Salve Challenger Trophy** - Started as the Challenger series by the Board of Control for Cricket in India in 1994-95 and later named as NKP Salve Challenger Trophy in 1998-99, the tournament features 3 teams: India senior, India A and India B playing each other. They were later renamed India Blue, India Red and India Green respectively. This competition also marked as the platform of return for some big names like Syed Adil and A. Eshwar in 2005-06 season after they battled injury and form respectively. The tournament features the top 36 players from across India and is also the most popular domestic structure after IPL.

**Duleep Trophy** - The Duleep Trophy competition, a first-class competition, was started by the Board of Control for Cricket in India in 1961-62 with the aim of providing a greater competitive edge in domestic cricket - because, apart from the knock-out stages of the Ranji Trophy, that competition proved predictable, with Bombay winning for fifteen consecutive years. The Duleep was also meant to help the selectors in assessing form. The original format was that five teams, drawn from the five zones, play each other on a knock-out basis. From the 1993-94 season, the competition has been converted to a league format.

**Vijay Hazare Trophy** - Named after the prolific Indian cricketer Vijay Hazare, the Trophy was started in 2002-03 as an attempt to bring the limited-overs game among a greater audience. The competition involves state teams from the Ranji trophy plates battling out in a 50-over competition, much on the lines of Ford Ranger Cup of Australia and Friends Provident Trophy of England. Since its conception, Tamil Nadu and Mumbai have won the trophy twice each. It is also dubbed as the Premier Cup by BCCI. It now joins Deodhar Trophy as the second one-day competition of Indian domestic circuit.
**Deodhar Trophy** - Started in 1973-74 by Board of Control for Cricket in India, it is the current one-day cricket competition in Indian domestic cricket. 5 zonal teams - North zone, South zone, East zone, West zone and Central zone feature in the competition. North zone have won this competition 11th time. It is also called All-Star Series due to some big names representing their Zonal sides in the one-day fixtures.

**BCCI Corporate Trophy** - BCCI have set up a 12 team inter-corporate tournament that involves all top Indian cricketers. The tournament involves 50-over-a-side matches with the winner picking up Rs 1 crore and the runner up getting Rs 50 lakh.

**Syed Mushtaq Ali Trophy** - To be played for the first time in the 2008-09 season, this is the first of its kind zonal T20 championship and the third overall in the Indian cricket season, which would see Ranji teams divided along zonal lines into two groups with the tournament culminating in the All India T20 final between the winners of the two groups for the Syed Mushtaq Ali Trophy. Launched after the success of the IPL and the need of the BCCI to search for more talent in the growing regions of cricket.

**Indian Premier League** - In response to the rival ICL, the BCCI started the Twenty20 Indian Premier League (known as the IPL). This League has been launched by BCCI have received support from all the other Cricket Boards, and International Players could be drafted into City-based Franchises. The first IPL season was held from April 18, 2008 to June 1, 2008 where underdogs Rajasthan Royals, led by Shane Warne, won the first title at the DY Patil Stadium in Navi Mumbai.[5] Based on regional loyalties, the nine-team tournament brings a unique and popular team and play auction system hand-picking some of
the best international players in the world and teaming them with Indian players, both
domestic and international, in one arena. The total prize money for the IPL was $3 million.
The game has been likened to Baseball with crowd participation encouraged more strongly
than in other forms of the game. It has been greatly acknowledged by people and has made
huge profits.

**Inter-State T20 Championship** - After India became another member of the ICC
Twenty20 and played its first international T20 against South Africa, BCCI launched its own
state structure in 2006-07 season, with 27 Ranji teams divided in 5 Zones. The final was
played between Punjab and Tamil Nadu, which the latter won by 2 wickets and 2 balls
remaining, thereby becoming the only ever winner of this series. In this series, Rohit Sharma
also became the only ever Indian to register a T20 century for Mumbai against Gujarat. The
competition was later replaced by a franchise-based IPL (*History of cricket in India, 2013*)

Cricket is a sport in which fitness is traditionally not thought of as very important.
However, the success in the 1990s and 2000s of the world beating Australian team has been
attributed to their professionalism, and in part to the way they addressed their fitness. The
other test playing nations have rightfully put more emphasis on fitness recently and are
reaping the benefits. With the introduction of one day Cricket and more recently Twenty20,
the game has gone through major changes and the physical demands made on a cricketer's
body have also increased dramatically. Depending on the version of the game being played
and the role of the player in the team, the importance of fitness will vary: the fitness
requirements of a fast bowler will be greater and also different than that of an opening
batsman, and one-day cricket will be more demanding than a test match.
In addition to the high level of skill required to play Cricket, a successful player needs good balance and core strength, speed for running between the wickets and in the field, and fast bowlers particularly need very good speed and power. Fitness requirements for cricket, which can help with developing training programs for this sport, and for interpreting fitness testing results and determining the relative strengths and weaknesses of a player. The component of fitness most important for success in cricket. Out of the options of Body Size and Composition, Muscle Strength, Muscular Endurance, Power, Speed / Quickness, Agility, Flexibility, Balance and Coordination, and Cardiovascular Endurance, the factor which is considered most important by the readers of this site is clearly Balance and Coordination.

In the current game there is such a wide range of different forms of cricket that it is hard to break fitness down. In Twenty20 there is the fast and furious side of fitness where for 3 hours you are like a Duracell bunny!! In the 50 over one-day game there are aspects of the Twenty20 game but also the game lasts for around 6 hours so it can be exhausting. Then there is the purist game, the County Championship. This game can be as tough as any, you can field for around 250 over’s in the game and also be relied up on to bat for days at a time. There is a range of physical and mental components that contribute to successful performance in sports. Each sport and activity requires a specific set of these skills. Being successful in one sport does not necessarily make you successful in another, as success requires a whole range of factors to come together and interact in the right way. (Fitness for Cricket, 2013)
Batsmen stay at the crease for as long as possible, sometimes for periods of over four hours. In order to occupy this position, a good batsman must be able to stay focused, have good ball / eye skills, and have the strength and fitness to make each played shot productive. On the other hand, power comes from having a strong core, abdominal mid-section and the ability to generate explosive upper body actions. While on the other, the kinetic energy of the ball may be used to score four runs by the batsman by a slight change in direction. Unfortunately this skill has only been given to a few class batsmen. Fielders need the ability to sustain a concentrated effort for a period of six hours or more without fatigue and in sometimes very warm conditions. The body must be capable of explosive bursts at any given time - such as racing for a ball, jumping for a catch. Every cricket player can contribute his part to fielding unlike batting and bowling. In a tight game, fielding performance will invariably be the decisive factor between winning a match and losing it (Muralikrishnan, 2010).

Cricketers while progressing through different stages of their development should find fielding enjoyable rather than a tiresome chore. Fielding drills and mechanisms thereof are taught from a very young stage. Even in international cricket one could observe fielders picking up the ball with improper balance and finding it difficult to make accurate throws to effect a run out. Learning to pick up the ball on either side will make the fielder confident to stop the ball and this makes the batsman a little nervous to start for a run especially when the ball is within the 30 yards circle. Fielding too is an important skill of the game. In recent times, more attention is being paid to fielding.
The thrill that spectators get with a brilliant piece of fielding can seldom be matched by a huge six or the sight of the stumps sent flying by a quick bowler. Good fielders like Rhodes are always more popular than big hitters. Fielding is a regular part of every cricket game, big hitting may not always be seen in every match.

Bowlers require both explosive strength and speed, combined with good muscular endurance, in order to be able to maintain a high count of number of overs. Poor fitness and muscular strength will result in inaccurate bowling and greater risk of injury, especially for high speed bowlers and also allows the batsmen to settle down in the wicket to score more runs. All players will at some time in the game, bat and field. A cricket training programme shall be designed with these as objectives in the mind.

In Cricket, we find an excellent integration of these physical attributes in different actions executed by batsmen, wicket keepers and fielders. In general, strength is required when executing a powerful hit out of the ground or to bowl a bouncer; speed is required to take a quick single, to stop a ball before it crosses the boundary line; flexibility is shown by an acrobatic fielder; a square drive, a square cut speeding through the cordon of fielders shows a high degree of coordination and a pace bowler bowling through the entire session shows ample evidence of endurance. Even a single stroke executed by a master batsman shows an excellent combination of all these characteristics, when, to a casual observer what was apparent was only good timing. Let us take an example of a well executed cover drive. As a bowler runs in, the batsman has to concentrate & watch and then in a split second he lunges forward showing speed and flexibility times the ball well, showing strength and
co-ordination. If he sees a chance to take a quick single, he speeds off to take one, and he
does this, ball after ball showing stamina (Sharangapani, 1992).

The word “training” means different things in different fields. In sports the word
“training” is generally understood to be synonym of doing exercise. In a narrow sense
training is physical exercise for the improvement of performance. Training involves
constructing an exercise programme to develop an athlete for a particular event. This
increasing skill and energy capacities are equal consideration (Singh, 1991).

Training is the acquisition of knowledge, skills, and competencies as a result of the
teaching of vocational or practical skills and knowledge that relate to specific useful
competencies. Training has specific goals of improving one's capability, capacity,
productivity and performance. Training is the main component and the basic form of
preparing the athlete for higher level of performance. It is a systematically planned
preparation with the help of the exercise which realizes the main factors of influencing
athlete’s progress. The content of training includes all the basic types of preparation of the
sportsmen such as physical, technical, tactical and psychological.

Until the 20th century, the history of strength training was very similar to the history
of weight training. With the advent of modern technology, materials and knowledge, the
methods that can be used for strength training have multiplied significantly. Hippocrates
explained the principle behind strength training when he wrote "that which is used develops,
and that which is not used wastes away", referring to muscular hypertrophy and atrophy.
Progressive resistance training dates back at least to Ancient Greece, when legend has it that
wrestler Milo of Croton trained by carrying a newborn calf on his back every day until it was fully grown. Another Greek, the physician Galen, described strength training exercises using the halteres (an early form of dumbbell) in the 2nd century. Ancient Persians used the meels, which became popular during the 19th century as the Indian club, and has recently made a comeback in the form of the clubbell. The dumbbell was joined by the barbell in the latter half of the 19th century. Early barbells had hollow globes that could be filled with sand or lead shot, but by the end of the century these were replaced by the plate-loading barbell commonly used today. Strength training with isometric exercise was popularised by Charles Atlas from the 1930s onwards. The 1960s saw the gradual introduction of exercise machines into the still-rare strength training gyms of the time. Strength training became increasingly popular in the 1980s following the release of the bodybuilding movie Pumping Iron.

Resistance training is a specialized method of physical conditioning that involves the progressive use of a wide range of resistive loads from medicine balls to high intensity plyometrics that enhance or maintain muscular fitness (i.e. muscular strength, muscular power, and local muscular endurance). Research into the effects of resistance exercise on youth has increased over the past decade, and the qualified acceptance of youth resistance training by medical and fitness organizations is becoming universal (American Academy of Pediatrics, 2001; American College of Sports Medicine, 2000; Faigenbaum et al., 2003).

The interest in resistance training among youth is supported by findings from the Youth Risk Behavior Survey which indicate that 52% of high school students reported that they performed exercises to "strengthen or tone" their muscles on three or more days in the week before the survey (Centers for Disease Control and Prevention, 2003).
In addition to enhancing motor skills and sports performance, regular participation in a youth resistance training program has the potential to positively influence several measurable indices of health. It helps strengthen bone, facilitate weight control, enhance psychosocial well-being and improve one's cardiovascular risk profile (Faigenbaum, 2001).

Moreover, a stronger musculoskeletal system will enable boys and girls to perform daily activities with more energy and vigor, and may help to enhance functional abilities and reduce the likelihood of developing some chronic diseases such as osteoporosis later in life (Turner & Robling, 2003). Therefore, the importance of resistance training needs to be emphasized early in life as part of a multifaceted approach to lifetime health and fitness.

Theraband training is recognized as the original system of progressive resistance for over 25 years, and endorsed by the American Physical Therapy Association (APTA), Thera-Band elastic resistance has been proven to increase strength, mobility and function, as well as reduce joint pain. Evidence-based exercise programs utilizing Thera-Band bands and tubing rehabilitate injuries, improve the functional ability of older adults, improve athletic performance, and aid in treating many chronic diseases. Thera-Band resistance bands and tubing are low-cost, portable and versatile.

The Thera-band is a resistance band that can be an excellent tool for people who want to train at home, travel, stretch, rehabilitate or for those just want to add variety to their exercise program. It comes in different resistance levels that are determined by the colour and thickness of the band. They provide resistance during strength exercises, assistance during flexibility exercises and in some cases can assist in stability.
Made of natural rubber latex, they are easily recognized by the trademark Thera-Band colors – yellow, red, green, blue, black and silver, as well as our other colors of tan and gold. Advancing through the sequential system of progressive resistance provides positive reinforcement and feedback for gauging results.

Effects of resistance band exercises on strengthening a specific muscle group. As a result no definite guidelines exist as to the number of sets, repetitions and amount of resistance that should be used. However, many health and fitness practitioners use resistance tubing routinely to prevent and rehabilitate overuse injuries by strengthening often smaller, neglected muscle groups.

For example, athletic movements such as a bowling and batting in cricket can place considerable demand on the posterior rotator cuff muscles (external rotators, supraspinatus, infraspinatus, teres minor). These muscles undergo eccentric contraction during the declaration phase of the bowling, which places considerable strain on the shoulder). However, the same muscles may not be effectively worked with traditional isotonic exercises. If larger muscle groups, such as the deltoids, become stronger and are able to cope with and apply greater force, this may further compromise the rotator cuff muscles.

A program of resistance band exercises to compliment regular strength training may be able to improve the strength of more isolated muscle groups such as the rotator cuff. Additionally, training these otherwise neglected muscles may even improve performance.
Like any athlete, cricket players also need to follow strength and conditioning program that aims towards them peaking at certain stages of the year. Strength programs that will be suitably for improving all-round strength, especially in vital areas such as the abdominal oblique's, and also shoulder girdle. To prevent, injury, and to enable a full season to hopefully be completed, its essential that a correct warm up and stretching routine be implemented prior to the start of each match, along with dynamic movements to enable bowlers and bats man to stay in optimum performance during long matches. Along with building a good base of strength and fitness, the skills of the game should be worked on, ideally as a team in order to produce a higher level of combined skills, as cricket is a sport that is played in four forms, batting, bowling, wicket keeping and fielding.

A medicine ball (also known as an exercise ball, a med ball, or a fitness ball) is a weighted ball roughly the diameter of the shoulders (approx. 13.7 inches), and is often used for rehabilitation and strength training. The medicine ball also serves an important role in the field of sports medicine. However, it should not be confused with the larger, inflated exercise ball. Medicine balls are usually sold as 2–25 lb (0.91–11 kg) balls and are used effectively in plyometric weight training to increase explosive power in athletes in all sports. Some medicine balls are in the form of weighted basketballs. Inner core and outer rubber shell of air filled medicine ball. Medicine balls are generally constructed of a leather or vinyl covered nylon cloth, and filled with impact absorbing materials to give them weight. Vinyl covered medicine balls typically are sand filled and are not used for exercises requiring bouncing. Sand or steel shot filled neoprene bags are also used for medicine ball exercises not requiring bouncing.
Some medicine balls have an inner half sphere of dense material in varying thicknesses and seamed together with an outer rubber shell. Other medicine balls have a thin rubber bladder covered by a thick rubber outer surface. Medicine balls that are constructed with an inner rubber bladder and rubber outer surface incorporate an air valve to pump up the ball and increase the bounce. The outer rubber surface has indented designs for easy handling. Over time the rubber surface may wear down if the medicine ball has been used on rough surfaces. Other types of medicine ball include balls made of gel-filled polyvinyl chloride shells, and balls made of solid polyurethane. The materials can vary depending on the desired weight and density.

A basketball can be filled with sand, stitched shut, and used as an effective low-price medicine ball where resources are scarce, and is popular in, for example, home "garage" gymnasia. Some producers of medicine balls incorporate handles on or into the ball. One or two handles may be molded into the ball, thereby changing the shape from a sphere. Handles may serve also as a strap for hand security and attach/unattach to the surface of the ball. A handle may also be an attachable rod that is screwed into the ball. The handle allows the user to grasp the ball either with one or two hands and swing the ball in movements with the weight placed further from the body. Handles that are incorporated into the ball allow the user a closed grip compared to an open grip of a large diameter ball. The user may also put the handle around their foot and complete exercises with added weight to the lower body.

A second variation is an attached rope through middle of the ball. The ball may be hollow with the rope secured at each end of the ball or the ball may be solid with the rope molded into the construction of the ball. These are known as powerballs, slamballs or...
tornado balls. The user grasps the rope along any length and swings and rotates the ball overhead or around the body. The ball can also be chopped or slammed against the ground or a wall. A user can convert a traditional medicine ball in a powerball by placing it inside a mesh bag cinched closed by a large rope used as a handle. The rope length should allow the user to wrap the rope around the hand for security. The greater the distance the weight is from the body the greater the core strength and power required to complete the exercises.

Medicine ball training has been around since the ancient Greeks discovered health benefits from exercising with weighted balls. It is one of the oldest forms of strength and conditioning used to improve health, explosive power, and speed. Medicine balls are versatile, portable and a fad that lasted the test of time. Power, in relation to batting and bowling, is the product of strength and speed or force and velocity. The medicine ball serves as an excellent tool that can be used to enhance power output. The freedom of movement allows for endless variations of exercises that can be tailored to needs and more importantly, it teaches the body to work as an integrated system, which is key for improving cricket performance.

A program of Medicine ball exercises to compliment regular strength training may be able to improve the strength of more isolated muscle groups such as the rotator cuff. Additionally, training these otherwise neglected muscles may even improve batting and bowling performance. Strength training and conditioning plays an important role in chronic and acute injury prevention, particularly in asymmetrical sports cricket (Medicine balls, 2013)
Physical education lessons that include resistance training typically include body weight exercises (e.g., chin-ups and push-ups), free weight exercises (e.g., barbell squat and dumbbell curl) and weight machine exercises (e.g., chest press and lat pull down). Some physical education teachers, however, have started to incorporate medicine ball training into their lessons. Medicine balls are relatively inexpensive weighted balls that are available in a variety of colors, shapes and sizes (ranging from the size of a baseball to larger than a basketball).

Physical education teachers are now rediscovering the many benefits that can be achieved by incorporating medicine balls in their classes. Unlike other approaches to resistance training, medicine ball training provides students the opportunity to strengthen their bodies through dynamic movements that require balance and coordination. Furthermore, body weight resistance exercises such as chin-ups may be too challenging for some youth who are sedentary and overweight. In that regard, medicine ball training programs that involve throwing, catching, and rotational movements can be structured in a way that is appropriate for all students.

At present, there is a paucity of data available about the effects of medicine ball training on health, fitness, and sports performance. From a research perspective, the effect of medicine ball training on the physical fitness of high school physical education students has not been published. While researchers have investigated the effects of different modes of resistance training including weight machines, free weights, and body weight exercises on youth (Faigenbaum, Westcott, LaRosa Loud, & Long, 1999; Pfeiffer & Francis, 1986; Sailors & Berg, 1987; Siegal, Camaione, & Manfredi, 1989), published research
investigating the effects of medicine ball training on muscular fitness in high-school physical education students seems to be lacking.

Since quality physical education programs should help students develop health-related fitness and physical competence (National Association for Sports and Physical Education, 2004), physical education teachers who use medicine balls need assurance that medicine ball training is safe, beneficial, and worthwhile. Moreover, proven methods for incorporating medicine ball training into the high school physical education curriculum are needed, as adolescence is a critical period for promoting physical activity as a lifetime behavior (Rowland, 1999).

Accordingly, the purpose of this study was to examine the effects of theraband and medicine ball training on the cricket playing ability.

Although a myriad of training programs could have been used for this study, the theraband and medicine ball for all training program was used because it is progressive, easy to implement and designed for students who have limited experience performing medicine ball training (Mediate & Faigenbaum, 2004).

The investigator, being a Cricketer, coach and selector was motivated to find out the impact of skill training with resistance training on selected performance variables among the Cricket players. Moreover, very little research had been done on resistance training along with skill training among Cricket players. This also motivated the investigator to take-up the study.
Statement of the Problem

Keeping the above concepts, the purpose of this study was to find out the relative effects of theraband and medicine ball training on selected performance variables among cricketers.

Research Questions

1. Would the theraband and medicine ball training programme improve the selected dependent variables while the presence of covariate (control)?

2. Would the theraband and medicine ball training programme differ each other and also with control group while improving the selected dependent variables?

Assumptions

Validity of this study will rely on the following assumptions

1. The subjects made an honest effort to comply with the intervention protocol according to their specific training.

2. The subjects were performed the assigned two different training sessions separately for three alternative days per week.
3. The subjects were complied with the best of their ability to the training and testing direction.

4. The subjects were tested accurately by standardized test items.

5. The selected tests were reliable and valuable to assess the selected variables.

6. Subjects were not performed any vigorous exercise during the course of study.

**Delimitations**

The study was delimited to the following factors.

1. To achieve the purpose of the present study, subjects comprised of thirty six (n=36) students from affiliated colleges of Anna University of Technology, Tirunelveli, Tamilnadu, India.

2. Their age ranged between 18 to 25 years.

3. The selected subjects were randomly (simple random sample) assigned to one of three groups of twelve (n=12) each, such as two experimental groups and a control group.

4. The Group I (n=12) underwent theraband training, Group II (n=12) underwent medicine training and Group III (n=12) acted as control.
5. The training period was restricted to twelve weeks and the number of sessions per week was confined to three alternative days, in addition to the regular schedule of the university.

6. Among the performance variables, the following dependent variables were selected for this study such as batting, bowling, fielding and wicket keeping.

7. The selected performance variables for the study assessed by the expert rating method.

8. The level of significance was fixed at .05 levels, which was considered to be appropriate.

**Limitations**

The following limitations were not considered while interpreting the result of the study,

1. The study was conducted over the course of 12 weeks and was not able to control for variations in the environmental conditions and the level of acclimatization.

2. Only 18 to 25 age male participants were included in the study, therefore, results cannot be generalized to other populations.

3. The background of the previous training was not taken into consideration.
4. Rest periods were not standardized for all subjects.

5. The researcher not controlled all outside activities, food habits, physical activity and social habits of the participants.

6. Though the participants were motivated verbally, no attempt was made to differentiate motivation level during the period of training and testing.

**Hypotheses**

It has been scientifically accepted that any systematic training over a continuous period of time would lead to produce changes on athletic qualities. Based on this concept and the research questions the following hypotheses were formulated and tested at 0.05 level of confidence.

1. There would be significant improvement on selected performance variables (batting, fielding, bowling and wicket keeping) due to the effects of theraband and medicine ball training.

2. There would be significant difference among the experimental and control groups while improving the selected performance variables (batting, fielding, bowling and wicket keeping).
Significance of the Study

1. This study was examining the effect of theraband and medicine ball training on performance variables.

2. The ultimate aim of research in physical education was to help coaches and physical educators to train their sports persons based on new concepts in improving their performance.

3. A unique aspect of this work was that it includes recommendations for the practical use of research findings.

4. The study would add knowledge in the area of sports training.

5. The study would help to explore the effectiveness of field theraband and medicine ball training on selected performance variables among Cricket players.

6. The theraband and medicine ball training schedule designed in this study would help the physical educators and coaches in designing these packages.
Definition of the Operational Terms

Training

Training is the planned and systematic realization of measure (training contents and training methods) for the durable attainment of goals (training goals) in and through sport (Hohmann, Lames, and Letzelter, 2002).

Theraband

Exercise bands allow you to perform resistive exercises. They come in different thickness levels to allow you to change the resistance for a particular exercise and to accommodate users with varying levels of strength. The thickness of the band determines its resistance level (“Exercise bands”, 2013).

Medicine Ball Training

Medicine balls are a great way to exercise any area of your body, whether upper, lower, or core. There are different sized exercise balls from 2-12, that you can use for numerous different exercises.

Medicine ball training is suitable for all ages, fitness levels and sizes. There are many advantages to training with medicine balls. They allow for improved range of motion, core strength, coordination, flexibility, joint integrity, and upper and lower body strength. The great thing is that you can involve a partner or simply use a solid, sturdy wall (“Medicine Balls are, 2013”).
Batting

In the sport of cricket, batting is the act or skill of hitting the cricket ball with a cricket bat to score runs or prevent the loss of one's wicket (“In the sport of cricket, batting”, 2013).

Bowling

In the sport of cricket, bowling is the action of propelling the ball toward the wicket defended by a batsman. A player skilled at bowling is called a bowler; a bowler who is also a competent batsman is known as an all-rounder. Bowling the ball is distinguished from simply throwing the ball by a strictly specified biomechanical definition which restricts the angle of extension of the elbow (“In the sport of cricket, bowling”, 2013).

Fielding

In the sport of cricket is the action of fielders in collecting the ball after it is struck by the batsman, in such a way either to limit the number of runs that the batsman scores or to get the batsman out by catching the ball in flight or running the batsman out. Cricket fielding position can be broken down into offside and legside parts of the field (“Fielding in the sport”, 2013).
Wicket Keeping

The wicket-keeper in the sport of cricket is the player on the fielding side who stands behind the wicket or stumps being guarded by the batsman currently on strike. The wicket-keeper is the only member of the fielding side permitted to wear gloves and external leg guards. The wicket-keeper may also wear a helmet with a mesh face guard to help protect from injury (The wicket-keeper in, 2013).

Summary of the Chapters

This thesis consists of five chapters. The title was introduced in the first chapter with the statement of the problem, hypothesis, significance of the study and definitions of the terms are discussed. The next chapter describes the sources of review of related literature, Selection of subjects, variables, units, experimental design, statistical procedure and the effect of various training methods are given in the third chapter. Analysis of data and discussion on findings and discussion on hypothesis are highlighted in the fourth chapter. The thesis is concluded with summary, conclusions with suitable recommendations, which will be useful for further investigation.