

# **EFFECT OF YOGIC EXERCISE TRAINING IN BASKETBALL**

Project presented to the  
National Institute of Sports, Patiala  
In Partial fulfillment of the Requirements

For the Diploma of  
**SPORTS COACHING**  
**IN**  
**BASKETBALL**

By  
**ANJU DEVI**  
**131-BB 2K22**



**DEPARTMENT OF BASKETBALL**  
**SAI NIS, PATIALA**  
**SESSION 2022-2023**

## DECLARATION

I, **ANJU DEVI** certify that the work embodied in this project report is my own bonfire work, carried out by me under the supervision of **Sh. ASHPHAQUE Sr. Basketball Coach** and the joint-supervision of **Sh. VINOD PG Basketball Coach**, and **Sh. KARTHIKEYAN B V Assist. Basketball Coach** at the Department of BASKETBALL SAI NSSC Bangalore

The matter embodied in project report has not been submitted for the award of any other degree/diploma.

I declare that I have faithfully acknowledged, given credit to and referred to the research workers wherever their works have been cited in the text and the body of the project. I further certify that I have not willfully lifted up some other's work and cited as my own work.

I understand that any violation will be cause for disciplinary action by the NIS.

Date: .....

Place: Bangalore

Signature of the candidate

ANJU DEVI

131-BB-2k22

Basketball Trainee Coach

2022-2023

## **CERTIFICATE**

This is to certify that this project report entitled **EFFECT OF YOGIC EXERCISE TRAINING IN BASKETBALL** Embodies the work carried out by **ANJU DEVI** himself/herself under my/our supervision and that is worthy of consideration for the award of the Diploma of sports coaching.

**Joint-Mentor**

**Mentor**

**Shri VINOD PG**

**Shri ASHPHAQUE**

**Basketball coach**

**Coach In charge, Basketball**

**Sports Authority of India**

**Sports Authority of India**

**Netaji Subhas Southern Center**

**Netaji Subhas Southern Center**

**Bangalore**

**Bangalore**

**Shri KARTHIKEYAN BV**

**Asst. Basketball coach**

**Sports Authority of India**

**Netaji Subhas Southern Center**

**Bangalore**

## ACKNOWLEDGEMENT

I, hereby, acknowledge and express my deeply-felt thanks to my chief and senior coaches **Sh.ASHPHAQUE** and the joint-supervision of **Sh.VINOD PG**, and **Sh.KARTHIKEYAN B V**. Department of Basketball SPORTS AUTHORITY OF INDIA-NSSC BANGALORE, who spared their precious time guiding me always to complete this project work successfully.

I am deeply indebted to **Mrs.RITU A.PATHIK** Regional director, sports authority of India, NSSC, Bangalore for permitting me to work on this project study and allowed me to use facilities available at this center.

I extend my heartfelt thanks to **Mr. VINOD NARAYANAN** In-charge academics, Sports Authority of India, NSSC, Bangalore for his assistance during the competition of the study.

Date: .....

Place: Bangalore

Signature of the candidate

ANJU DEVI

139-BB-2k22

Basketball Trainee Coach

2022-2023

## CONTENT

S.NO	Title	Page No
1	<b>INTRODUCTION</b> <ul style="list-style-type: none"><li>• HISTORY AND NATURE OF THE BASKETBALL</li><li>• PREREQUISITES FOR A BASKETBALL PLAYER</li><li>• INTRODUCTION OF YOGA</li><li>• A BRIEF HISTORY AND DEVELOPMENT OF YOGA</li></ul>	
2	<b>MAIN PART</b> <ul style="list-style-type: none"><li>• ROLE OF YOGA IN PERFORMANCE RELATED FACTOR OF SPORT</li><li>• ASANA'S THAT HELP IN BASKETBALL</li></ul>	25
3	<b>SUMMARY AND CONCLUSION</b>	26
4	<b>REFERENCE</b>	27

## INTRODUCTION

Performance in sports and games depends on both physical and mental abilities. Body and mind have an equal contribution in human success. Performance of Indians at international sports and games is a dismal show, the In general, games other than hockey, tennis, volleyball and cricket Indians could not find a place in the international sports map. The reason for such pitfall could be accounted to the lack of infrastructure, narrow base of sports population, improper system in selection of players and training, lack of awareness in sports and financial constraints. Among these major issues, the top most is improper system in training. The present system of training in India highly concentrates on the physical aspects and psychological aspects are given the least importance that too only during the camp. The salient aspect of the psychological influence in human beings is execution of every physical movement. Though mind is exerting such a significant influence in human physical activity, no training schedule comprises the system to develop mind related aspects. Earlier studies in sports also confirm that body and mind are functioning for high-level performance at an equal distance.

The persons in the field of Indian sports are now beginning to realize the importance and impacts of mind in success of sports. Two years before, the Sports Authority of India had sent the Indian hockey team to one-week yogic training camp with the aim to develop the concentration, relaxation and strengthen the mind related aspects. At the end of the yoga training camp, the players opined positively that yogic training was highly helpful in developing the concentration, relaxing all the physical and physiological systems which in turn helped to free the mind from distractions. These effects were practically realized by the Indian hockey players while playing the crucial matches. Here very specifically the players realized such a valuable effect only at the age of

nearly above twenty. But if the Government of India takes steps to inculcate the yogic exercises at an early age i.e. at school level, the rate of benefit will be very high. By such a year long programme for the sports participants strengthening the physical and mind related aspects, the individual can increase the consistency in performance. It helps the sports participants to enhance the rate of success, it appears as a viable source to find permanent place in international sports map. With this basic assumption, the investigator was impelled to design the training programme consisting of physical and yogic exercises and to test its impacts on performance and performance related factors of sports since the investigator himself being associated with this game for more two decades as a player and coach. To achieve this purpose, the investigator has chosen the game of basketball as a sport. The reason behind the selection of basketball particularly is that it is a game of complex nature of movements. High-level performance in basketball demand not only timely application of mind during dribbling and passing the ball, but also a sort of coping mechanism in stressful situations.

# HISTORY AND NATURE OF THE BASKETBALL

The game of basketball was invented in December 1891 by **Dr. James A. Naismith** an instructor in the physical training department of the International Young Men's Christian Association Training School in Springfield, Massachussets, U.S.A. Basketball has attained an impressive level of international popularity. It is a game played with continuous flow of activity and has always been considered as a game of precision, timing, accuracy, and agility. However the changing character of the game and the improved ability of the players, from inter-school competition to Inter-national competition, demand greater attention to player's preparation.. Competitive basketball is considered more anaerobic than aerobic and the success in basketball appears to be dependent more on the player's anaerobic power and endurance rather than on aerobic power. Although only 15% of the playing time in a basketball game has been described as high intensity, these actions are likely to determine the outcome of a contest. The quick change of direction and explosive speed needed to free oneself for an open shot, the ability to jump quickly and repetitively, and the speed needed to reach loose balls and run a fast break, are examples of high intensity activities common to basketball. Basketball is a demanding sport. Not only the basketball player must have tremendous cardiovascular endurance to run up and down the court time after time for four quarters of play, but he will also need to be able to execute explosive bursts of speed, explosive jumps, and explosive movements for agility, time after time. Such an ability to perform explosively regardless of extreme cardiovascular fatigue is called "strength-endurance". Explosive power, one of the most important components of performance related factors, helps the player to move fast, jump high, and beat out the man in front of him.



Basketball is no longer just a game of shooting baskets and dribbling the ball around opponents. It is no longer a game of blocking shots and fast breaks. It is a complete game involving incredible levels of fitness. Having the greater intensity throughout the entire game - the player can have the ability of the faster, stronger and more enduring for the entire game. With the mastery on performance related components a player can have a higher degree of overall body strength and stamina, as well as increasing ability to hold position under the basket, rebound, increase speed and agility.

## **Prerequisites for a Basketball Player**

As the important prerequisites for a good performance in Basketball, the skills related to physical and psychological factors are as follows.

### **Physical Skills**

Generally the performance of a Basket Ball player depends largely on physical fitness factors such as strength, speed, endurance, flexibility and various coordinative abilities. Speed plays vital role in the modem basketball. Basket Ball is a game played for 40 minutes with 2 minutes break between 1 & 2nd quarter and 3<sup>rd</sup> & 4<sup>th</sup> quarter and 15 minutes between 2 & 3 quarter. When a player gets tired his skills are inaccurate, and could not be performed satisfactorily. Endurance is important for ensuring good quality of the skills, accuracy, rhythm etc. Co-ordination and flexibility are other important fitness factors, which have more say in the modem Basket Ball. Reaction time and movement time are of immense importance for a Basketball player whether in offensive or defensive position. An offensive player has to react quickly and execute the shooting faster to outwit the defense. The defensive players should be quick enough to react and execute to tackle successfully.

## **Psychological Skills**

The development of mental skill for a Basketball player is as important as the development of physical skills. A player should be able to think, understand and analyse each movement in the game and act. A player should be able to make split-second decisions on the spot and develop determination and will power. The champion player must have self-confidence and positive attitude. Practising a skill over and over to perform it correctly in game situation adds to self-confidence. Since Basketball is a team game, players must have the mental traits of being able to work with teammates. It is a natural impulse for a player to want to make the winning goal. But a player who is willing to pass the ball to player who has a better opportunity than him should be congratulated. Apart from various physical and mental factors, the very important thing to be considered for top-level player is emotional factors. Emotional factors such as anxiety, stress, fear and anger play a very crucial role in the game of Basketball. At the beginning of the game, while taking the free throw the anxiety of a player is less than that of the same player taking the free throw in the last minute of the game, when his team is down by one point. Stress in competition is a result of both internal and external pressures. A player should develop emotionally to control his feelings that will make him tense, fearful or angry. The fear of failure, the inferiority feeling when comparing him with the opponent will affect the performance of a player.

## INTRODUCTION OF YOGA

Yoga is essentially a spiritual discipline based on an extremely subtle science, which focuses on bringing harmony between mind and body. It is an art and science of healthy living. The word ‘Yoga’ is derived from the Sanskrit root ‘Yuj’, meaning ‘to join’ or ‘to yoke’ or ‘to unite’.

As per Yogic scriptures the practice of Yoga leads to the union of individual consciousness with that of the Universal Consciousness, indicating a perfect harmony between the mind and body, Man & Nature. According to modern scientists, everything in the universe is just a manifestation of the same quantum firmament. One who experiences this oneness of existence is said to be in yoga, and is termed as a yogi, having attained to a state of freedom referred to as Mukti, nirvana or moksha.

Thus, the aim of Yoga is Self-realization, to overcome all kinds of sufferings leading to 'the state of liberation' (Moksha) or ‘freedom’ (Kaivalya). Living with freedom in all walks of life, health and harmony shall be the main objectives of Yoga practice.” Yoga” also refers to an inner science comprising of a variety of methods through which human beings can realize this union and achieve mastery over their destiny. Yoga, being widely considered as an ‘immortal cultural outcome’ of Indus Sarasvati Valley civilization – dating back to 2700 B.C., has proved itself catering to both material and spiritual upliftment of humanity. Basic humane values are the very identity of Yoga Sadhana.

## A BRIEF HISTORY AND DEVELOPMENT OF YOGA

The practice of Yoga is believed to have started with the very dawn of civilization. The science of yoga has its origin thousands of years ago, long before the first religions or belief systems were born. In the yogic lore, Shiva is seen as the first yogi or Adi yogi, and the first Guru or Adi Guru.

Several Thousand years ago, on the banks of the lake Kant Sarovar in the Himalayas, Adi yogi poured his profound knowledge into the legendary Saptarishis or "seven sages". The sages carried this powerful yogic science to different parts of the world, including Asia, the Middle East, Northern Africa and South America.



Interestingly, modern scholars have noted and marveled at the close parallels found between ancient cultures across the globe. However, it was in India that the yogic system found its fullest expression. Agastya, the Saptarishi who travelled across the Indian subcontinent, crafted this culture around a core yogic way of life.

A number of seals and fossil remains of Indus Sarasvati valley civilization with Yogic motives and figures performing yoga indicate the presence of Yoga in India. The Number of seals and fossil remains of Indus Sarasvati valley civilization with Yogic motives and figures performing Yoga Sadhana suggest the presence of Yoga in ancient India. The phallic symbols, seals of idols of mother Goddess are suggestive of Tantra Yoga. Presence of Yoga is available in folk traditions, Indus valley civilization, Vedic and Upanishadic heritage, Buddhist and Jain traditions, Darshans, epics of Mahabharat and Ramayana, the traditions of Shaiva, Vaishnavas, and Tantric traditions. In addition, there was a primordial or pure Yoga which has been manifested in mystical traditions of South Asia. This was the time when Yoga was being practiced under the direct guidance of Guru and its spiritual value was given special importance. It was a part of Upasana and yoga sadhana was inbuilt in their rituals. Sun was given highest importance during the Vedic period. The practice of ‘Surya namaskar’ may have been invented later due to this influence. Pranayama was a part of daily ritual and to offer the oblation. Though Yoga was being practiced in the pre-Vedic period, the great Sage Maharshi Patanjali systematized and codified the then existing practices of Yoga, its meaning and its related knowledge through his Yoga Sutras. After Patanjali, many Sages and Yoga Masters contributed greatly for the preservation and development of the field through their well-documented practices and literature.

Surya namaskar Historical evidences of the existence of Yoga were seen in the pre-Vedic period (2700 B.C.), and thereafter till Patanjali's period. The main sources, from which we get the information about Yoga practices and the related literature during this period, are available in Vedas (4), Upanishads (108), Smritis, teachings of Buddhism, Jainism, Panini, Epics (2), Puranas (18) etc. Tentatively, the period between 500 BC - 800 A.D. is considered as the Classical period which is also considered as the most fertile and prominent period in the history and development of Yoga. During this period, commentaries of Vyasa on Yoga Sutras and Bhagavad-Gita etc. came into existence. This period can be mainly dedicated to two great religious teachers of India – Mahavir and Buddha. The concept of Five great vows – Pancha maharaja- by Mahavir and Astha Maga or eightfold path by Buddha - can be well considered as early nature of Yoga sadhana. We find its more explicit explanation in Bhagavad-Gita which has elaborately presented the concept of Gyan yoga, Bhakti yoga and Karma Yoga. These three types of yoga are still the highest example of human wisdom and even today people find peace by following the methods as shown in Gita.

Patanjali's yoga sutra besides containing various aspects of yoga, is mainly identified with eight fold path of Yoga. The very important commentary on Yoga sutra by Vyasa was also written. During this very period the aspect of mind was given importance and it was clearly brought out through Yoga sadhana, Mind and body both can be brought

under control to experience equanimity. The period between 800 A.D. - 1700 A.D. has been recognized as the Post Classical period wherein the teachings of great Acharya Adi Shankaracharya, Ram Anuj Acharya, Madhav Acharya-were prominent during this period. The teachings of Suranas, Tulsidas, Parrandas, Marabi were the great contributors during this period. The Nathan Yogis of Hatha yoga Tradition like Matsyendaranatha, Gorkshanatha, Cauranginatha, Swatmaram Suri, Gheranda, Shrinivasa Bhatt are some of the great personalities who popularized the Hatha Yoga practices during this period. The period between 1700 - 1900 A.D. is considered as Modern period in which the great Yogacharyas- Ramana Maharshi, Ramakrishna Paramhansa, Paramhansa Yogananda, Vivekananda etc. have contributed for the development of Raja Yoga. This was the period when Vedanta, Bhakti yoga, Nathayoga or Hatha-yoga flourished. The Shadanga- yoga of Gorakshashatakam, Chaturanga-yoga of Hathayogapradipika, Saptanga-yoga of Gheranda Samhita, were the main tenants of Hatha-yoga. Now in the contemporary times, everybody has conviction about yoga practices towards the preservation, maintenance and promotion of health. Yoga has spread all over the world by the teachings of great personalities like Swami Shivananda, Shri T.Krishnamacharya, Swami Kuvalayananda, Shri Yogendara, Swami Rama, Sri Aurobindo, Maharshi Mahesh Yogi, Acharya Rajanish, Pattabhijois, BKS. Iyengar, Swami Saty Ananda Sarasvati and the like. Saraswati Valley civilization dating back to 2700 B.C., has proved itself catering to both material and

spiritual upliftment of humanity. Basic humane values are the very identity of Yoga Sadhana.

### **Proper Exercise - Asanas**

In yoga, the physical exercises, called asanas, are non-violent and provide a gentle stretching that acts to lubricate the joints, muscles, ligaments, tendons and other parts of the body. Asanas help to tone the nervous system, improve circulation, release tension, and increase flexibility. When performed in a slow and relaxed manner, they are designed to develop more than just the physical body. They also broaden the mental faculties and enhance the spiritual capabilities.

Asanas make up the third limb, or step in the Raja yoga system. Asanas are designed a state for mental and physical well being, or good health. This may be defined as the condition that is experienced when all the organs function efficiently under the intelligent control of the mind.

Asanas have an extraordinary capacity to overhaul, rejuvenate and bring the entire system into a state of balance. Although they are performed by the physical body, asanas also have profound effects on the Astral body.

### **Asanas as Physical Exercise:**

Asanas are not only practised for spiritual gains but they are also used as physical exercises involving great deal of skill, flexibility and neuromuscular coordination.



## **Asanas:**

1. As mentioned earlier, asanas can be understood as postures rather than exercises. It is presumed that they predominantly work at the cerebellar level rather than the cortical level because cerebellum is the one responsible for the maintenance of tone, posture and equilibrium.
2. Usually Motor Cortex is involved in various types of psycho-physical activities related to most of the training and education programmes and one has to depend on the sense organs for the sensory activities. In Yoga practices, however, the motor cortex and the five sense organs are expected to remain in low profile and even the body musculature supplied by the central nervous system is expected to remain relatively relaxed and inactive to a great extent.
3. On relatively relaxed background of the skeletal muscles, certain groups of muscles are put to stretch because of the particular position of the body which leads to the stimulation of the muscle spindles. If the whole technique is properly followed, then the stretch reflex initiated through action can lead to the release of tensions and relaxation of the related groups of muscles.
4. Developing awareness of breathing movements in different regions of the body while the posture i.e. asana is maintained for some length of time further helps to release tension and develop a kind of balance and equilibrium at different levels of the body musculature.

5. Thus one may be able to appreciate the role that can be played by asanas in releasing tension, initiating relaxation of the skeletal muscles and establishing a condition of balance and equilibrium.

6. This understanding about asanas as postures will also indicate its application in games, sports and physical education programmes. They could be used as conditioning practices to develop flexibility and better proprioceptive awareness and to train the individuals to release tensions, restore balance and equilibrium and to develop relaxation. Thus they could be used after any hectic activity is over or from time to time in between a prolonged activity.

### **Physical Benefits**

With regular practice, asanas encourage all parts of the body to work more efficiently.. Asanas initially focus on increasing and maintaining flexibility of the spine, toning and rejuvenating of the nervous system. The gentle stretching, twisting, and bending movements bring flexibility to the other joints and muscles of the body, as well as massaging the glands and organs. Circulation is also improved, ensuring a rich supply of nutrients and oxygen to all the cells of the body.

### **Mental Benefits**

Many people believe that asanas were originally designed as concentration exercises to help improve the mind's capacity to meditate. Steady postures free the mind from disturbance caused by physical movement,steadiness of mind, balancing the emotions, and improving your lot look on life.

## **PRANAYAMA**

Pranayama is a compound term ('prana' and 'y^nia') meaning the maintenance of prana in a healthy manner throughout one's life. More than a breath-control exercise, pranayama is all about controlling the life force or prana. Ancient yogis, who understood the essence of prana, studied it and devised methods and practices to master it. These practices are better known as pranayama. Since breath or prana is basic to life, the practice of pranayama helps in harnessing the prana in and around us, and by deepening and extending it, pranayama leads to a state of inner peace. Breathing is a direct means of absorbing prana and the manner in which we breath sets off pranic vibrations, which influence on entire being.

Pranayamas are the practices in the control of respiratory impulses which form one of the main channels of the flow of autonomic nerve currents. They are practised for bringing control over the autonomic nervous system and thereby diminishing the mental fluctuations.

By becoming aware of the nature of the breath and by restraining it, the whole system becomes controlled. When you retain the breath you are stopping nervous impulses in different parts of the body and harmonizing the brain wave patterns. In pranayama, it is the duration of the breath retention, which has to be increased. The longer the breath is held, the greater the gap between nervous impulses and their responses in the brain. When retention is held for a prolonged period, mental agitation is curtailed.

Through pranayama the mind can be brought under control. In many spiritual traditions, including Surfism, Buddhism and Yoga, it is known that by concentrating on the breath, you can still the mind, develop one-pointedness and gain entry into the deeper realms of the mind and consciousness.

## Pranayama

1. Like asanas, the concept of Pranayama is also peculiar to yoga discipline.
2. There is a common notion that pranayamic breathing improves oxygen consumption and CO<sub>2</sub> elimination. Many yoga teachers and experts are seen to contribute to this notion and want people to practise pranayama for this purpose. Manipulation of breathing is advocated in many activities like weight lifting, swimming, jumping, sprints, boxing, shooting etc. Here the main aim of manipulating the breathing is to develop proper leverage for body actions, steadiness, alertness, improving perceptions, ensuring protection to body parts etc.
3. In pranayama, on the other hand, the basic aim seems to be to understand and learn to work with the mechanics of breathing in the initial stages and to develop a capacity to perceive internally aroused sensations from different regions of the body so that the awareness could get internalized and one could get guided by them till one can get established in a relatively different kind of

awareness, usually termed as self-awareness. Through the routinely followed physical activities in games and sports, the awareness gets related with the external objects and ideas related with them.

4. Pranayamic breathing, as a conditioning exercise, will help an individual to develop better ability of 'self-imaging' and a short session before the actual performance will help one to take care of anticipatory tensions due to anxiety and fear etc.

### **Role of Yoga in Performance Related Factors of Sport**

#### **1. Improves Flexibility.**

Increasing flexibility with yoga leads to more ease of movement and fewer injuries. It enables the player to move more freely with a greater range of motion. The more freedom to the body which has to move into the positions necessary for the sport(s), the more quickly the player can do so, with less effort, strain or risk of injury.

#### **2. Improves Agility.**

Almost all aspects of yogic exercises assist in improving the agility of the player. The combination of total body strength, flexibility, posture, balance and

kinesthetic awareness is aimed at improving the body's ability to move freely, quickly and without pain or stiffness.

#### **3. Increases Strength.**

Yoga practitioner uses his own body as the resistance. Many yoga postures require many major and minor muscle groups to be used

simultaneously. In some it feels like every muscle in the body is being used! This is much different than traditional weight training in which the player isolates one or two muscle groups per exercise. The strengthening in yoga requires entire body to be working as a unit so the strengthening of one muscle group is connected to that of another muscle group. This improves the player's overall sense of strength from a centered, connected place.

#### **4. Improves Balance.**

Many sports, because of their quickness and/or concentration, require body to be able to move in any direction with ease within a split second. If body is off balance and the upper half of the body feels disconnected from the lower half, response time increases. Many yoga postures require finding the centre that is balance. Through the conscious practicing of balancing postures, body learns where its center is and how to find it rapidly.

#### **5. Increases Mental Focus.**

Yoga teaches the discipline of being present in the moment through the physical postures and breath work.

#### **6. Improves Mind/Body Connection.**

In yoga, player learns to listen to his body through his mind and learns to quit his mind through his body. The breath is the essential tool used to unite body and mind. The word "yoga" means to yoke, establish a relationship with each other that affects every area of life. The more the player tunes the mind/body connection, the more awareness he can have of his movement and his state of being. With this tool, he can assess where his mind is when playing sport and can draw his mind and body back into union if they become separate.

This helps the player to prepare himself to be present in whatever sport he is involved.

### **7. Reduces Stress.**

One of the quickest and most significant benefits of yoga is the effect it has on reducing stress. Because of stress tenseness is held in the neck, back, hamstrings, stomach, head. Tense muscles decrease flexibility and energy and increase pain and risk of injury. In such a case yoga helps to release stress in body and mind. So that body has more freedom to perform at its best with the least amount of pain.

### **8. Improves Posture.**

Yoga strengthens the core muscles in torso, specially those that support spine. Unlike a typical fitness routine, practically every posture in yoga has a positive effect on the spine. Keeping the spine flexible and strong is one of the highest purposes of yoga. The stronger and more flexible spine helps the posture falls into proper alignment. The alignment becomes effortless rather than effortful and thus your posture improves. As yoga helps to improve posture, the body begins to move in proper alignment where the body is naturally supposed to be. This impacts every aspect of how the player moves, especially in sports where he was most challenged to be quick, strong and balanced.

### **9. Increases Kinesthetic Awareness.**

Through yoga player begins to discover and explore kinesthetic awareness, that is, where his body is in space. He learns to place his body in exact positions and knows when it is in the correct place. This is at the core of leaning to balance and move his body as a unit, aware of the space around him. It has a wonderful effect on his game because it also helps the player to be more aware of both his teammates and his position.

### **10. Improves Sportsmanship.**

Aside from the physical and mental aspects of yoga, there is also a spiritual element. Basically, yoga teaches the player about connection with himself and all living things. Through the discovery and realization of the connection that all living things have with each other, an element of camaraderie, non-violence and peace begins to shine through. So, no matter if the player wins or loses, he can be injury-free, agile and live with a sense of appreciation for his competitors and a feeling of peace.

### **1.7 Performance Related Fitness**

Success in games and contests requires more than just being fit. It demands motor skills, speed and power. The components of performance related fitness enable one to move and perform more efficiently, whether it is in work-related activities, daily movement functions, or in sports performance. Further, health-related fitness may also benefit from performance related fitness, since persons who possess skill-related fitness are more likely to be active throughout life. Performance related fitness is compatible with health related fitness. Many activities promote both types. Individuals who possess both will find participation in either type of activities more enjoyable and beneficial to their health and physical well-being. A person who is physically active cannot help but improve some aspects of skill-related fitness.

In the present study the factors such as speed, strength, flexibility, cardio respiratory endurance, agility, coordination, explosive power and anxiety were used as performance related factors for basketball as described here.

#### **Coordination**

Coordination is the speed and accuracy of correct muscle response to produce a desired movement.

#### **Power**



Power is the product of force, strength, and velocity. This quality is needed both at the plate and on the mound. Power is the ability to exert strength in a given time frame. Power is the application of strength and speed during a muscular movement. Power equals force times velocity and has to do with the speed of the contraction against less than maximal resistance. Power is closely related to dynamic strength, with speed or quickness of movement as added dimension. Although strength, speed and power are related, strength alone will not develop power. Power is displayed in many activities in different ways. Dribbling the ball, shooting the ball, throwing the ball, and rebound are the examples for power needed in basketball.

### **Speed**

Speed is the ability to move the body or a part of the body as rapidly as possible from one point to another. Speed is the rate of movement, or the amount of time it takes for a body or object to travel between two points.

Speed usually refers to running speed, as in the sprints in track or in football. However, speed can be performed as leg speed in soccer kicking, arm speed in throwing a basketball, and body speed (acceleration) necessary in fast break.

Speed is related to strength and power. In fact, all skill-related components contribute to speed. Speed requires the expenditure of a large amount of energy in a short period. Age is a factor in attaining speed.

Speed is the amount of distance covered in a given amount of time.

Acceleration is how quickly you get to top speed. A basketball player does not hit top speed unless he is at the end of a fast break. Acceleration and stride rate are the most important speed related factors in basketball.

### **Agility**

Agility is the ability to change body positions quickly and accurately to

the indicated response or situation. Some experts contend that strength is the most important factor in agility since a stronger body moves with more ease and efficiency.

Agility is a recognized and accepted factor of motor fitness. It is a unique compound factor, which includes acceleration, control, speed, reaction time, movement time, balance and explosive strength. It is total body movement, usually of short duration and or distance. Agility is total body movement, involving change of direction at a high rate of speed, quick acceleration and dodging. When the movement is performed well, it is controlled, accurate and efficient. Agility is the rapidity with which, accuracy of the total body movement is in response to the perceived stimulus. Injury and body weight affect agility performance.

Agility is the ability to explosively stop, change direction, and accelerate again. The primary goal of agility is to enhance body control and increase the athlete's ability to accelerate and decelerate in multiple directions. The sport of basketball requires acceleration, as well as rapid deceleration of speed-strength, which is force developed rapidly or at high speed—that is why speed-strength training is a vital part of speed and agility training. The great underlying goal of agility training should be to increase the speed of movement, manage injuries, improve athleticism, and provide a long-term performance enhancement outcome. If agility and quickness are to be enhanced, which help the player to enhance functional power, balance, and speed, enhance sport specific movements, place the athlete in a variety of different body positions, increase intramuscular coordination, be performed with maximal effort and intensity.

### **strength**

Strength is the ability of the individual to exert force against an object.

High quantity and quality of trained muscle tissue is an asset in the demonstration of body strength. Body strength is either static or dynamic, depending upon whether the body is held in relatively fixed position during muscular contractions, or the body or its parts are lifted or propelled in any particular direction. Squeezing or holding a 'dead' weight in a fixed position is an example of static strength. Lifting a maximum weight throughout the range of motion once, such as in a bar-bell, is a demonstration of dynamic strength. A very high positive relationship exists between muscular strength and physical health, and physical fitness. Without body strength no physical activity is possible and even with low muscular strength, bodily functions are handicapped. Strength is the most important element in motor performance. Strength is a consistent differentiator of ability to make and to achieve success in school athletic teams. All top-flight athletes possess superior muscular strength. The strength of males increases rapidly from 12 to 19 years of age at a rate similar to that of weight. It increases more slowly up to 30 years, after which it declines at an increasing rate to the age of 60 years. The strength of females shows somewhat the same pattern but more uniformly to 19 years of age and always approximately 20% below males.

### **Muscular Power**

It is the ability to release maximum force as fast as possible. Maximum muscular contraction against a resistance in a minimum of time.

Power = force x velocity. It is a compound element of motor fitness. It needs specific muscular strength, speed of limb movement, and skill in integrating and co-ordinating the action. Increased velocity of parts of the body is related to improved neuromuscular initiation, co-ordination and precision of movement patterns. When a highly skilled level is attained, further performance

improvement is primarily attributable to strength increases. Muscular power exists in its own right. Strength and power are separate entities.

### **Cardiorespiratory Fitness**

Cardiorespiratory (CR) fitness, sometimes called CR endurance, aerobic fitness, or aerobic capacity, is one of the five basic components of physical fitness. CR fitness is a condition in which the body's cardiovascular (circulatory) and respiratory systems function together, especially during exercise or work, to ensure that adequate oxygen is supplied to the working muscles to produce energy. CR fitness is needed for prolonged, rhythmic use of the body's large muscle groups. A high level of CR fitness permits continuous physical activity without a decline in performance and allows for rapid recovery following fatiguing physical activity.

In basketball the duration of the game is divided into four quarters which place an extra demand on the cardiovascular and respiratory systems. During competitive matches these systems attempt to supply oxygen to the working muscles. Most of this oxygen is used to produce energy for muscular contraction. Any activity that continuously uses large muscle groups for 20 minutes or longer taxes these systems. Because of this, a wide variety of training methods are used to improve cardio respiratory endurance.

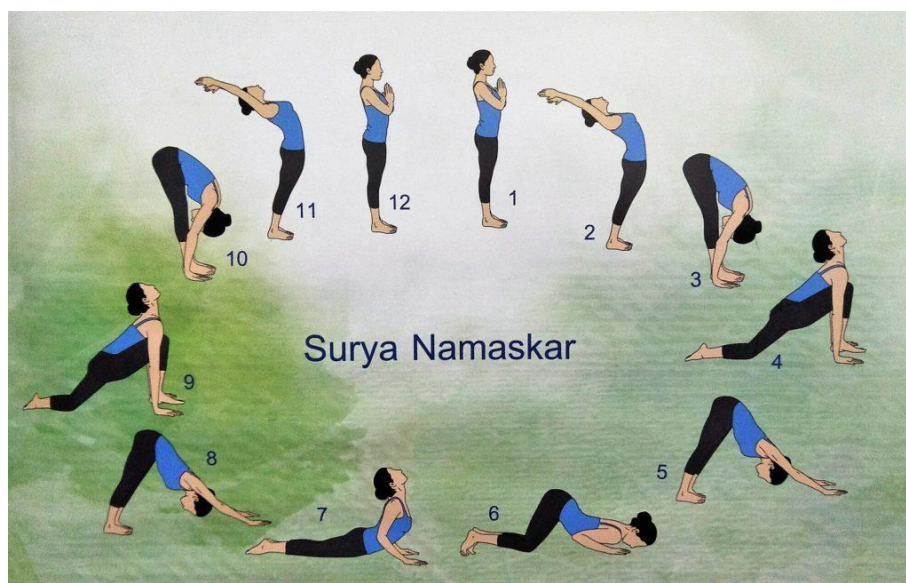
The kind of endurance associated with cardio-respiratory system is characterized by a physiological fitness and is related to the phenomenon of 'wind'. In this instance, exercise is carried on for sufficient duration and intensity to stress the circulatory and respiratory systems. Such endurance enables the individual to sustain moderate contraction of the skeletal muscles over a comparatively long period of time. The adjustment in the heart, lungs and circulatory systems just mentioned can be made more efficient through training.

The best tests to measure this facet of motor performance are long distance running and the treadmill run. The fit individual has a cardiorespiratory system which is capable of meeting the demands of the tissues under conditions of intense exercise.

## **ASANA'S THAT HELP IN BASKETBALL**

### **✚ SURYA NAMASKAR**

Start standing at the top of the mat with your feet hip-width apart, eyes closed, hands in prayer at heart. Take a deep breath by drawing air in evenly through your nose and mouth, allowing your diaphragm to expand as your lungs fill. Think of each inhale as filling your belly, and exhale. With feet firmly pressing into the mat, lift from the top of the head as you inhale. Pause, holding your breath slightly, then begin to contract the lower abdominals to initiate the exhale. Match the length of the exhale to the inhale. Take a few breaths to set the rhythm, like a metronome. Once your breath is “set,” on the next inhale, send hands high above your head. Open your eyes, letting your gaze follow your fingertips, stretching tall with feet grounded. As you exhale, gently draw the shoulder blades back and down,



dropping the shoulders slightly away from the ears. Keep the brea even and hold for two more breaths, repeating that active lift and release with each inhale and exhale.

On the next exhale, draw hands down past heart center, bending at the hips to reach for the floor. As you come into Forward Fold, be aware of the length through your spine. Rather than folding and curving the spine, bend the knees to allow the chest to come closer to the knees and hands to the floor. Hold for five breaths releasing the head and shoulders with each exhale and slightly lifting the hips with each inhale.

On the next inhale, lift through the top of the head to look forward with a flat back and fingertips toward the floor. Hold for two breaths. On the exhale, return to Forward Fold. Let your head hang between your arms. Hold for two breaths. Exhale as you bend in the knees to firmly press hands into the mat shoulder-width apart with fingers wide. As you inhale, walk feet back into High Plank. Look forward with shoulders aligned over wrists to create a straight line from head to heels. Hold for five breaths. Your core should be doing the work as you breathe.

Keeping the elbows close to the body, exhale as you bend elbows to lower your body to the mat. Untuck the toes to let the tops of your feet press into the floor. As you inhale, lift through the top of the head, look ahead, and draw shoulder blades back to come into Cobra or Upward Facing Dog. Hold actively for five breaths.

Release shoulders and head, then tuck toes as you exhale, lifting the hips up and back into Downward Facing Dog. Keeping heels hovering above the mat and length in the spine, let the head drop between your arms, feeling length from hips through the neck. Looking between your ankles to feel the stretch through the back of the neck. Leave your knees slightly

bent to allow the back to be long. Hold for five breathes. If needed, you can slowly pedal out the legs to stretch the lower back, hips, and hamstrings by alternating pressing heels to the floor.

Inhale, walking feet forward to line up just behind hands to return to Forward Fold. As you hold for five breaths, slowly release the head and shoulders on each exhale. Lift hips stretching through back of legs on each inhale to deepen the Forward Fold slowly.

Inhale, bringing hands to heart then sending fingertips above the head, standing tall, and looking up. Hold for two breaths. Exhale as you draw hands back to heart center, looking forward to complete the Sun Salutation. Repeat and keep the breath even and fluid. By engaging the breath to activate muscles through each movement, we deepen the stretches in each repetition.







- ⑩ Stand straight. Separate your feet comfortably wide apart (2 to 4 feet).
- Turn your right foot out 90 degrees and left foot in by 15 degrees.
- Now align the center of your right heel with the center of your arch of left foot.
- Ensure that your feet are pressing the ground and the weight of your body is equally balanced on both the feet.
- Inhale deeply and as you exhale, bend your body to the right, downward from the hips, keeping the waist straight, allowing your left hand to come up in the air while your right hand comes down towards floor. Keep both arms in straight line.
- Rest your right hand on your shin, ankle, or the floor outside your right foot, whatever is possible without distorting the sides of the waist. Stretch your left arm toward the ceiling, in line with the tops of your shoulders. Keep your head in a neutral position or turn it to the left, eyes gazing softly at the left palm.
- Ascertain that your body is bent sideways and not backward or forward. Pelvis and chest are wide open.
- Stretch maximum and be steady. Keep taking in long deep breaths. With each exhalation, relax the body more and more. Just be with the body and the breath.
- As you inhale, come up, bring your arms down to your sides, and straighten your feet. • Repeat the same on the other side.

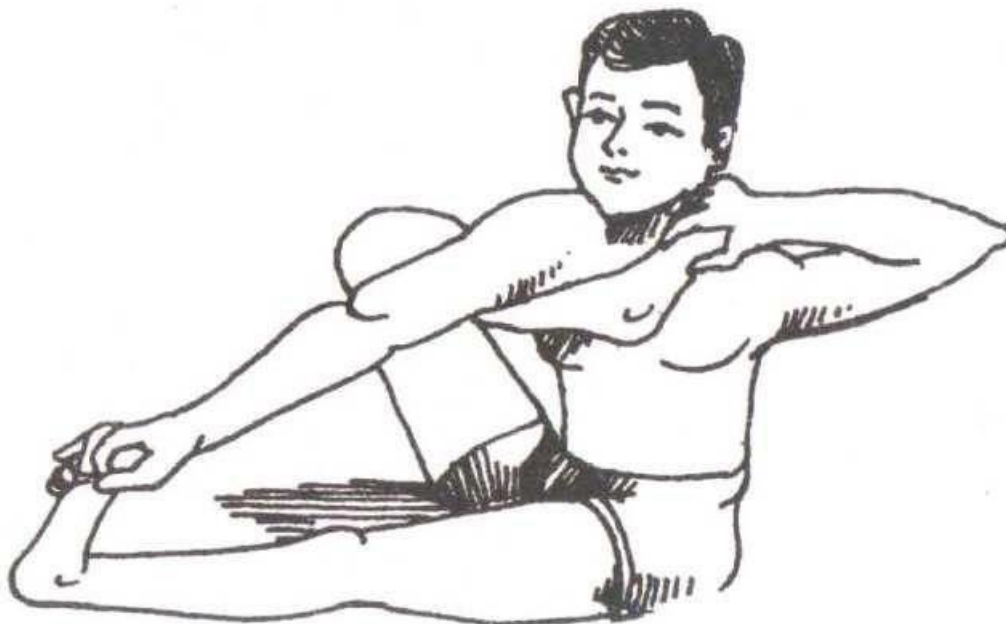
## VIRABHADRASANA



- ⑩ Stand straight with your legs by keeping distance 3-4 feet between each other.
- Inhale and raise both hands parallel to the ground and turn your head to the right.
- While exhaling slowly turn your right foot at 90 degrees to the right.

- Slowly bend your right knee. Keep in mind that the right thigh should be parallel to the ground. Stay in this position for some time. Breathe (inhale) deeply for 4 times.
- After this come to your original standing position and breathe normally. And perform the same steps for left leg by turning head to left.
- Repeat this cycle for 4-5 times.

## ✚ AKARNA DDHANURASANA



- Spread both feet and sit down. Hold the thumb of the right foot with the left ear and move the foot to the left ear.
- Hold the left toe thumb with the right hand, which is spread to the front.
- The condition of the limbs should be changed to practice.





- 10 Sit straight and keep your back straight, and legs forward.
- Now bend your left leg gently and place it under your right hip.
  - Then gently bend your right leg and cross it over your left leg. Your knees should be placed close and on top of each other.
  - Keep your head and back straight while practicing it.
  - Now bend your left hand and slowly place it behind your back from downwards.
  - Then bend your right hand and also place it at your back from upwards (over your right shoulder).
  - Then stretch your right hand downwards until it reaches your left hand. This might not be easy for people who are not flexible but you'll learn to do it gradually.
  - Now hold this pose for 30 to 40 seconds.

- Release your hands, and unfold and straighten your legs to come back to the starting position.

## ✚ **MARJARYASANA-BITILASANA**



- Sit in Vajrasana, stand on the knees.
- Lean in the forward direction. Place the hands flat on the floor with palms down and fingers facing towards the forward direction.
- Keep the hands in a line with the knees. Keep the arms and thighs perpendicular to the floor. It is the starting position.
- Inhale a deep breath and raise the head along with putting stress on the spine in the downward direction, so that the back can turn into a concave shape.
- Expand the abdomen as much as possible without forcing; fill the lungs with maximum air possible. Hold breath for a minimum of 3 seconds. Exhale and lower the head while stretching the spine in the upward direction.

- Then contract the expanded abdomen and pull in the buttocks. 7. Leave the head between the arms facing the thighs.
- Hold the breath for 3 seconds, stressing the arch of the spine and the contraction of the abdomen. Relax and practice again.

✚ 🙌 ✚ 😊 🙌 ☠️ 🙌 🙌 🙌 ☠️ 🙌



#### ⑩ Lie down on your stomach

- Raise your trunk and head supported by the palms 3 Bend your arms at the elbows
- Arch your neck and look upward gently
- Make sure that your stomach is pressed on the floor
- Put pressure on your toes by pressing them onto the floor. (Extend them out to fully experience the cobra)

- Hold the asana for 5 seconds

✚ 🙌 🙏 🙏 ✚ ☀️ 🙌 🙏 ✚ 🙌



- ⑩ ☹️☸️☸️ ☸️☸️☸️ ☸️☸️ ☸️☸️☸️☸️ stomach with your feet slightly apart, almost parallel to your hips, and place your arms on the side of your body.
- Slowly, fold your knees up and hold your ankles with your hands.
- Breathe in and lift your chest off the ground and pull your legs up and stretch it out. You should feel the stretch on your arms and thighs.
- Hold the pose for 12-15 seconds, paying attention to your breath as you take long, deep ones.
- Slowly bring your chest and legs back to the ground, release your hold on the ankles, and relax with your hands on the side. Repeat for a few sets.



Sit in the staff pose (Dand asana)

- Now inhale and try to extend your spine by pressing your hands (on either side of your hips) gently on the floor. .While inhaling, fold your knees and position your legs into Padmasana (Lotus Pose) or simply sit cross-legged.
- Gradually bend backwards and try to touch your head to the floor..you can take the support of your elbows
- Try to arch your spine and head until your crown touches the ground
- Now gradually raise your arms and hold your toes
- Keep your eyes on your nos. if you feel difficulty in doing so,you may also keep your eyes on your navel



## † SETU BANDHASANA



- At first, lie down on your back.
- After that bend or fold your knees and keep your feet and hip distance apart on the floor.
- Distance should be 10-12 inches from your pelvis. Along with knees and ankles in a straight line.
- Take your arms beside your body, and your palms should face down.
- Now inhaling, slowly lift your lower back, middle back and upper back off the floor.
- Now gently roll in the shoulders; touch the chest to the chin without bringing the chin down, supporting your weight with your shoulders, arms, and feet.

- Now feel your bottom firm up in this pose. Keep your Both thighs are parallel to each other and to the floor.
- You may interlace the fingers and push the hands on the floor to lift the torso a little more up, or you could support your back with your palms.
- Keep breathing normally and slowly.
- Remember to hold the posture for 30 seconds or one minute, and exhale as you gently release the pose.

## PRANAYAMA



Pranayama is **the ancient practice of controlling your breath**. You control the timing, duration, and frequency of every breath and hold. The goal of pranayama is to connect your body and mind. It also supplies your body with oxygen while removing toxins. This is meant to provide healing physiological benefits .

## MEDITATION



Meditation, which is the practice of focused concentration, bringing yourself back to the moment over and over again, actually addresses stress, whether positive or negative." Meditation can also reduce the areas of anxiety, chronic pain, depression, heart disease and high blood pressure.

Meditation is a practice where an individual uses a technique – such as mindfulness, or focusing the mind on a particular object, thought, or activity – to train attention and awareness, and achieve a mentally clear and emotionally calm and stable state. Meditation is practiced in numerous religious traditions.

## CONCLUSION

The practice of yoga can be a valuable tool for enhancing performance in basketball sports. Yoga offers a holistic approach that addresses physical, mental, and emotional aspects of basketball performance. By incorporating yoga into their training regimen, player can improve their physical conditioning, develop better breath control, enhance mental focus and concentration, reduce stress, and cultivate a strong mind-body connection.

The physical benefits of yoga, such as improved flexibility, strength, and balance. his can result in increased accuracy and consistency in performance. Additionally, the emphasis on breath control in yoga helps shooters manage stress and anxiety, leading to a calm and composed state during competitions.

The mental and emotional benefits of yoga, including improved concentration, enhanced mindfulness, and stress reduction, can significantly impact a player performance. By practicing meditation and mindfulness techniques, player can improve their ability to stay present in the moment, let go of distractions, and maintain focus on the game. This mental resilience can lead to improved accuracy and better decision-making during game.

Furthermore, yoga provides tools to manage stress effectively, promote relaxation, and improve recovery. This can positively impact overall performance by reducing the negative effects of stress on the body and mind. By incorporating regular yoga practice into their routine, player can

optimize their physical and mental well-being, leading to enhanced performance.

It is important to note that yoga should be seen as a complementary practice to

specific basketball training, as it does not replace the technical skills and conditioning required in basketball sports. However, when integrated thoughtfully into a comprehensive training program, yoga can contribute to the development of a well-rounded , maximizing their potential for success.