

Physical, Physiological and Hematological Benefits of Yoga in Physical Fitness



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Abstract

Yoga is mixture of spiritual, mental and physical practice or tradition which originates in ancient India. Yogic practice has an excellent effect on physical and physiological parameters as per the previous research shown. A lot of space for the research is available in the field of Yoga with different parameters.

Keywords: *Physical, Physiological and hematological*

Introduction

Some people use fitness as the synonym for health. But fitness is the ability of a person to function effectively and live zestfully. It is the sum of physical, mental, emotional, social and spiritual components. These all components of fitness are related to each other. It is also termed as "Total fitness". Physical fitness is the one aspect of total fitness. It would include ability of functioning of body organs. A physically fit individual has adequate level of muscular strength, endurance, co-ordination, flexibility and balance.

Physical fitness is the capacity of an individual to perform the routine work and special task effectively. When we reach a good physical fitness level, we realise that it's most important for full growth and development .

A physically fit individual is more efficient to work hard and hard. He has the capacity to recover fast from fatigue. It's a very common thing that if we want to enjoy a healthy life and physical fitness we engage ourselves to well coordinated rhythmical movements which is very helpful for organic and functional promotion of the body. Physical fitness is our ability to strive and live effectively with full adjustment with our environment and nature. Our satisfactory level of fitness depends upon regular participation in physical activities .

Many research reports strongly support that regular participation in yoga helps us to keep healthy and prevents from many diseases. It also helps to keep our heart strong. Regular exercises also enhance the capacity of oxygen consumption. We produce more energy because our metabolic process works in a healthy way. Physical fitness is our basic need. It is an important part of life. In every moments of life we need to be physically active. We can perform

our best and effectively when we are physically fit. It helps to perform better in daily life style, sports and other activities.

In this modern and competitive world it is a big problem is hard to find time for physical activities. But all the people want to stay in perfect body structure. We all know about the importance of exercise in our daily life. Yoga is also simply, a seated training which is very beneficial for health and athletic ability. Regular yoga practice makes our body strong and flexible. Asana improves the stretching and relaxing ability of muscles and is very helpful for skeletal system of human body. This reduces the risk of injuring ligaments and tendon..

Types of yoga

There are many different styles of yoga available. Here are six popular types of yoga you may encounter:

- **Hatha** yoga is usually done at a slower pace. It focuses on controlled movements, breathing techniques, and stretching.
- **Asana** yoga refers to body positions and yoga postures. It's often used in other types of yoga.
- **Ashtanga** yoga focuses on following the same pattern of poses in a specific order. This is considered a very physically demanding type of yoga that builds body awareness and body strength.
- **Iyengar** yoga focuses on alignment and often uses props (like pillows, yoga blocks, or belts) to help. It's slower-paced and very focused on the small details of form.
- **Vinyasa** yoga often is done at a quicker pace with a focus on connecting movements to the breath. This type is often called flow yoga or vinyasa flow.

- Kundalini yoga is designed to “unlock energy” through repeating poses, chants, or breathing exercises.

Physical Fitness Variables

- Speed
- Strength
- Agility
- Flexibility
- Endurance

Physiological Variables

- Systolic blood pressure
- Diastolic blood pressure
- Resting heart rate
- Breath holding capacity

Haematological Variables

- White blood cell
- Red blood cell
- Haemoglobin
- Platelets count

Physical Fitness Variables

Speed (50m DASH)

Objective: To measure the speed of the subjects.

Facilities and Equipments required: Track, measuring tape, whistle/clapper and stop watch. (Calibrated to 1/100 seconds)



Strength (Standing Broad Jump)

Objective: To measure the strength of an individual

Facilities and Equipments required: Jumping pit, Marking powder and measuring tape.



Agility (Shuttle Run)

Objective: To measure agility of the subjects.

Facilities and Equipments required: Measuring tape, clapper and stopwatches.



Flexibility (Sit And Reach)

Objective: To measure the flexibility level of the subject.

Facilities and Equipments required: Measuring tape, scales and flexibility bench.



Endurance (12 Minutes Run/ Walk)

Objective: To measure endurance of the subjects

Facilities and Equipments required: Measuring tape, clapper, cones and stopwatches.



Physiological Variables

Blood Pressure (Systolic and Diastolic)

Objective of the test -To measure the blood pressure

Instrument – Sphygmomanometer and stethoscope.

Resting Heart Rate

Objective of the test

To find out the resting heart rate.

Instrument - A stop watch

Breath Holding Time

Objective of the test

To find out the ability of the subject to hold his breath for maximum duration

Instrument: A stop watch.

Haematological Variables (Complete Blood Count Test)

Objective of the test: - To know the concentration of blood cellular parts which was used as haematological variables of study:

1. White blood cell
2. Red blood cell
3. Haemoglobin
4. Platelets count

Instrument: Antiseptic lotion, tourniquet, needle and syringes, blood sample tubes and automated hematology analyzer.



Benefits of Yoga

Yoga is also helpful for gently stretching of joints and ensures the optimum blood supply to every cell of body. Yoga improves the power of synchronization of the body and mind by systematically contracting and relaxing muscle in the coordinate manners.

Continuing yoga exercise is the ideal complement to other type of systems of exercises like running; cycling and weight training. In yoga practice the body works systematically. The entire major muscle groups are used.

Yoga Asana improves the strength of different body parts like back, neck, shoulders, deep abdominal, and buttocks muscles. It is a fantastic strengthening practice. It's help for building core strength of body. Yoga enhances your functionality in everyday life. It also brings nourishment to internal organs of body. 'Yoga asana are the physical postures and exercises which tone up and make strong the internal and outer organs of the body' .

All sports build your muscular strength and stamina in specific area. Yoga can also help to balance your muscular development and enable your body to function more efficiently. It's helps in relieving physical tension and improves our concentration and poise. Yoga also helps in enhancing your sports performance.

Yoga exercises helps to improve balance, focus and coordination of body. There are plenty of yoga asanas which are beneficial for improving

balance. Regular practice of yoga improves your concentration that will serve you in everyday life. 'Yoga is a system of self- renewal of total personality. It's helpful in acquiring all round development of body. Through yoga we can achieve inner beauty and great spiritual peace' .

Asana is the third limbs of Astang yoga. It is also called posture. A steady and good posture is very helpful to produces mental and physical equilibrium. It is not only a gymnastic exercise. With the help of postures we exercise every muscle, nerve and glands of body. We discipline our mind, reduce fatigue and relax the nerves with regular exercises of yoga Asana .

There is a number of physical benefits of yoga asana. We use all the muscles of body to hold and balance the poses. So it keeps our body strong. The yogic exercises and breathing practices improve our flexibility of joints and our muscles stay stronger. People suffering from a number of diseases like osteoarthritis or rheumatoid arteries' will see a noticeable improvement in their condition by continuous practice of yoga asana.

Yoga improves not only outer parts but also improves the functions of our inner systems of body like respiratory, circulatory, digestive and glands etc. It is also helpful in emotional control and stability of mind. With regular practice of yoga you can rebalance your body and take control on emotions.

It also creates a sense of calmness and well-being. Yoga activities are very beneficial for massages of all glands and inner organs. It stimulates the organs and keeps away the diseases. It is helpful in kicking out the toxins and providing nourishment to all parts of the body. These effects of the yoga leads to delayed ageing and improve the energy level of the body .

It allows us to balance the physical, mental and emotional stress. Yoga is the best therapeutically technique for many life style related problems. Balanced development of personality and emotional attitude of a person helps him to live happily and in co- ordination with environment. We can achieve biological equilibrium and tuning by doing yogic exercises.

Our heart works for all the 24 hours and does not take rest even for a single moment. Our lungs intake oxygen for purify the blood. In digestive system our stomach, liver and other glands play main role for the digestion of food. Regular exercises of yoga asanas are very beneficial for all above internal organs to function properly .

Medical experts noted during research that in the absence of regular physical exercises, a chalk impurity is found in the muscles and other internal organs. It contains dangerous chemical substances like lime-phosphate and magnesia. This impurity is like poison for our body. It may be able to damage several part of human body. It affects the circulation of blood because it contracts the veins and arteries. But if we do yoga exercises daily, we can reduce the bad chemicals of our body and enhance our physical and mental fitness and increases the joy of healthy long life span.

Systematic yoga exercises result in a good many changes in the body. These changes take place on the levels of cellular, tissues, organs and body structures. It also enhances cellular metabolic processes and the molecular mechanism and functional capacities of organs and their systems. Yoga asana helps to comfort of body function and also regulate the hormonal regulation and neural regulation. It also enhances muscular activity. Yoga is very useful for bio-chemical variable of our body. It's very helpful for maintaining the quantity of glucose, sodium, cholesterol, triglycerides, catecholamines, total white blood cell and also increases the level of cholinesterase, A.T.P., hemoglobin, lymphocyte, vitamin, total protein etc.

Regular yoga exercises have great impact on body composition and basic metabolic rate of our body. Our team body tissue is made of muscles, bones and other body organs. There are three types of fat tissues in our body.

- Essential fat
- Storage fat
- Non-Essential fat

Essential and storage fat are very helpful for body to function. Non-essential fat have no real time purpose. Yoga exercises have isometric resistance which helps us to build lean tissue in our body. It's very helpful in building muscle. it maintains the whole body function smoothly.

Obesity is the main problem at this time. It's the excessively high amount of body fat in relation to lean body mass. But cholesterol itself is not bad. It is group of a substances used by our body to keep us healthy. There are two types of cholesterol, good and bad. We need to understand the difference between them. Cholesterol is dangerous and creates problems when someone gets too much in one's food. The

extra amount of cholesterol can lead to block our arteries.

There are two important types of lipoprotein

- High Density Lipoproteins (HDL)
- Low Density Lipoproteins (LDL)

Low Density Lipoproteins are dangerous to our health because it causes blood vessels to clog and inhibits blood from flowing freely through the vessels. High Density Lipoproteins are known as 'good' because its helps to carry the cholesterol back to liver for re-processing.

In blood cholesterol combines with certain proteins and forms lipoproteins. Surya namaskara (A Dynamic series) is very helpful for the treatment and control of obesity. With the help of this dynamic series of asanas we produce all the good effects of exercises because it includes asana, pranayama, mantra and meditation. It is a complete practice in itself. It has a great effect and influence on the endocrine and our nervous system

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