

Yoga effect on sports performance

¹ Rohit Adling, ² Dattaram Bangar

¹ Director of Physical Education, Dadapatil Rjale Arts & Science College, Adinathnager, Maharashtra, India

² Director of Physical Education Shri Anand College, Pathardi, Maharashtra, India

Abstract

Yoga has been practiced for around 5,000 years. There is evidence that the practice of yoga improves physical and mental performance. Although most poses are not aerobic in nature, they do in fact send oxygen to the cells in the body by way of conscious deep breathing and sustained stretching and contraction of different muscle groups. Whatever sport you choose to practice, yoga can enhance and complement your ability. Most sports build muscular strength and stamina, often in specific areas of the body. Yoga can benefit professional sports persons, it is necessary to explore what is required to play a sport and play it well. It is well acknowledged that to play any sport, we must develop the basic skills and continually train the body so that we can apply the skill in a refined and polished way. This of course requires considerable time, energy and commitment to practice the skill at hand. Having a body that is flexible, strong and controlled is also another important consideration, if one is not able to move the body with the grace, velocity and speed required, then performance will be lackluster. So, we can say that yoga is very beneficial to everyone especially for sportsmen.

Keywords: yoga, sports performance

1. Introduction

Yogic techniques, which aim at physical and mental self-culture, have convincing scientific bases and produce consistent physiological changes [1, 2, 3]. It has been reported that yogis are capable of remarkable feats of endurance [4, 5] and controlling their autonomic functions [6, 7]. There is evidence that the practice of yoga improves cardiorespiratory efficiency [1, 8] and performance quotient [1]. In an earlier work from our laboratories, we have demonstrated that subjects trained in yoga can achieve a state of deep psychosomatic relaxation associated with a significant reduction in oxygen consumption [9]. Yoga is both preventive and therapeutic and has shown to offer both physical and mental benefits to the body and mind. If we go back to the roots of the word, we find that the term 'Yoga' has its origins in Sanskrit. It means to unite – Yoga helps the body to unite with the other vital metaphysical aspects of the mind and spirit. It is also often defined as a lifestyle which aims to have a healthy mind within a healthy body. Most simply defined, yoga is a set of poses or 'asanas', coupled with breathing techniques, which help impart strength and flexibility to the body while helping to balance the mind and its' thinking. Unlike other physical forms of exercises, like the aerobics, by practicing yoga, one can not only achieve physical health, but also mental and spiritual well-being. There is a great need of yoga and yogic practices to be taught and also to practice yoga, to overcome physical, mental and physiological problems. Our mind and body is capable of bearing the load of tension to a certain limit. If tension continues beyond that limit, then the balance of the psycho-physiological processes is disturbed, and that results into various symptoms of maladjustment the mind expresses the tension in the form of impulses that flow from the brain to various muscles of the body. Therefore the practice is an ideal complement to other forms of exercise and an extreme advantage to any sport. The "postures" are the

physical positions that coordinate breath with movement and we hold these positions to stretch and strengthen different parts of the body. They systematically work all the major muscle groups, including the back, neck, and shoulders, deep abdominals, hip and buttock muscles and even ankles, feet, wrists and hands. Although most poses are non-aerobic in nature, they do in fact send oxygen to the cells in the body by way of conscious deep breathing and sustained stretching & contraction of different muscle groups. Yoga can help to check any imbalance in muscular development and will enable the body to function more efficiently. If the body is flexible and supple, it will be less prone to sports injuries as the joints will be kept lubricated. "When the surface of a lake is still, one can see to the bottom very clearly" this is impossible when the surface is agitated by waves. In the same way, when the mind is still we can control mental agitation by focusing on perfect concentration. When a player, in any sport, is trying to fulfill thousands, hundreds of thousands or if playing for their country, millions of people's expectations their minds are completely stressed and their natural efficiency diminishes. No amount of coaching or training can prepare for doubt or worry entering the mind of a player during a game. By holding steady postures, and concentrating on deep abdominal breathing we can increase body awareness, relieve chronic stress patterns in the body, relax the mind, center ones attention, sharpen concentration and "stay in the zone!" Many athletes are having more injuries that require surgery because of the increased focus on strength training with weight resistance. This method for increasing strength and muscle mass is highly effective and efficient, yet it dramatically decreases flexibility. However, if yoga or other types of prolonged stretching are practiced in combination with strength training and practical application exercises (using the body in a way that mimics the movements of their particular sport, while performing a balancing or core movement), injury

can be minimized during engagement in other competitive sports that call for the athlete to be more spontaneous with their bodies, calling for overextended reaches, lunges, falls, etc., all of which increase the odds of injury, opposed to the safety of controlled mechanical motion used in weight room workouts. With yoga, the athlete will not only increase flexibility, but also increase poise and balance from the practice of the yoga holding/balancing poses. When balancing poses are mastered the athlete is then conditioned to unconsciously recover from any imbalances their body may experience, staying centered in action, moment by moment during play. This is when the athlete begins to perform miraculous stunts. He is able to use his body in ways he never thought possible while remaining centered and injury free. Yoga also helps strengthen connective tissue, break down adhesions (tiny scar tissue) from old injuries and over-training that have tightened as we age, thus helping create mobility of the joints and an anti-aging posture. The deep rhythmic breathing performed in yoga also creates and builds up one's life force energies or Prana, also called Qi or Chi in Chinese healing and martial arts. So, one actually creates more energy than is expended during a yoga session. The type of energy that is not from the caloric intake of our diet, but a cosmic energy.

2. Benefits of yoga on Sports Performance

2.1 Mental health

1. Let us first begin with the benefits of Yoga on mental health. After all, good mental health is of paramount importance for being healthy physically as well. As advised above, breathing technique forms an integral part of Yoga. Do I hear you asking 'how?' It really is very basic – by breathing deep and right, something that you would be doing when you practice Yoga, you are inhaling more oxygen and allowing the cells of your body to have access to that oxygen for a longer period of time.
2. A common practice in yoga is to breathe only from one nostril at a time, while holding the other one closed with the tip of your finger. Medical research has shown that this boosts increased activity of the opposite side of the brain, leading to better cognitive performance and tasks associated with the other side of the brain. Regular yoga practice helps children with attention deficit disorder and people suffering from anxiety, depression and mood swings. It also helps keep the mind calm and reduce stress and thereby increase the general well-being of the person.

2.2 Strength

1. Ever wondered, why so many of us, after a hard day's work, come and plonk ourselves, on our home sofas, with very little energy to even fetch a glass of water for ourselves. This is caused by lack of inner strength. Certain asanas of the yoga help generate inner strength. Inner strength is essential in doing day to day activities and in preventing you from injuries. This is especially useful, as we grow old and need more energy and strength to do the same activity.

2.3 Flexibility

1. The popular notion that you need to be flexible in order to do yoga is incorrect; it is really the other way round – you should do yoga so that you can be more flexible. If you

have a flexible body, you find it easy to do tasks. A lot of poses in Yoga concentrate on stretching and improving your flexibility.

2. With yoga, not only the muscles of the body, but also the softer tissues of your body are worked out, resulting in less buildup of the lactic acid, which is responsible for stiffness in various parts of the body. Yoga increases a range of motions of the less used inner muscles and helps in lubrication of joints. The result is a more flexible body, able to perform tasks easily!

2.4 Cardiovascular

1. Yoga has a lot of positive effects on the cardiovascular system of our body. A healthy cardiovascular system is responsible for preventing heart attacks, strokes and hypertension. Heart disease is a problem which has roots in an improper lifestyle, faulty diet and negative thinking. Our thoughts, emotions and feelings affect our body and negative emotions/thoughts send a series of complex and unhealthy chemical processes throughout the body, giving alarms that something is amiss. Yoga tends to control these by bringing in fresh life-giving oxygen. The antioxidant properties of Yoga help in preventing the negative emotions and promote a general well-being in the body.

2.5 Memory improvement

2. Yoga helps in retaining information better and for a longer period of time due to its focus on concentration and meditation. By breathing right, concentrating and meditating, more blood flows to the brain, making it supple and ready to accept more information and reproduce that information when required.

3. Effects of yoga on different factors

3.1 Physical effects

1. Increase suppleness through stretching muscles.
2. Improves joint mobility by lengthening ligaments to their healthy limits.
3. Reduces risk of injury and assists with injury rehabilitation.
4. Effective as a form of soft tissue and collagen fibre rehabilitation.
5. Helps to bring the body back into alignment and improves posture.
6. Increases stride length.
7. Enhances co-ordination and agility.
8. Contributes to improved cardiovascular fitness and stamina.
9. Teaches athletes how the body performs and functions as a synergistic unit.
10. Lowers resting heart rate and increases VO2 max.

3.1 Psychological effects

1. Relieves performance anxiety and stress, and frees athletes from mental distractions.
2. Improves focus.
3. Develops determination and self-discipline.
4. Teaches athletes to challenge themselves and go outside of their comfort zone.
5. Reduces stress and provides a method of relaxation.
6. Breath work provides athlete with techniques they can use whilst competing to control arousal levels.

7. Helps athletes to achieve flow and get in 'the zone'.
8. Teaches athletes how to use imagery and relaxation.
9. Helps athletes to understand the importance of relaxing, resting, and recovering.

4. Other Benefits

1. Strengthens deep connective tissue preventing or minimizing injury.
2. Creates overall body flexibility. Increases range of motion and mobility.
3. Dramatically enhances physical balance by developing the athletes awareness of his body's center place, thus keeping their body balanced in action, moment by moment, giving the ability to recover from or prevent falls, while enhancing agility and maneuverability.
4. Improves circulation, massages internal organs and glands for optimum health.
5. The yoga breath circulates and detoxifies the lymph fluid to speed up recovery time from training 15% faster, eliminating fatigue.
6. The yoga breath builds up increases one's life force energy.
7. Enhances sensory acuity, mental focus, concentration, mental clarity, will power, and determination.
8. Dissolves pre competition anxiety and stress. Helps to balance & manage emotions that could cloud focus, concentration & judgment.
9. Trains the athlete get and stay in the mental zone.
10. Quickens mental response time for more effective game play and strategy.
11. When doing yoga as a team it enhances team synergy and team chemistry & telepathy on the playing field.

5. Why Yoga for Sports?

Actually it is the Spirit, the Mind and then the Body. The athlete needs all three integrated to have peak performance.

5.1 SPIRIT * Inspiration * Motivation

Everything starts from the Spirit. The athlete must first be inspired, meaning "in spirit", having a desire to compete, play, or win. To have team spirit. If the athlete lacks spirit he won't play his best.

Yoga connects the athlete deeper with his Spirit through the meditative poses thus allowing him/her to tap into their pure potentiality, unlimited. This occurs when the athlete practices yoga as a meditation, so that union with the infinite spirit that is also the infinite potentiality is achieved.

5.2 MIND * Preparation * Education

Inspiration is not enough. Once inspired the athlete must prepare with his Mind. He must have a game plan, a strategy, and education of his game and opponents to fulfill his inspiration or desire to play and win. To follow through with a strategy, yoga trains the athlete to focus, balance emotions, concentrate, & get in the zone.

When enduring the uncomfortable sensations the body feels while holding long and still in poses such as the "warrior" or "hero", will power, discipline and determination are developed in the mind, and then infused with inspiration.

5.3 BODY * Perspiration * Implementation

Inspiration and preparation are still not enough. Perspiration is what makes it all happen. In order to ultimately fulfill the

desire of the Spiritual body and execute the strength and game plan of the mental body, the athlete must have a finely tuned, flexible and strong Physical body.

This is where the athlete's game is fully benefited by the physical aspect of practicing yoga asanas. The body is available to move beyond old limitations to peak performance.

6. Conclusion of the study

As highlighted above, researcher find out that yoga in sports as important as other think it helps us in different ways and different levels in a sports men life. We have improved our performance by daily yoga practicing in order to perform a sporting action efficiently and effectively, a person needs to have a high degree of concentration and focus with a mind that is calm and controlled, Yoga can help a sportsperson to have evenness of mind and control of their thoughts even during stress and/or adversity. Yoga can play a key role in cultivating mind control and concentration which helps a sportsperson to perform at their peak leaves and yoga helps us a lot.

7. References

1. Abe K, Kojima C, Kearns F, Yohena H, Fukuda J, Chen KM. Silver Yoga Exercises Improved Physical Fitness of Transitional Frail Elders. 2003; 59(5):364-70
2. Chen TL, Mao HC, Lai CH, Li CY, Kuo CH. The effect of yoga exercise intervention on health related physical fitness. In school-age asthmatic children. 2009; 56(2):42-52.
3. Clair W Famment. An introduction of tests of Agility. Completed research in health. Physical education and recreation. 1966; 2:44.
4. Clay CC, Lloyd LK, Walker JI, Sharp KR, Pankey RB. The Metabolic Cost of Hatha Yoga. Texas State University-San Marcos, Texas 78333, USA. CC61 @txstate, 2005.
5. West J, Otte C, Geher K, Johnson J, *et al.* Effects of Hatha yoga and African dance on perceived stress, affect, and salivary cortisol. *Ann Behav Med.* 2004; 28:114-118.
6. Michalsen A, Grossman P, Acil A, *et al.* Rapid stress reduction and anxiolysis among distressed women as a consequence of a three month intensive yoga program. *Med Sci Monit.* 2005; 11:555-561.
7. Khatri D, Mathur KC, Gahlot S, *et al.* Effects of yoga and meditation on clinical and biochemical parameters of meta-bolic syndrome. *Diabetes Res Clin Pract.* 2007; 78:e9-e10.
8. Gokal R, Shillito L. Positive impact of yoga and pranayama on obesity, hypertension, blood sugar, and cholesterol: A pilot assessment. *J Altern Complement Med.* 2007; 13:1056-1057.
9. Selvamurthy W, Sridharan K, Ray US, *et al.* A new physiological approach to control essential hypertension. *Indian J Physiol Pharmacol.* 1998; 42:205-213.
10. Damodaran A, Malathi A, Patil N, *et al.* Therapeutic potential of yoga practices in modifying cardiovascular riskprofile in middle aged men and women. *J Assoc Physicians India.* 2002; 50:633-639.
11. McCaffrey R, Ruknui P, Hatthakit U, Kasetsoomboon P. The effects of yoga on hypertensive persons in Thailand. *Holist Nurs Pract.* 2005; 19:173-180.
12. Stuck M, Meyer K, Rigotti T, *et al.* Evaluation of a yogabased stress management training for teachers:

- Effects on immunoglobulin A secretion and subjective relaxation. *J Medit Medit Res*, 2003; 1-8.
13. Pullen PR, Nagamia SH, Mehta PJ, *et al.* Effects of yoga on inflammation and exercise capacity in patients with chronic heart failure. *J Card Fail.* 2008; 14:407-413.
 14. Schultz PE, Haberman M, Karatha K, *et al.* Iyengar Yoga Can Promote Well-Being in Women Breast Cancer Survivors. Spokane, WA: Washington State University, 2007.
 15. Innes KE, Bourguignon C, Taylor AG. Risk indices associated with the insulin resistance syndrome, cardiovascular disease, and possible protection with yoga: A systematic review. *J Am Board Fam Pract.* 2005; 18:491-519.
 16. Shapiro D, Cook IA, Davydov DM, *et al.* Yoga as a complementary treatment of depression: Effects of traits and moods on treatment outcomes. *Evid Based Complement Alternat Med.* 2007; 4:493-502.
 17. Gupta N, Shveta K, Vempati R, *et al.* Effect of yoga based lifestyle intervention on state and trait anxiety. *Indian J Physiol Pharmacol.* 2006; 50:41-47.
 18. Telles S, Naveen K, Dash M, *et al.* Effect of yoga on self-rated visual discomfort in computer users. *Head Face Med.* 2006; 2:46.
 19. Moadel AB, Shaw C, Wylie-Rossett J, *et al.* Randomized controlled trial of yoga among a multiethnic sample of breast cancer patients: Effects on quality of life. *J Clin Oncol.* 2007; 25:1-9.
 20. Raub JA. Psychophysiological effects of hatha yoga on musculoskeletal and cardiopulmonary function: a literature review. *J Altern Complement Med.* 2002; 8:797-812.